

A Content and Thematic Analysis of Foundational Reading Courses in Minnesota's
Teacher Preparation Programs

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Abstract

Due to the life-altering effects reading ability has on one's life, the public, government, and educators have a vested interest in understanding how reading acquisition occurs and is most effectively taught. The body of research termed the 'science of reading' shows that at least 92 percent of children can read at grade level when given scientifically based reading instruction (Foorman et al., 1998; Mathes & Denton, 2002; Mathes et al., 2005); yet, consistently, over 30 percent of Minnesota's students do not reach the "basic" level of reading as indicated by the Minnesota Comprehensive Assessments in Reading (MDE, 2022). While standardized test scores do not provide a holistic picture of students' academic success, they do serve as an indicator of reading progress. This study aimed to understand how teachers in Minnesota are prepared to teach reading by institutions of higher education. Through a content and thematic analysis of syllabi from reading courses from 29 institutions in Minnesota, this study determined trends in textbook choices, assignments, and key course content topics. Results revealed areas of strength and growth across Minnesota teacher preparation in foundational reading. Areas of strength included topics such as differentiation, diversity in children's literature and curricular materials, and inclusion of characteristics of dyslexia. Areas for growth included understanding and teaching reading acquisition models, increasing teacher candidates' opportunities to apply the major components of reading in field placement settings, and selecting exemplary textbooks. The intention of this study was to provide concrete data to those working to retain the strengths of content in foundational reading courses in Minnesota while increasing the course content that aligns with the scientifically based knowledge of reading acquisition.

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Chapter 1

INTRODUCTION

The ability to read can significantly impact the trajectory of one's life, as reading skills correlate with academic achievement, graduation rates (Hernandez, 2012; Lesnick, et al., 2010), college admittance (Lesnick, et al., 2010), writing skills (Grobe & Grobe, 1977), and social-emotional health (Morgan & Farkas, 2012). Research evidence shows that the majority of first grade students - all but one to eight percent - can learn to read at their grade level with systematic, explicit phonemic awareness and phonics instruction (Mathes & Denton, 2002; Mathes & Denton, 2005; Torgeson, 2000).

Despite this, longitudinal studies show that regularly, 30 to 40 percent of students do not reach basic levels of reading proficiency (National Assessment of Educational Progress [NAEP], 2019; NAEP, 2021; National Center for Educational Statistics, 2019). Researchers have explored many potential factors concerning the discrepancy between possible and actual reading achievement, including poverty (Snow et al., 1998), a lack of culturally relevant and responsive pedagogies (Ladson-Billings, 2012), inadequate literacy curriculum (EdReports, 2022), and low teacher knowledge of how to teach foundational literacy skills (Hudson et al., 2021; McCutchen, et al., 2002; Moats, 1994; National Council on Teacher Quality, 2018; Risko, et al., 2008). While each of these areas provides important understandings in the complex topic of reading achievement, my study focuses on teacher preparation in foundational reading instruction, specifically in the state of Minnesota (MN).

In this first chapter I provide an overview of data - including standardized test scores of MN students in reading, MN state statutes on reading, and teacher knowledge of

linguistics - that led me to the questions I examine in my study. The chapter concludes with my research questions and definitions of important terms.

Setting the Context

Standardized reading test scores do not show a holistic picture of our students and may not account for language, experience, socioeconomic status, and test taking abilities fully; nonetheless, these tests do provide valid information about trends in academic achievement. I discuss two prevalent standardized reading tests below.

NAEP Reading Scores

The National Assessment of Educational Progress (NAEP) assessments, which were developed in 1969, indicate a nationwide, long-term trend of low reading test scores for students in the United States (NAEP, 2019). Labeled *The Nation's Report Card*, the annual results give states and regions a longitudinal view of their progress. The NAEP score levels for the reading assessment are divided into four levels: Below Basic, Basic, Proficient, and Advanced.

The National Assessment Governing Board of the United States Department of Education (2017), provided the following descriptions to describe the Basic, Proficient, and Advanced score distinctions on the NAEP reading tests:

Fourth-grade students performing at the Basic level should be able to locate relevant information, make simple inferences, and use their understanding of the text to identify details that support a given interpretation or conclusion. Students should be able to interpret the meaning of a word as it is used in the text. (p. 63)

Fourth-grade students performing at the Proficient level should be able to integrate and interpret texts and apply their understanding of the text to draw conclusions and make evaluations. (p. 63)

Fourth-grade students performing at the Advanced level should be able to make complex inferences and construct and support their inferential understanding of the text. Students should be able to apply their understanding of a text to make and support a judgment. (p. 64)

The average reading scale scores of fourth, eighth, and twelfth grade students from 1992 to 2019 show that the nation's reading scores at all three levels have been stagnant for approximately three decades, and that every year, over sixty percent of students fall into the *Below Basic* or *Basic* categories (NAEP, 2019).

Since this project focused on Minnesota specifically, it is important to consider state level scores. Despite outperforming the national average occasionally, approximately one-third of Minnesota's students do not meet *Basic* levels of proficiency on the NAEP Reading tests, and another third of students just meet the *Basic* level, but do not reach the *Proficient* level (NAEP, 2019).

MCA Scores

Another measure of reading proficiency is the Minnesota Comprehensive Assessment (MCA). Beginning in 2002 the MCAs were given to comply with the No Child Left Behind (NCLB) law that was in place from 2002 until 2015. The tests are given to this day, to comply with the Every Student Succeeds Act (ESSA) accountability measures. For this test, cut scores are established for four levels of proficiency: Does Not

Meet Standards (D), Partially Meets Standards (P), Meets Standards (M), and Exceeds Standards (E). The MCA-III reading test is aligned to the Minnesota Department of Education’s (MDE’s) 2010 state standards in reading. The table below summarizes elementary results in Reading on the MCA-III test from 2019, as reported by the MDE (2022)

Table 1

MCA Reading Data, 2019

Grade	Percentile that Does Not Meet Standards	Percentile that Partially Meets Standards	Percentile that Meets Standards	Percentile that Exceeds Standards
3 rd	1-29	30-45	46-85	87-99
4 th	1-22	24-43	46-83	85-99
5 th	1-16	17-33	36-80	83-99

The 2019 scores, which are similar to longitudinal MCA scores, show that 33 to 45 percent of third through fifth graders scored at the *does not meet* or *partially meets* standards in reading (MDE, 2022). Although the MCA-III test in Reading is aligned more closely to Minnesota’s specific reading standards, results on this test are comparable to the NAEP national reading test. Both the NAEP and MCA-III assessments show substantial room for improvement in reading achievement in Minnesota.

State Statutes

In an attempt to address the lack of progress in increasing student reading achievement data, in 2016, the Minnesota state legislature passed several statutes regarding reading instruction relating to both the elementary classroom and teacher preparation contexts. Statutes relevant to this study are summarized below.

Minnesota Statutes, section 122A.06 defines comprehensive, scientifically based reading instruction and includes phonemic awareness, phonics, fluency, reading comprehension, and vocabulary development.

Minnesota Statutes, section 125A.01 defines dyslexia using the definition below from the International Dyslexia Association:

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate or fluent recognition of words and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge. (2002, para. 1)

Minnesota Statutes, section 120B.12 sets the goal of every child reading well by the end of third grade and is measured at the end of each grade, kindergarten through second. Those who are not at grade level must be screened for characteristics of dyslexia. Students in grades three and higher who do not meet grade level benchmarks must also be screened for characteristics of dyslexia unless another cause for the difficulty is determined. Appropriate, culturally responsive reading assessments must also be given to English learners (ELs). All students who are not meeting grade level requirements must be provided scientifically based reading intervention. Annual reports of the data described above must be submitted each school year to the Education Commissioner, and, in addition, each district must submit a local literacy plan that delineates how

reading levels will be determined (including for ELs), a process to notify parents about student progress, a description of interventions and progress monitoring the school will provide students who do not read at grade level, and professional development needs and opportunities for teachers.

Minnesota Rules, part 3525.1341 delineates the process for qualifying for special education services for students with dyslexia, a specific learning disability, or a discrepancy between IQ and performance, and children who perform below the fifth percentile on standardized tests.

Minnesota Statutes, section 125A.56 states that prior to referral for special education students, two appropriate reading interventions must be provided to the student in the classroom. Per section 125A.50, this alternate delivery of interventions must be reported on, evaluated, and approved by the Education Commissioner.

Minnesota Statutes, section 122A.092 specifically addresses teacher preparation programs and among many other items, requires scientifically based reading programs that include foundational knowledge, as defined in the first statute above. For programs to be approved, they must include instruction on dyslexia - including its nature and symptoms - characteristics students may display, and elements of providing structured literacy instruction. Programs must submit specifics about these elements of their programs to the licensing board for approval.

The statutes described above call for teachers to provide scientifically based reading instruction, understand characteristics of dyslexia, and implement structured literacy interventions. These statutes have led me to raise the question, are teacher preparation programs adequately preparing preservice teachers in these areas?

Teacher Preparation

Learners with dyslexia and others who struggle to learn to read need structured literacy instruction to become proficient readers (Dehaene, 2010; Ehri, 1992). Components of structured literacy include explicit instruction in phonemic awareness and phonics which in turn supports the mapping of letter-sound connections to printed words (orthographic mapping) so that words are acquired and stored in memory for automatic word recognition (Ehri, 1998; Ehri, 2020; Spear-Swerling, 2018). Teacher preparation programs are where future teachers are taught the methods of teaching the various subject areas, including reading. Teachers need to have a strong understanding of the linguistic components of a language if they are to successfully teach phonics and morphology to others, because “one cannot teach what one doesn’t know” (Buckingham et al., 2013). A body of research suggests that to teach scientifically based reading instruction, teachers must have knowledge of the English language system (McCutchen, Abbott, et al., 2002; McCutchen & Beringer, 1999; McCutchen, Harry, et al., 2002). Studies that examined the linguistic knowledge of teachers in the U.S. have shown poor results; most teachers struggle to identify syllables, phonemes, graphemes, morphemes, and roots within words (Bos, et al., 2001; Cunningham et al., 2001; McCutchen, et al., 2002; McCutchen & Berninger, 1999; McCutchen, Harry, et al., 2002; McCutchen, et al., 2009; Moats, 1994). These studies raise the question of whether and/or how preservice teachers are taught about language structures in their preparation coursework.

Research Questions

The Minnesota legislature recognized a need for improvement in reading ability of students and adopted statutes to support improvement in reading instruction in the

classroom. Nonetheless, it is unlikely that statutes alone will have the desired outcome if teachers do not have the knowledge to implement scientifically based reading instruction in the classroom. In this qualitative study, I use content and thematic analyses to examine the syllabi from the 29 higher education institutions in Minnesota that prepare elementary school teachers to examine how preservice teachers are prepared to teach reading. I analyze the textbooks, articles, major assignments, and assessments that, as stated in course syllabi for foundational reading courses, students are required to complete. While syllabi do not encompass everything taught within a course, they do provide an outline of key topics covered and will help to answer the following question and sub-questions:

1. What are future teachers taught about reading acquisition in their literacy preparation courses?
 - a. To what extent does the content of course syllabi address the key components of scientifically based reading and the Minnesota state statutes regarding reading acquisition?
 - b. To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia?
 - c. Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi?

The data collected and analyzed allowed me to make generalizations about practices that are in alignment with the science of reading acquisition, and other practices that could be shifted to potentially improve the reading outcomes of Minnesota's students who have difficulty acquiring foundational reading skills.

Definition of Terms

Throughout this dissertation, the meanings of dyslexia and scientifically based reading instruction are consistent with those used in the Minnesota state statutes listed in the section above. Additional terms are defined below for clarity.

Orthographic Mapping - “the formation of letter-sound connections to bond the spellings, pronunciations, and meanings of specific words in memory. It explains how children learn to read words by sight, to spell words from memory, and to acquire vocabulary words from print” (Ehri, 2014, p. 5).

Structured Literacy - “explicit, systematic, and sequential teaching of literacy at multiple levels - phonemes, letter-sound relationships, syllable patterns, morphemes, vocabulary, sentence structure, paragraph structure, and text structure” (Spear-Swerling, 2018, p. 202).

Reading Acquisition - the process of acquiring the basic skills needed to decode and comprehend written words.

Science of Reading (SoR) - “the accumulated knowledge about reading, reading development, and best practices for reading instruction obtained by the use of the scientific method” (Petscher et al, 2020, p. S268).

Dissertation Organization

In Chapter Two I review the literature regarding reading acquisition, its theoretical frameworks, and the science of reading knowledge base. In Chapter Three I explain the research methodology of this study. Chapter Four contains the analysis of the data derived from the foundational reading course syllabi. Finally, In Chapter Five I

provide a summary of the findings, conclusions, and recommendations for future research and practice based on this study.

Chapter 2

LITERATURE REVIEW

The purpose of this study is to learn more about how preservice teachers in Minnesota are prepared to teach elementary students to read. In order to better understand reading acquisition and the theoretical models used in this study, in this chapter I review how reading acquisition occurs and highlight the cognitive processes associated with reading acquisition. I explore the most common causes of reading difficulties, and the benefits of systematic and explicit phonics instruction. Following that, I summarize research findings about scientifically based reading instruction and the theoretical framework of this study. Next, I review information related to teacher knowledge of linguistics and associated studies of teacher preparation. Lastly, I discuss a study regarding teacher preparation in Minnesota and the gap in the literature I believe this current study helps to close.

How Does Reading Acquisition Occur?

The process of reading acquisition, or how one learns to read, has fascinated scientists and educators for decades. Approaches to teaching reading have long been hotly debated based on the model of reading acquisition that serves as a foundation (Castles et al., 2018). Sometimes referred to as the “reading wars” (Castles et al., 2018; Goldberg et al., 2022) or “pendulum swings” (Slavin, 1989) the shifts in approaches to teaching reading are worthy of investigation and have been well documented (Dodds, 1967; Pearson, 2002). My literature review does not provide an entire history of reading instruction, but instead focuses on the more recent history of how converging research from education, educational psychology, and cognitive science have merged into what is

presently described as the science of reading (SoR) or scientifically based reading research.

In the mid to late 1960s, researcher Ken Goodman began studying and publishing about the processes he observed in readers he worked with (Goodman, 1965; Goodman, 1969). Goodman wrote that the first through third grade children he studied found it harder to determine a word out of context than they did if the word was within a story; of the words students read incorrectly in a list, 66-92% were read correctly when they were in the context of a story (Goodman, 1965). Goodman observed three predominant ways children determined words: through semantics, or the word meaning and sentence context; through syntax, or the grammatical structure of the sentence; and through graphophonics, or the letters and sounds (Goodman, 1969) three avenues of gathering information from text that would become known as the three cueing systems.

Goodman analyzed student reading errors, or miscues, and self-corrections and found that older elementary students relied on semantic and syntax cues more than the graphophonic (or letter) cues, while the first graders in the study relied more heavily on the graphophonic cues, and he interpreted this to mean that more sophisticated readers rely less on letter-sound correspondences (Goodman, 1965). Goodman and fellow researcher Frank Smith believed it was important for students to be allowed to do what was natural to them when it came to reading and advocated for students to be given opportunities to learn to read by reading children's literature (Goodman & Smith, 1971; Goodman & Smith, 2008). Marie Clay built off Goodman's three cueing theory to develop the Reading Recovery approach to intervention for struggling readers. Through this method, a student reads a passage while the teacher completes a Running Record of

Oral Reading to assess and analyze student miscues to determine which strategies and cues the student uses well or those in which more instruction and practice is needed.

Near this same time period, a differing view of reading acquisition was proposed. In 1974 at the University of Minnesota, cognitive scientists LaBerge and Samuels worked toward a theory pertaining to automatic recognition of letters. They noted that fluent readers spend little time decoding and rarely notice the underlying skills of reading that once were laborious. The duo conducted several experiments to determine how automatic word decoding develops. They concluded there is strong evidence that in the beginning stages of reading, much attention is given to individual features of letters to determine their names. With practice, the letter names become automatic and very little attention must be paid to the individual lines of which a letter is composed. This process continues for word chunks and then whole words. Although it appears that fluent readers work at the whole word level, LaBerge and Samuels (1974) concluded that beginning readers must spend sufficient time on word parts before this automaticity develops. They advocated for pedagogies that structured beginning with the most basic reading skills and moving to the more complex. A teacher would know to proceed to the next skill in the sequence once the learner went from attending to the details of the current skill to automatically applying the skill.

LaBerge and Samuels' model of automatic decoding continued to be built upon in the field of cognitive science. Experimental studies of first grade readers found both good and poor readers made reading errors that were contextually appropriate, but upon analysis, the good readers' errors were graphically similar to the actual word at a higher

rate than that of the poor readers, which led researchers to conclude that better readers were attuned to the print (Biemiller, 1970 & Weber, 1970, as cited in Stanovich, 1980).

Yoncheva et al. (2015) conducted experiments where participants learned an artificial alphabet through either a whole word method or a symbol-sound correspondence method. On the first day of the experiment, it appeared that the whole word method participants were making progress in learning words faster than the symbol-sound correspondence group. However, after the whole word group learned around 30 words, their progress stalled. There appeared to be a limit of how many words could be learned and retained. The symbol-sound group made steady progress and were able to self-teach words they had not been taught. Yoncheva et al. found the symbol-sound method of learning to read was more effective than the whole word method. Additional studies conducted by other researchers came to similar conclusions: when the corpus of words is small, the whole word method is effective, but as the corpus grows, words are forgotten and confused and the need for phonics is reinforced (Beck, 1998). To address concerns of whole language proponents, Beck, stated, “good literature actually can become the basis of reading instruction sooner, IF we do not depend on it in the beginning” (p. 27). She also emphasized that children who are unable to read literature must have quality literature read to them and to be given the chance to “listen, discuss, and creatively dramatize complex text” (1998, p. 26). Likewise, neuroscientist Dehaene (2009) found that the best comprehenders are also the best decoders but pointed out that phonics instruction should always include reading words in the context of sentences.

Technology advances allowed scientists to better understand eye movements and brain activation patterns during reading. Goodman (1969) postulated that children did not

attend well to anything but the initial letter in words, but this was called into question by a series of eye movement studies (Rayner et al., 2001). These studies of how the eyes make fixations (pauses) and saccades (jumps) found that individuals do indeed attend to each letter as they read and that they fixate longer on irregular words or words with other ambiguities, such as polysemous words or homographs (Rayner et al, 2001; Rayner, et al., 2011). In the 1980s, theoretical models of reading evolved from the field of cognitive science that theorized and used computer modeling to show that there is not just one center for reading in the brain, and that several regions are involved (Seidenberg & McClelland, 1989). Beginning in 1991, Functional Magnetic Resonance Imaging (fMRI), allowed neuroscientists to monitor brain activation and function during reading. This advance made it possible to confirm that there are many regions in the brain involved in reading, and that different brain activation patterns occur in people with dyslexia, with the largest difference being a weakness in the phonological processor (Dehaene, 2009; Seidenberg, 2017).

Even a simplified overview of Dehaene's (2009) theory of neuronal recycling may be helpful to understand as one contemplates reading acquisition. According to Dehaene, the brain's activation during reading is similar across all humans, even though the human brain does not have an area prewired for reading. Instead, the left occipital-temporal region becomes the default area most efficient for visual word recognition processes to occur because it was originally the area that interpreted natural images; these neurons are recycled, or utilized, for the modern task of reading (Dehaene, 2009). Dehaene theorized that recognizing letters is done through a visual hierarchy - first lines and contours of objects are perceived; then combinations of lines and curves that

frequently exist in nature, such as the junctures found in letters such as T, L, are deciphered. Changizi et al. (2006) found that around the world, letters and symbols that represent sounds have similar strokes to lines and intersections that occur in nature. Dehaene (2009) summarizes Changizi's findings by stating that "Everywhere on the planet, they appear to have settled on characters whose shapes resemble those found in the environment - and are thus easily represented by our brains" (p. 178); this requires the least amount of cortical change.

While work to identify words and connect them with sounds typically takes place in the left occipital cortex, if this region is compromised, such as in the case of people with dyslexia, the reading networks move to the same area, but in the right hemisphere, which is the next best suited region for reading (Dehaene, 2009). In understanding how the brain automatically processes the visual element of each letter it encounters, it becomes clear that reading teachers and the education faculty that teach them must be aware of how important it is that students who are becoming readers are taught to look at the full sequence of letters in a word, being sure to look beyond the first letter of a word and to use the context or meaning of a sentence as a checking mechanism.

A combination of information related to eye movements and brain activation patterns during reading, and studies that compared whole-word learning methods to code-based methods of learning to read provided important information to those interested in understanding how reading acquisition occurs. This converging information coincides with the reading acquisition models that are explained in the following section.

Reading Acquisition Models

Reading acquisition models simplify the very complex processes involved in reading but retain the key takeaways that educators should know to teach reading effectively. In this section, I will review the research that led to the reading models I look for in the syllabi in this study: The Simple View of Reading (Gough & Tunmer, 1989), The Reading Rope (Scarborough, 2001), Phases of Word Reading Development (Ehri, 2014), and the Four-Part Processor (Seidenberg & McClelland, 1989).

The Simple View of Reading

In 1986, psychologists Gough and Tunmer published a paper that introduced the theory of the Simple View of Reading. Through their experiments, they extracted a formula that stated *Word Recognition* (Decoding) multiplied by *Language Comprehension*, equals *Reading Comprehension*. In this view, reading comprehension does not occur if either subcomponent of the equation is missing. A typical reader has good decoding skills and good language comprehension skills. A reader with dyslexia may have good language comprehension, but poor word recognition skills, and therefore poor reading comprehension. An additional, and rare, profile is that of the hyperlexic reader who has strong word recognition skills, but low reading comprehension.

Subsequent studies support the Simple View of Reading; a five-year longitudinal study of early readers showed that the multipliers of the Simple View of Reading - word recognition and language comprehension - accounted for 96% of differences in reading comprehension (Lervåg et al., 2017). In their analysis of research supporting the Simple View of Reading, Castles, et al. (2018) determined the theory is well-supported by

research, but also noted it is limited in that it does not delineate the component parts of word recognition and language comprehension.

The Reading Rope

The work of Hollis Scarborough (2001) built on the Simple View of Reading but focused on the subcomponents of language comprehension and word recognition. Its eight strands are divided into two categories: language comprehension and word recognition, which are the same factors as the Simple View of Reading (Gough & Tunmer, 1986). The specific elements of the language comprehension strands are background knowledge, vocabulary, language structures (syntax and semantics), verbal reasoning (inference, figurative language), and literacy knowledge (concepts of print, genre elements). Word recognition consists of phonological awareness, decoding, and sight recognition. As each strand begins, it is loosely woven with the other strands. With time and practice, the weave becomes tighter, and the upper and lower strands begin to interweave, but loosely at first. With more practice, the reader becomes increasingly strategic and automatic, and as the strands tighten and become a rope, skilled reading occurs.

The Reading Rope (Scarborough, 2001) brings the Simple View of Reading (Gough & Tunmer, 1986) to the practical level so that instruction can be strategic to the factors that consistently predict reading achievement (Lervåg et al., 2017). This model can be helpful to teachers as they determine which multiplier in the Simple View of Reading - word recognition or language comprehension, is the primary cause of reading difficulty in students. Once either the top or bottom strands are identified as the area of

difficulty, the individual strand components shown in the Reading Rope (Scarborough, 2001) model can serve as a guide for proper intervention (Leach et al., 2003).

Phases of Word Reading Development

In the 1980s and 90s, three iconic researchers published widely about stages of word reading development: Chall (1983), Firth (1985), and Ehri (1991). The models developed had significant overlap and are discussed below. See Table 2 (below) for an overview of each stage.

Table 2*Stages of Word Reading Development*

Researcher	Stage/phase 1 characteristics	Stage/phase 2 characteristics	Stage/phase 3 characteristics	Stage/phase 4 characteristics	Stage/phase 5 characteristics	Stage/phase 6 characteristics
Jeanne Chall (1983)	Stage 0: Pre-reading	Stage 1: Initial Reading and Decoding	Stage 2: Confirmation and Fluency	Stage 3: Reading for Learning	Stage 4: Multiple Viewpoints	Stage 5: Construction and Reconstruction
	Relies on pictures; pretends to read	Gains awareness of symbol/sound relationships; uses decoding to figure out words	Recognizes patterns in words; knows many sight words; develops fluency in reading; checks for meaning/understanding	Reading is a tool for learning; expands vocabulary; comprehends from a singular point of view	Reads critically; comprehends from multiple points of view; analyzes what is read	Develops well-rounded viewpoints from reading
Uta Frith (1985)	Logographic	Partial-Alphabetic phase	Full Alphabetic phase	n/a	n/a	n/a
	Words are processed as a visual object; letter-sound correspondences are not understood	Forms connections between some letters and sounds, typically the first letter of words; utilizes phonemic awareness skills	Makes the letter-sound connections to each letter in the word; can discern between similarly spelled words	n/a	n/a	n/a
Linnea Ehri (1991)	Pre-alphabetic phase	Partial-alphabetic phase	Full Alphabetic phase	Consolidated Alphabetic phase	Automatic phase	n/a
	Recognizes words by features/colors/shapes; “reads” environmental print; paired association	Forms connections between some letters and sounds, typically the first letter of words; utilizes phonemic awareness skills	Makes the letter-sound connections to each letter in the word; can discern between similarly spelled words	Words are decoded by chunks, rather than phonemes. Begin noticing connections between known and new words with similar patterns	Reading is quick/effortless; most words encountered are automatically recognized	n/a

In what Chall (1983) calls “stage 0,” Frith (1985) calls logographic, and Ehri (1991) calls the pre-alphabetic phase of reading, children make a grapho-semantic connection between letters and symbols they see in a real-world context. At this stage, emergent readers “read” environmental print, such as their favorite food brands or store logos. An experiment showed that when letters in the logos/brand names were transposed, preschool children were unable to point out the errors when asked, yet still could identify the company or brand, showing that in this stage, the “reading” is actual sight recognition of the colors and shape of the logo (Masonheimer et al., 1984).

In the next stage, the three legacy researchers each describe that readers begin to understand letter-sound correspondences; at this time, the visuophonological connection becomes the most important (Ehri, 1992; Harm & Seidenberg, 1999; Perfetti, 1992; Rack et al., 1994; Share, 1995). Ehri (1991) specifies that in this phase, children are typically attuned to the first letter and corresponding sound.

In what Chall refers to as stage two, Frith refers to as the orthographic stage, and Ehri refers to as the full-alphabetic phase, readers begin internalizing the word patterns and phoneme-grapheme correspondences, which results in faster decoding and fluency in reading. This is the process in which readers become automatic in their word recognition. Although some irregular words may be memorized, Ehri’s research indicates that the reader’s brain is pattern seeking and quickly comes to recognize letter combinations, such as digraphs, trigraphs, onset-rime patterns, affixes, and so on, as units (Ehri, 2014). When phonology (sound), orthography (spelling), and the meaning of the word all connect, a word can be learned automatically with just a handful of exposures (Ehri, 2014; Share,

1995; Share, 1999). Ehri calls all words recognized automatically “sight words”; this automatic word recognition means the reader no longer has to slow down to decode letter by letter.

The orthographic phase is the last stage in Frith’s model. Chall describes three more phases: reading for learning, multiple viewpoints, and construction and reconstruction. Each of Chall’s final three stages describe more complex aspects of reading, such as critically thinking about the content and using the knowledge to shape one’s world view. Ehri describes two more phases: the consolidated phase, in which larger chunks of words are automatically recognized and the reader no longer needs to decode letter-by-letter; and the automatic phase, in which reading becomes quick as most non-domain-specific words are recognized by sight (Ehri, 2014).

While minor differences exist between these three models of reading stages, there appears to be consensus on the order of development. In this study, I looked for Ehri’s phases in the content analysis as it is the most detailed in the stages of reading acquisition, but I considered mentions of Frith’s or Chall’s stages as aligned, since there is such great overlap in the models.

The 4-Part Processor

Through multiple studies in the fields of cognitive science and neuroscience, researchers have concluded that humans do not have a pre-wired neural network for reading and, instead, various networks must be built (Dehaene, 2009; Hruby & Goswami, 2011; Seidenberg, 2017). The 4-part processor model (Seidenberg & McClelland, 1989) gives a simplified view of the work of four interconnected processing systems in the left hemisphere of the brain that contribute to reading. In this model, speech is converted to

text, or text is converted to speech in the phonological and orthographic processors. These two processors are connected to the meaning processor in which the lexicon, or vocabulary, is stored. The context processor helps determine the meaning of polysemous words. Although this model has similar components to Goodman's (1969) three-cueing system, the basis of word recognition has opposite implications: to Seidenberg and McClelland (1989), phonology and orthography are the primary systems of word recognition; words are decoded, and then meaning (definition, connotations) is determined by the context. Readers are more effective when words are not guessed based on context or meaning along with visual cues, as Goodman theorized, but instead are decoded based on letter-sound correspondences (Seidenberg, 2017; Yoncheva et al., 2015).

The reading acquisition models noted above synthesize complex information into salient, comprehensible frameworks that convey pertinent information about how reading acquisition occurs. This information is important for teachers of reading to understand. It is unclear what, if any, information teacher candidates learn about the reading models. In this study, I sought to gather information through the content and thematic analysis of reading course syllabi to investigate whether teachers have opportunities to learn about reading acquisition models as they obtain their teaching degrees.

Causes of Reading Difficulties

There can be many reasons for reading difficulties, including limited experience or opportunities to engage in high-quality reading instruction; inexperience with the system and structures of the language, as in the case of students learning English; and limited background knowledge and vocabulary due to differences in opportunities readers

have been provided. However, outside of these factors, the majority of reading acquisition trouble is explained by difficulty in phonemic awareness, difficulty decoding, and difficulty generalizing language patterns. Research pertaining to these three interrelated aspects is shared below.

Lack of Phonemic Awareness

In 1997, Brady and Moats wrote a position paper regarding reading instruction and teacher preparation for the International Dyslexia Association. Its findings and recommendations are still relevant and pertinent to my research study. In their paper, the authors explain that unlike learning to speak, which is a natural process, learning to read and write efficiently requires instruction on how phonemes correspond to written graphemes. Brady and Moats identified that children who struggle to learn to read have difficulty discerning the phonemes of speech and later how they translate to print. Phoneme awareness begins to develop even before letter-sound correspondences are introduced, and continues developing as beginning phonics instruction occurs (Brady & Moats, 1997). Their position paper summarized the research of many studies that illustrate the implications of phonemic awareness: primary students who lack phonemic awareness are at significant risk of struggling to learn to read; struggles with phonemic awareness continue for older readers who have difficulty reading; and studies show that reading interventions that involve phonemic awareness have positive results (Beck & Juel, 1995; Bruck, 1990; Byrne & Fielding-Barnsley, 1995; Foorman et al., (1997); Gough, 1983; Lyon, 1995; Perfetti, 1985; Stanovich, 1992; Torgesen, 1997, as cited in Brady & Moats, 1997).

Difficulty Decoding

Brady and Moats (1997) found that those who struggle to decode words resort to context and guessing to determine words. Although good readers use context for comprehending text, poor readers tend to rely on context and guessing to determine the words, whereas proficient readers rely on knowledge of the sound-symbol correspondences to decode words. Soon these decoded words are orthographically mapped, allowing for automatic recognition without the need to individually decode each word or word part (Ehri, 2005). The authors suggest assessing decoding ability by asking students to read nonsense words which cannot be guessed from context; this allows the teacher to determine which phonics patterns a student understands, and which patterns need to be taught. Decoding problems that continue for older readers result in difficulty with comprehension, as decoding monopolizes the cognitive load if it does not become automatic (Bruck, 1990, as cited in Brady & Moats, 1997). Share and Stanovich (1995) showed that good readers automatically decode words and convert them to their spoken sounds, and as this process occurs, the meaning of the word is also retrieved, which leads to comprehension of the text. Additionally, comprehension can be affected negatively if the reader does not have the requisite background knowledge, vocabulary, or understanding of the language structures of a text (Scarborough, 2001).

Difficulty Generalizing Patterns

As Ehri (1995) explains in her model of the phases of word recognition, after learning to decode by individual letters, typical readers begin to generalize orthographic patterns and recognize chunks within words. With practice, this leads to automatically recognizing whole words. Since fluent readers know tens of thousands of words, it may seem improbable that educators could instruct students in all of the word patterns in the

primary grades, and in fact, they do not. Share's Self-Teaching Hypothesis explains that explicit instruction on every pattern is not needed for typically developing readers. After studies showed the importance of the phonological processor in reading, Share began developing a self-teaching hypothesis of word learning (Share, 1999). For typically developing readers, after the reader can blend several phonemes, the self-teaching process begins, and becomes especially adept during the consolidated alphabetic phase (Ehri, 2014). This means commonalities and patterns within words become automatically recognized and transferred to other words with similar patterns that the reader encounters.

When Share's hypothesis was first proposed in 1995, it was a theoretical hypothesis indirectly supported by studies that found that just four to eight direct experiences with written words led students to accurately identify the words automatically (Share, 1995). Seeking to understand more, Share conducted several experimental studies that looked specifically at how individuals self-teach words even without direct instruction (Share, 1999). These experimental studies indicated the importance of the phonological connection to graphemes and showed that four exposures that connected phonemes to graphemes resulted in orthographic mapping (Share, 1999). The effect sizes of an experiment where meaning and context of the words were preserved was compared with a similar experiment in which meaning and context were left out; the students' spelling performance was nearly identical, which indicated that meaning and context are not primary factors in orthographically mapping words (Share, 1999). Readers with dyslexia have difficulty connecting phonemes and graphemes and therefore do not generalize and self-teach patterns at the same rate as people who are

neurotypical. Seidenberg (2017) explained that for the brain to categorize and statistically analyze the elements of phonology, one must first have categories in which to sort data (in this case, letters and sounds). The alphabet provides these initial categories, but in cases of dyslexia “...performance is impaired because the phonological deficit causes the reader to treat stimuli (such as instances of letters, phonemes or words) as different rather than picking up on their commonalities” (Seidenberg, 2017, p. 177). Since generalizations are not easily made for those with dyslexia, multiple copies of similar words may be stored and recognized individually instead of grouped into categories that allow for more immediate recognition (Seidenberg). This information from Share and Seidenberg can help educators understand the importance of making letter-sound correspondences explicit for students with phonological processing deficits, and it also explains the need for cumulative review and extended practice, which are tenets of a structured literacy approach to early reading instruction (Spear-Swerling, 2018).

With Proper Instruction, Do Most Students Learn to Read Well?

One might wonder if it is realistic for almost all students to learn to read. Perhaps the NAEP and MCA scores which indicate that about a third of students do not reach reading proficiency is to be expected? A review of the literature shows that effective tier one instruction coupled with early reading interventions that focus on systematic, explicit, phonological awareness and phonics instruction remediated all but two to seven percent of reading difficulties in primary grade students. In the section below, I review relevant studies.

Mathes and Denton (2002) reviewed research that pertained to causes and incidences of reading disability and concluded that reading difficulty is most frequently

due to an underlying deficit in the phonological processor, which is experienced as difficulty being able to quickly decode words and use the alphabetic principle. The second most frequent cause of reading difficulty was difficulty with language comprehension; a third group had difficulty with both decoding and language comprehension. Mathes and Denton's (2002) findings are consistent with Gough and Tunmer's (1986) research that led to the Simple View of Reading model, in which comprehension is the product of decoding and language comprehension.

Mathes and Denton (2002) reviewed previous studies of kindergarten and first-grade students from Foorman et al. (1998), Mathes et al. (2001 & 2002), and Allor et al. (2002) that looked at the percentage of reading difficulties successfully remediated when tier one instruction was high-quality and students below the 30th percentile were given appropriate interventions. High-quality reading instruction was defined as instruction that included "phonological awareness, letter-knowledge, concepts of print... extensive engagement with decodable text, and strategies for enhancing the deep processing of text..."; they also identified instruction in phonological recoding (or orthographic mapping) as the "most crucial component" (Mathes & Denton, 2002, p. 188). The studies found that all but five to seven percent of students reached grade level reading proficiency when they received both high-quality tier one and the students with reading difficulty received small group explicit phonemic awareness and phonics tier two instruction.

Mathes et al. (2005) studied if reading interventions from different theoretical perspectives resulted in different reading outcomes for the students in intervention groups. By providing professional development for the tier one first-grade teachers, the

authors first ensured that tier one instruction was aligned with the same aspects of high-quality instruction identified in Mathes' and Denton's 2002 review of studies. These elements included phonological recoding, phonological awareness, concepts of print, engagement with decodable text, and comprehension strategies to deeply process the text. Then, the bottom third of readers across several classrooms were identified for reading intervention and randomly assigned to one of three groups. Some students received a high-quality reading intervention based on behavioral therapy ($n = 78$), and the others received a high-quality reading intervention based on a cognitive-apprenticeship model ($n = 83$). The third group received the regular tier one classroom instruction that included the elements researchers identified as "high-quality" ($n = 91$) (Mathes et al, 2005). The study lasted from October through May of two consecutive school years. The Woodcock Johnson post-test was given to the students in all three groups, as well as 93 typically achieving students. Results of the study showed that students in the intervention groups outperformed the students who did not receive the intervention groups (Mathes et al, 2005). In the group that did not receive interventions, but did receive high-quality tier one instruction, sixteen percent of the at-risk readers continued to struggle, whereas one percent to seven percent of students who received both high-quality tier one and tier two instruction did not surpass the cut-score researchers set on the Woodcock-Johnson test which indicated grade-level reading proficiency (Mathes et al, 2005).

Empirical research appears to demonstrate that all but two to seven percent of students can read on grade level with early, systematic, explicit phonological awareness and phonics instruction along with opportunities to use comprehension strategies, yet that does not appear to be the reality in classrooms, as demonstrated by longitudinal national

and state level standardized test data that consistently show approximately 30 percent of students do not meet a basic standard in reading (NAEP, 2021). In each of the studies examined above, the teachers were provided with professional development to ensure the tier one instruction and tier two interventions followed scientifically based reading instruction. The positive results indicate that over 90% of students can become successful readers, yet NAEP and MCA data indicate that Minnesota's students are not achieving near the 90% level (MDE, 2022; NAEP, 2019). One factor in this outcome is scientifically based reading instruction. To follow, I look at the elements of scientifically based reading instruction, and studies that have explored aspects of preservice teacher knowledge.

Elements of Scientifically Based Reading Instruction

The National Institute of Child Health and Human Development (NICHD) of the United States government commissioned a report on reading (NICHD, 2000). The National Reading Panel (NRP) experts reviewed thousands of studies on early reading instructional practices to determine effect sizes, consistency, and results across various settings with different populations of students; the report resulted in research-based best practice recommendations. The NRP is widely known in the reading field as the report that identified the five pillars of reading, and these five pillars are examined in the content-analysis of syllabi section of my research study. Below are the NRP's definitions for each term, a brief summary of the NRP's main findings on each pillar, and discussion of important studies conducted in each area after the NRP report. The strong evidence base supporting each of these elements provided the rationale for their inclusion on the Innovation Configuration Rubric (ICR) developed by the National Comprehensive Center

for Teacher Quality (2011) that I use in the content analysis of this study. The ICR was developed based on the National Reading Panel report, as well as subsequent research studies that affirmed the panel's findings. The research I present below provides the rationale for looking for these criteria within the syllabi during the content analysis.

Phonemic Awareness

Definition: "phonemic awareness refers to the ability to focus on and manipulate the phonemes in spoken words" (NICHD, 2000, p. 2-2).

The report delineated aspects of phonemic awareness, including identifying, isolating, categorizing, blending, segmenting, and deleting phonemes. The report states that phonemic awareness instruction had several strong and moderate results which included improving phonemic awareness ($d = 0.86$), improving reading outcomes ($d = 0.53$) - this included both learning to read and comprehension - and improving spelling outcomes ($d = 0.59$) (NICHD, 2000). In addition, Uhry (2011) found that readers who struggle to decode also tend to have low phonemic awareness skills.

Phonics

Definition: "Phonics is the relationship between letters (or letter combinations) in written language and the individual sounds in spoken words" (NICHD, 2000, p. 2-89).

The NRP meta-analysis of studies on teaching reading through phonics and non-phonics methods found that systematic phonics lessons had a larger positive effect size ($d = .44$) than that of non-phonics methods (such as whole language programs or basal readers) and those who were taught non-systematic phonics. These results held true for studies that examined individual tutoring, small group, and whole group instruction. Though positive results were found for students who were taught systematic phonics in

older grades ($d = .27$), the effect sizes were best for young students: kindergarten ($d = .56$) and first grade ($d = .54$) (NICHD, 2000). For most students, two years of phonics instruction is adequate, but additional phonics instruction may be necessary for students who have not yet mastered decoding skills in older grades (NICHD, 2000). Important to note is that “children at all SES levels made greater gains in reading when provided with systematic phonics instruction (low SES students, $d = .66$ and middle class SES students, $d = .44$)” (Brady, 2011, p. 100). The report encouraged the application and practice of phonics skills within the context of reading and writing; it also called for more research into the duration of phonics instruction and the level of scriptedness of programs. Research published after the NRP report found that children with reading difficulties especially benefit from systematic, explicit phonics instruction (Adams, 2001; Tunmer & Arrow, 2013).

Brady’s (2011) research followed up on the NRP report and has a few implications worth noting in this section on phonics. Many elementary schools began implementing staff development sessions around the five pillars of reading in the *Put Reading First* era of the early 2000s; at the same time many schools were transitioning to Response to Intervention (RTI) or Multi Tiered Systems of Support (MTSS) models to provide targeted instructional time to students who needed additional instruction. Brady (2011) mentions this had a lot of potential to target gaps in students’ phonics knowledge, but many teachers had not become proficient in systematic phonics instruction through their teacher preparation programs to effectively provide phonics support during RTI/MTSS time.

Brady (2011) researched experimental studies conducted post-NRP report and found compelling evidence for the superiority of synthetic phonics instruction for beginning readers (Connelly et al., 2001; de Graff, et al., 2009; Johnston & Watson, 2004; Jeynes, 2008). Of particular interest to my study is research by Christensen and Bowey (2005, as cited in Brady, 2011), who investigated three groups: one received literature-based, whole language instruction and served as the control group; another received instruction in orthographic rime/word families, and a third received instruction focused on grapheme-phoneme correspondence. Both groups receiving systematic phonics instruction outperformed the whole language control group in both decoding and comprehension. The group that received the grapheme-phoneme correspondence instruction performed at the same level as the orthographic rime/word families group, but outperformed this group too on more challenging tasks, including transfer of the taught pattern onto new words (Brady, 2011). As previously mentioned, Share's (2004) self-teaching hypothesis explains that once orthographic patterns are learned, our pattern-seeking brains apply these patterns to unknown words we encounter. This study by Christensen and Bowey shows that instruction focusing on grapheme-phoneme correspondences is an especially effective method to increase the rate at which new words are learned. The research cited in this section provides a strong rationale for the choice to look for synthetic phonics in this proposed content-analysis study.

Fluency

Definition: "Fluent readers can read text with speed, accuracy, and proper expression. Fluency depends upon well-developed word recognition skills, but such skills do not inevitably lead to fluency" (NICHD, 2000, p. 3-1).

It is important to spend instructional time on fluency because when readers are not fluent, it interferes with comprehension due to higher cognitive load and memory limitations. The NICHD panel recommends repeated readings and guided oral reading for fluency instruction, as they had the strongest effect sizes ($d = 0.48$). When readers become automatic, more cognitive resources are available for comprehension, and those who read rapidly encounter more words and therefore build a larger vocabulary (Nathan & Stanovich, 1991; Spear-Swerling, 2006).

Comprehension and Vocabulary

Definition: The NRP does not define comprehension, other than mentioning that it is the “essence” of reading and identifying that a) it cannot be separated from vocabulary, b) it involves active strategy processes, and c) it is critical that preservice teachers are taught to help students navigate complex strategies (NICHD, 2000).

The NRP recommends that vocabulary be directly taught within a rich context and with repeated exposures to focus words to aid reading comprehension. There is more than one method for teaching vocabulary, and it is important that learners indirectly learn vocabulary words too, through context and exposure. The panel examined reading strategy instruction and found evidence to support its use, especially teaching students to use multiple strategies flexibly. Comprehension monitoring, question asking and answering, and summarizing were the strategies found to be most effective (NICHD, 2000). Allowing students to work cooperatively, having them use graphic/semantic organizers, and instructing them about story structure were also supported by the evidence. Lastly, the panel recommended that teachers receive training in reading

strategy instruction that includes responding to students' needs by giving feedback on strategy usage flexibly (NICHD, 2000).

Studies completed after the National Reading Panel study (NICHD, 2000) strengthen what is known about key components of reading comprehension, and several studies explained the importance of vocabulary. Research by Elleman et al. (2009) identified vocabulary as a main factor in increasing reading comprehension. Perfetti and Stafura (2014) further explain that the depth of knowledge one has of particular words correlates with their level of comprehension, and in readers skilled in comprehension, the mental lexicon is immediately accessed to provide meaning during reading. Clarke et al. (2010) studied 8- and 9-year-olds from 23 schools and found that 10 percent of those who could decode accurately still had difficulty with comprehension. This research team found that intervention lessons in oral language and increasing vocabulary, reciprocal teaching strategies, making inferences, and metacognitive strategies were effective at remediating comprehension difficulties (Clarke et al., 2010).

In addition to vocabulary, making inferences also correlates with reading comprehension. Kendeou et al. (2016) found that making inferences is a core component of comprehension and explained that humans naturally make inferences in life interactions, as well as in listening to oral reading. In upper elementary grades, the skill of inference is needed to comprehend text, and this skill can be taught through scaffolded feedback in which the teacher prompts the student to go back to the text to answer questions (Kendeou et al., 2016).

The elements I outlined above are widely considered components of scientifically based reading instruction and are therefore included on the Innovative Configuration

Rubric that I used to complete the content analysis of the reading course syllabi in this study. The substantial research basis I discussed provides support for using this tool for my study. I provide details about the Innovative Configuration Rubric and its origins in the section below.

Theoretical Framework: The Innovation Configuration Rubric

The National Comprehensive Center for Teacher Quality (NCCTQ) was a twenty-first century organization funded by the United States Department of Education and co-led by Vanderbilt University, the Educational Testing Service, and Learning Point Associates (which has now merged with American Institutes for Research) (NCCTQ, 2011). This non-partisan organization promotes the use of evaluation data to provide recommendations to help teacher preparation programs align with scientifically based evidence and state content area standards and inform professional development. Based on the work of Hall and Hord (1987) and Roy and Hord (2004), the NCCTQ developed Innovation Configuration Rubric dimensions to be used in program evaluations that assess how standards and policies are implemented within higher education reading syllabi.

The NCCTQ suggests two dimensions to innovative configurations: essential components and degree of implementation. In relation to reading, the innovative configurations are based on meta-analyses, reports from national experts, and governmental reports to determine the essential components of programs (NCCTQ, 2011). The NCCTQ has written a policy brief summarizing key scientific research for each essential component, which provides the research base and rationale for each essential component. Then, important key words for each are derived from the research

and are listed in the ICR as the bulleted list of terms associated with the component. The second dimension - degree of implementation - provides a rubric for coding content listed in syllabi. The NCCTQ uses codes zero through four; a description of each code is listed on the rubric and examples of variations are provided to increase consistency in scoring and inter-rater reliability when researchers code the syllabi (NCCTQ, 2011). The code number ranking increases as depth of instruction is demonstrated; for example, mentioning that a topic will be discussed receives a lower ranking than an application assignment related to course readings on a topic.

According to the NCCTQ (2011), using innovation configurations can provide an overview of content taught and practiced within the higher education classroom; “Innovation configuration results provide credible information about current practices and can be used as the basis or rationale for policy and program changes in teacher preparation...” (p. 4). In this study, I used Innovation Configuration Rubrics (ICRs) as a theoretical framework as I completed the content analysis of the higher education syllabi for foundational reading courses.

In addition to the content of the ICRs the NCCTQ Center developed, I have added a section on reading acquisition models taught, as this topic is of interest to my specific research project. I also modified the Screening ICR to include specific terms from the Minnesota statute such as, “Dyslexia,” “nature, symptoms, and characteristics of dyslexia” and “structured literacy instruction for those with characteristics of dyslexia.” The predetermined criteria and key words listed on the ICRs are based on scientific research and takes away some of the subjectivity that can enter studies.

In addition to learning about the elements of scientifically based reading instruction, teachers must understand the components of the written language system they teach (Buckingham et al., 2013). The next section explores research conducted to determine the teacher knowledge base of linguistics, as it applies to teaching phonemic awareness and phonics.

Teacher Knowledge of Linguistics

Teacher knowledge affects what is taught in the classroom. Coined ‘the Peter effect’ in language skills, “one cannot teach what one doesn’t know” (Buckingham et al., 2013). Many studies have examined the teacher knowledge base in linguistics as related to teaching phonics, and their findings are discussed below.

In her study of teachers’ linguistic knowledge, Moats (1994) studied 89 classroom teachers, special education teachers, reading specialists and speech and language pathologists to determine their linguistic knowledge after an average of five years of teaching. At the beginning of the study, the teachers were given a language survey in which they were asked to identify parts of words such as phonemes, roots, and morphemes. Moats’ rationale was if teachers are going to be able to explicitly teach their students about how the sounds in English work in both decoding and spelling, they need to have this content knowledge themselves (Moats, 1994). Moats’ results showed quite low levels of linguistic knowledge, which is disheartening considering that at this time there were over two decades of research indicating that struggling readers have difficulty with phonology and language structure (Adams, 1990). After receiving professional development about linguistic study, the teachers reached a proficient level of knowledge (Moats, 1994).

At the end of the study, each class of participants was given a survey where they could share their opinions about the linguistic information they learned. Between 85-91% of each class selected that the linguistic learning in relation to their teaching was “highly useful or essential” (Moats, 1994, p. 97). Over ninety percent of participants wished they had learned this information in their teacher preparation programs and believed that other teachers of reading and writing should be required to take a course similar to the one they received in the study. One drawback to this study was it did not measure student outcomes to see if teacher knowledge had an impact. Moats (1994) makes the case that teachers with linguistic knowledge can more successfully interpret student reading and spelling errors, choose good examples of words to help students progress in decoding and spelling, plan sequenced instruction that makes sense with the written language system, and be able to use morphology to explain spelling patterns to students.

McCutchen et al. (2002) studied primary teachers’ knowledge base of the language structure of English. The researchers gave the Informal Survey of Linguistic Knowledge (Moats, 1994) to determine teachers’ level of linguistic knowledge, including phonological awareness, phonemes, morphemes, and syllable structure. Results showed teachers only scored between 30 and 35% correct on this survey, though the average score was quite high for general knowledge and knowledge of children’s literature (McCutchen et al., 2002). This result of limited language structure knowledge was also found in several other studies (Bos et al., 2001; Cunningham et al., 2001; Mather et al., 2004, as cited in McCutchen et al., 2002).

McCutchen et al. (2009) reported results of a quasi-experimental study related to teachers’ knowledge of linguistics. First, elementary teachers were given the Informal

Survey of Linguistic Knowledge; the results were consistent with previous research results and showed that teachers have limited linguistic knowledge. Then, after matching schools for demographics, about half of the teachers were assigned to the intervention group that consisted of ten days of professional development to improve their knowledge; the other half served as the control group but received the professional development the next summer. A post-test confirmed that intervention group teachers significantly expanded their knowledge in relation to their own pre-test scores. The researchers examined student outcomes in reading at the end of the school year. Student assessments of those in the intervention group showed statistically significant reading gains when compared with the control group results. The resulting gains in reading were more significant for lower-performing students and were positive but to a lesser degree for typically performing students. The researchers associated a strong relationship between teacher knowledge and student reading achievement ($d = .89$) for the teachers who received professional development. This led them to believe that providing instruction or professional development to teachers so they can gain linguistic knowledge of English led to important gains in student reading achievement.

Washburn et al. (2015) studied preservice reading instruction in four English speaking countries: Canada, England, New Zealand, and the United States; each of these countries had robust governmental reports with similar findings about early reading instruction, which had commonality in their findings about key components of reading instruction. Specifically, there was agreement amongst the reports that proper teacher knowledge base, including phonological awareness, the alphabetic principle, and bottom-up (synthetic) phonics, can prevent many reading difficulties (NICHD, 2000; Rose, 2006;

Snow, et al., 1998). The four countries each had concerns with literacy levels amongst students, including students with dyslexia, and Washburn et al. (2015) point to research that indicated teachers who are adept in the English language themselves spend more time teaching these concepts and are more effective at conveying these concepts to early readers (Moats, 1994, 2014; Piasta et al., 2009; Spear-Swerling & Sternberg, 2001).

In the 2015 study, participants from all four countries were given the *Survey of Basic Language Constructs*, which had been used in previous studies and was based on Moats' *Informal Survey of Linguistic Knowledge* (Moats, 1994). The survey was given after participants had at least one course that focused on phonemic awareness, phonics, fluency, vocabulary, and comprehension. Results were broken into four categories: phonological knowledge, phonemic awareness, phonics, and morphology. A score of seventy percent was considered passing on each section. The mean test scores showed no country performed at a passing level: Canada's mean was 67%, England's mean was 49%, New Zealand's mean was 56%, and the United States' mean was 50%; the overall mean of the four countries was 56%. Only two sections of the survey resulted in passing scores. The first was England's mean on the phonics portion was 80% (Washburn et al., 2015). The authors postulate that this is likely due to the emphasis England has placed on systematic phonics since the national Rose Report (Rose, 2006). The second section with a passing score was the United States, which had a mean of 73% on the phonological awareness tasks. All other scores fell below the 70% mark (Washburn et al., 2015).

U.S. teachers' scores in phonemic awareness (53%), phonics (38%), and morphology (20%) are concerning (Washburn et al., 2015). Since it is known that teacher knowledge impacts what gets taught and how well it is taught in the classroom, the

Washburn et al. (2015) study demonstrates there is wide room for improvement in expanding preservice teacher knowledge on the language structures of English.

The studies I reviewed above took place between 1994 and 2015, yet they demonstrated weaknesses in the linguistic knowledge base for teachers, leading one to wonder if the linguistic elements of language are being taught in teacher preparation programs. My study investigated this question by looking for evidence of linguistic instruction through the Phonics component of the ICR, and through the thematic analysis.

Teacher Preparation Studies

National Studies

Founded in 2000 by the Fordham Institute, the National Council on Teacher Quality (NCTQ) states they are a non-partisan, non-profit organization that seeks to research and provide reports and recommendations on education related topics, including teacher preparation (NCTQ, 2020). The NCTQ studies, which are conducted every few years, examine course syllabi for evidence of the five pillars of reading: phonemic awareness, phonics, fluency, vocabulary, and comprehension strategies. The textbooks used in the courses are examined for alignment with the science of reading (NCTQ, 2020).

Early reading in teacher preparation programs was first studied by the NCTQ and reported on in 2003, and the studies have continued with reports put out in recent years including 2014, 2018, and 2020. Results of each study show slow improvement over time, but nationally, only 23% of preservice teachers receive scientifically based reading preparation (NCTQ, 2018). However, the most recent NCTQ report shows that 50

percent of programs now receive grades of an A or B for incorporating the five pillars of reading into their teacher preparation programs - a marked increase when compared with the earlier NCTQ studies (Drake & Walsh, 2020). The NCTQ reports that phonemic awareness instruction is present in 51 percent of programs, fluency instruction is present in 53 percent of programs, and phonics, comprehension, and vocabulary instruction are present in 68, 66, and 77 percent of programs, respectively (Drake & Walsh, 2020).

The credibility of the NCTQ's findings have been heavily critiqued by many in the field of education, due to the politicized nature of the reports and methodological concerns (Dudley-Manning, 2015; National Educational Policy Center, 2018; Ravitch, 2013). Since the NCTQ's review focuses on the five pillars of reading derived from the NRP reports, others in education have objected to the study due to concerns with the methodology parameters of the panel's meta-analysis, which did not include qualitative studies (Almasi et al., 2002; Krashen, 2001; National Commission on Excellent in Elementary Teacher Preparation, 2002). However, in the two decades since the National Reading Panel (2000) report, studies have continued to corroborate and expand the panel's findings, and there is wide acceptance of the five pillars of reading.

Risko et al. (2008) selected 82 empirical studies conducted between 1990 and 2006 that focused on teacher preparation regarding reading instruction for preservice K-12 teachers in the United States. Data from each study was coded into four categories: "research on prospective teachers' beliefs, research on prospective teachers' knowledge and reflection, research on prospective teachers' pedagogy, and research on teacher education programs" (Risko et al., 2008, p. 6). The researchers could not find a historical link between the methodology of the studies and concluded that the various teacher

preparation studies had not built on each other. Perhaps if these studies had used consistent criteria or methodology, they could provide a model for my study, but instead each study based their work on their specific context and situation. Inconsistencies in methodology (Risko et al., 2006) and controversy surrounding previous studies regarding teacher preparation (National Education Policy Center, 2018) left me without a clear guide with which to align my study, so instead, I relied heavily on the Innovative Configuration rubric and theoretical models of reading to guide my content and thematic analysis.

Minnesota-Specific Studies

A search of research databases using the search terms *teacher preparation, higher education, reading, literacy, and Minnesota*, in various combinations revealed no studies specifically on the content of teacher preparation courses in Minnesota. However, research pertaining to reading teacher education in Minnesota was conducted and presented at several professional conferences in the early 2000s (Dillon & Heine, 2003; Vagle et al., 2006). Funded by a Bush Foundation grant, a team of researchers from the University of Minnesota, along with collaborators from several higher education institutions in the state, collaborated to share key aspects of their syllabi, including course objectives and assignments, with a goal of alignment to best practices in reading instruction.

Participants began by dividing up scientific literature to review and summarize for the group; the intention was to develop a Literacy Conceptual Framework, but consensus could not be reached during the time of this study, so instead a beginning teaching

repertoire was developed instead. The collaboration efforts also resulted in the creation of four agreed upon assignments and accompanying scoring rubrics.

The researchers used a content analysis methodology to compare pre- and post-syllabi after collaboration and professional development sessions that emphasized a scientifically based research approach to teaching reading and found that the topics in courses pertaining to reading instruction increased in the post-syllabi, and an additional article on phonics, plus two additional articles on comprehension were added to syllabi (Vagle et al., 2006). This three-year collaborative project amongst faculty from several institutions of higher education in Minnesota appears to be the most comprehensive study completed on syllabi specific to this state to date.

Content area standards and standards of effective practice together guide what is taught in teacher preparation programs (Statute 8710.4725; Statue 8710.2000), but the standards are met through a variety of course readings, activities, assignments, and textbooks that vary by institution. It is important to know what is being taught to preservice teachers, as research shows that students who are learning to read are more successful if they are taught by teachers who have strong language and word-structure knowledge (Spear-Swerling & Brucker, 2004), for teachers have difficulty teaching what they themselves do not understand (Binks-Cantrell et al., 2012). Yet, many studies have demonstrated that most licensed teachers do not have a strong knowledge base of the components of the English written language system (Brady & Moates, 1997; Moats, 1994; Washburn et al., 2016). Experimental studies indicate that students have better reading outcomes when their teachers have greater linguistic knowledge (McCutchen et al., 2002; McCutchen et al., 2009).

This literature review provided information on the scientifically based models of reading acquisition, studies about teachers' preparedness to teach phonics, and it reviewed research related to my study. It also identified a gap in the literature: little information is available regarding what is taught in Minnesota's foundational reading courses for preservice teachers. The purpose of this research study was to gain information about how teachers in Minnesota learn to teach reading. The methodology of this study is discussed next in Chapter 3.

Chapter 3

METHODOLOGY

In this chapter, I describe the methodology of my study and include details about its research design; the study's population, sample, and data collection procedures; and methods of data analysis, which included both content and thematic analysis. I then discuss researcher assumptions, reflexivity, and measures taken to increase the reliability and validity of the study. My aim was to determine how foundational reading is taught to Minnesota's preservice teachers through an analysis of the syllabi of foundational reading courses. I investigated these specific questions and sub-questions:

1. What are future teachers taught about reading acquisition in their literacy preparation courses?
 - a. To what extent does the content of syllabi address the key components of scientifically based reading and the Minnesota state statutes regarding reading acquisition?
 - b. To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia?
 - c. Are there substantive additional themes not identified by the Innovative Configuration rubric that appear in the syllabi?

The research design section below explains how content analysis and thematic analysis worked together to answer these questions and sub-questions.

Research Design

In this study, I employed two types of analysis: content analysis and thematic analysis. The sections below discuss these methods of analysis and the work of seminal researchers who discuss the particular methodology.

Content Analysis

Content analysis is a procedure for analyzing documents and classifying the contents into categories relevant for analysis regarding the research questions (Krippendorff, 2013; Patton, 2002). In content analysis, the research question sets the purpose, or lens, through which documents are analyzed; then the researcher draws inferences based on systematic analysis of particular texts and their contexts (Krippendorff, 2013). To collect data about the content taught to preservice reading teachers, I analyzed higher education syllabi. Posner (2004), who researches and writes about curriculum analysis, supports the review of syllabi, and defines a syllabus as “a plan for the entire course” (p. 6). According to Posner (2004), syllabi typically contain topics covered, a content outline, textbooks, standards, the course of study, planned experiences, assignments, and other resources, which indicate what the course will cover. Although there are limitations to a syllabi-only review of a course, I aimed to discover the key concepts taught within the course, and for that purpose the syllabi provided an overview of the foci within the courses.

Thematic Analysis

Thematic analysis (TA), as defined by Braun and Clarke (2006) who have written extensively about TA, is “a method for identifying, analysing and reporting patterns (themes) within data” (p. 79). Through the content analysis of the syllabi, I looked for 12

specific components of reading instruction. Eleven of these components were included in a rubric developed by The National Comprehensive Center for Teacher Quality (NCCTQ, 2011), which determined the components of scientifically based reading research in alignment with the results of the National Reading Panel (2000). Then, through the thematic analysis, I examined “what else” is taught about reading to answer Sub-question C of this study: Are there substantive additional themes not identified by the Innovative Configuration Rubric (ICR) that appear in the syllabi? A theme in a data set indicates an important topic that is prevalent and relevant to the research questions, as determined by the researcher (Braun & Clarke, 2006). Braun and Clarke (2021) describe thematic analysis as a method that can be used in several different variations that span the spectrum of qualitative research. In this study, I use what they have termed ‘reflexive thematic analysis’. Reflexive TA uses inductive coding, meaning that after becoming familiar with the data set, the researcher determines patterns of interest. For the thematic analysis, I followed the six recursive phases that Braun and Clarke (2006, 2021) put forth: “familiarisation; coding; generating initial themes; reviewing and developing themes; refining, defining, and naming themes; and writing up” (p. 39). The recursiveness of this process allowed me to be absorbed in the data set for an extended period to examine prevalence and importance of content related to reading that was not captured by the content analysis.

Combining content analysis and thematic analysis for this study allowed for a structured, yet flexible approach for thoroughly analyzing the syllabi of foundational reading courses. The sections below provide information specific to my analysis.

Population, Sample, and Data Collection

Inclusion criteria for the study are institutions of higher education that license general education elementary school teachers in the state of Minnesota. I included each of the 29 Minnesota institutions in the study, which can be found in Appendix A. This data set came directly from syllabi that professors in higher education identified as foundational reading courses. Professors in Minnesota submitted their syllabi to the licensing board, Professional Educator Licensing and Standards Board (PELSB), and I was granted access to the syllabi for this proposed study. I submitted a request to PELSB for access to the syllabi. PELSB's Office of Data Practices determined the syllabi are considered "public data" and therefore, according to state statutes, must be shared upon request. Below are the applicable state statutes that specified the rules of release PELSB followed in releasing the syllabi to me.

Sec. 13.02 MN Statutes

Subd. 14. **Public data not on individuals.** "Public data not on individuals" are data accessible to the public pursuant to section 13.03.

Sec. 13.03 MN Statutes

Subdivision 1. **Public data.** All government data collected, created, received, maintained or disseminated by a government entity shall be public unless classified by statute, or temporary classification pursuant to section 13.06, or federal law, as nonpublic or protected nonpublic, or with respect to data on individuals, as private or confidential. The responsible authority in every government entity shall keep records containing government data in such an

arrangement and condition as to make them easily accessible for convenient use.

Photographic, photostatic, microphotographic, or microfilmed records shall be considered as accessible for convenient use regardless of the size of such records.

The syllabi were provided to me in a Google Drive folder. I made a copy in my university Google Drive, as well as a backup copy of the files on a separate data drive.

Data Analysis

In this section, I describe the data analysis for the content analysis portion of this study, which includes an analysis of the most frequently used textbooks. I explain the Innovation Configuration Rubric I used to analyze the syllabi for elements of scientifically based reading. Then I describe the textbook analysis, and after that, I describe the data analysis for the thematic analysis.

Data Analysis for the Content Analysis

Of the syllabi provided in the data set, I collected and analyzed all of the syllabi for courses that were required for initial licensure, as listed by each institution's website. This meant there were special education courses and early childhood courses included in the syllabi provided by PELSB that I did not analyze because they were elective courses or courses students could take if they were adding a minor, concentration area, or specialization to their elementary education degree. In total, I analyzed syllabi from 51 courses from the 29 higher education institutions.

For the first level of analysis, the content analysis, I used a rubric developed by the National Comprehensive Center for Teacher Quality called the Innovation Configuration Rubric (ICR). The NCCTQ was a twenty-first century organization funded by the United States Department of Education and co-led by Vanderbilt University, the

Educational Testing Service, and Learning Point Associates (which has now merged with American Institutes for Research) (NCCTQ, 2011). This non-partisan organization promotes the use of evaluation data to provide recommendations to help Education professional development and teacher preparation programs align with scientifically based evidence and state content area standards. Based on the work of Hall and Hord (1987) and Roy and Hord (2004), the NCCTQ developed rubrics called Innovation Configurations to be used in program evaluations that assess how standards and policies are implemented within higher education reading syllabi.

The ICR includes essential components of reading programs and a scale for rating the degree to which each component is implemented. In relation to reading, the ICR components are based on meta-analyses, reports from national experts, and governmental reports that determined the essential components of programs (NCCTQ, 2011). I describe the ICR components in greater depth below. The NCCTQ wrote a policy brief that summarized key scientific research for each essential component, which provided the research base and rationale; see Chapter Two for a summary of this policy brief. The NCCTQ derived important keywords related to each component to help those who use the ICR accurately identify the essential components within syllabi.

The ICR uses codes zero through four to rate the degree of implementation; a description of each code is listed on the rubric, and examples of variations are provided to increase consistency in scoring and inter-rater reliability when researchers code the syllabi (NCCTQ, 2011). The code number ranking increases as depth of instruction is demonstrated. For example, mentioning that a topic will be discussed receives a lower ranking than evidence of an application assignment related to course readings on a topic.

To receive the highest score, a four, the element must be applied in a field placement or tutoring setting.

In recognition of the fact that institutions often address reading skills across multiple courses, I scored each institution on one cumulative rubric. I adopted this method to recognize the progressive design of most reading programs and students' development of skills across multiple courses. Therefore, even if an institution scored a "1" in an entry-level course, but later gave students the opportunity to apply a particular skill, their initial "low" score would not affect or negate a later "high" score.

According to the NCCTQ (2011), using Innovation Configuration Rubrics can provide an overview of content taught and practiced within the higher education classroom: "Innovation configuration results provide credible information about current practices and can be used as the basis or rationale for policy and program changes in teacher preparation..." (p. 4). The 11 components of reading instruction determined by the NCCTQ are scientifically based reading research, phonemic awareness, phonics, fluency, vocabulary, comprehension, integration, systematic instruction, explicit instruction, dyslexia and screening assessment, and progress monitoring. I added a twelfth element - reading acquisition models - to investigate this key component of my study's research questions and defended the rationale for this in Chapter Two.

Components of the Innovation Configuration Rubric

In this section I the 12 components and keyword indicators for each component of the ICR. Recall that the ICR was developed by the National Comprehensive Center for Teacher Quality as an evaluation tool for determining evidence of scientifically based reading components and their degree of implementation within teacher preparation

programs (NCCTQ, 2011). The ICR includes keywords, synonyms, and examples that may indicate evidence as a particular component. The keywords allow flexibility but may not encompass all possible ways of indicating a component; therefore, I used my researcher knowledge, discretion, and interpretation as I assessed each syllabus with the ICR. During analysis, I kept track of additional terms I found in the syllabi that, in my judgment, indicated the various components were included; I have written about these additional terms in the discussion of the components below. I took the component titles and keywords verbatim from the ICRs in the explanations below. The ICR and the parameters for each degree of implementation can be found in Appendices A and B.

Component One: Scientifically Based Reading Research. A syllabus that includes scientifically based reading research likely involves students in learning about aspects of scientific studies, such as peer review, replication, randomized controlled studies, and studies designed to minimize researcher bias (NCCTQ, 2011). Course participants may be asked to read governmental reports and meta-analyses, such the National Reading Panel Report (2000), or *Preventing Reading Difficulties in Young Children* (Snow, et al., 1998), which identified the five essential elements of reading: phonemic awareness, phonics, fluency, comprehension, and vocabulary. During analysis, the “Put Reading First: The Research Building Blocks for Teaching Children to Read” report was sometimes listed as an article that students were required to read; since it is a summary report of the National Reading Panel findings, I included it as an indication of scientifically based reading research.

Component Two: Phonemic Awareness. Phonemic awareness is defined as “the ability to hear and manipulate sounds and the understanding that spoken sounds and

syllables are made up of sequences of speech sounds” (Yopp, 1992). According to the NCCTQ (2011) phonemic awareness may be described in syllabi as a precursor to phonics, and tasks may include detecting, segmenting, blending, or manipulating phonemes. In addition, phonological awareness activities, such as rhyming and alliteration, may be discussed for preschool and kindergarten levels. A common phonemic awareness activity is Elkonin sound boxes. In my analysis of the syllabi, I looked for the terms and activities described above as evidence of phonemic awareness being taught within courses.

Component Three: Phonics. Phonics, or teaching the sound-to-letter(s) correspondences, was identified by the National Reading Panel (2000) as an essential instructional methodology. As I analyzed syllabi, I looked for phrases such as letter-sound correspondences and phoneme-grapheme correspondences. Terms such as the alphabetic principle, blending, and encoding indicated instruction in phonics. Word analysis, prefixes, suffixes, and base words were also coded as phonics instruction. Lastly, decoding nonsense words may be used as a phonics assessment (Lindstrom, 2019), and I therefore coded the term *nonsense words* under phonics.

Component Four: Fluency. Researchers Hasbrouck and Glasser (2019) define fluency as “reasonably accurate reading, at an appropriate rate, with suitable expression, that leads to accurate and deep comprehension and motivation to read” (p. 10). Terms such as rate, accuracy, prosody, repeated readings, fluency training, partner reading, measurable goals, and charting progress may indicate fluency instruction on syllabi (NCCTQ, 2011).

Component Five: Vocabulary. The NCCTQ (2011) found that when instructors teach about vocabulary, they may use terms such as direct and indirect vocabulary, preteaching words, the importance of oral language development, and teaching that words have multiple meanings and can be used in different contexts. Selecting and leveling words to teach, as well as becoming word conscious and understanding morphemes may indicate instruction in vocabulary. Likely due to Minnesota being a state that uses the EdTPA assessment which has a section that focuses on academic language, I found instructors also used the terms tier one, two, and three, on their syllabi to indicate academic language and vocabulary instruction, and therefore included those as keywords that indicated instruction in vocabulary.

Component Six: Comprehension. The NCCTQ (2011) found that comprehension may be taught through strategies that are used before, during, and after reading, such as questioning, summarizing, predicting, and retelling; therefore, sections of syllabi that include such terms were coded as comprehension. Collaborative strategic reading is a method of teaching students to use comprehension strategies, so this term on syllabi was coded as an indicator of comprehension instruction. In addition, teaching metacognitive strategies, or being aware of one's thinking while reading, may suggest comprehension is being taught. Another way comprehension may be specified on syllabi is through the terms narrative and nonfiction text structures. As I completed the syllabi analysis, I also found instructors used the terms "context to create meaning," "graphic organizers," "reciprocal teaching" and "comprehension strategies;" therefore, these terms were coded as evidence of comprehension instruction.

Component Seven: Integration. By including the integration component, I sought to determine if the five essential elements of reading (components two through six) are woven together after first being taught in isolation. Terms such as integrated, and placed back into meaningful context, were coded as an indication of integration (NCCTQ, 2011).

Component Eight: Systematic Instruction. Terms such as planned, purposeful, and sequential indicate systematic reading instruction. Synonym phrases for systematic instruction as developed by the NCCTQ (2011) may include step-by-step, skills sequence, teaching from easy to more difficult, and giving adequate practice before introducing a skill. Syllabi may also ask students to determine if a reading program provides sequenced instruction with time for adequate practice, and these terms were coded as systematic instruction.

Component Nine: Explicit Instruction. The NCCTQ (2011) determined that explicit instruction in reading may be delineated on syllabi through the terms direct instruction, straightforward instruction, or no room for guessing. The gradual release of responsibility model of “I do it, we do it, you do it” is a common teaching progression for explicit instruction and therefore I coded it as an indicator of explicit instruction.

Component Ten: Screening Assessment. Screening assessments are given to all students to determine which students may need further diagnostic assessment to ensure their needs are met in reading instruction. The NCCTQ (2011) found the following terms may indicate instruction pertaining to screening assessment on syllabi: early identification and prevention [of reading difficulty], brief measures, all students,

identifying students who require additional support, valid and reliable instruments. I coded these terms and synonyms as screening assessment.

Component Eleven: Progress Monitoring. Progress monitoring in reading instruction is used to determine need for differentiation or intervention instruction. Terms on syllabi that indicate progress monitoring may include ongoing and frequent assessment for those who need additional support; providing additional support, monitoring every one to two weeks; instructional modifications made accordingly; and reflects appropriateness of the teacher's intervention (NCCTQ, 2011).

Component Twelve: Reading Acquisition Models. I added this component to the original ICR to provide structure as I sought to answer the research question: What are future teachers taught about reading acquisition in their literacy preparation courses? Through reading acquisition models, researchers seek to explain what is known through cognitive science findings about how the brain learns to read. Terms that may indicate reading acquisition models on syllabi include the Simple View of Reading (Gough & Tunmer, 1989), which is the formula word recognition times language comprehension equals reading comprehension. Other key words coded as reading acquisition models are Scarborough's Reading Rope and its intertwined components - "background knowledge, vocabulary, language structure, verbal reasoning, literacy knowledge, phonological awareness, decoding, and sight recognition" (Scarborough, 2009, p. 23). The 4-part Processing Model that consists of the phonological, orthographic, meaning, and context processors is another cognitive science model of reading acquisition (Seidenberg & McClelland, 1989). Lastly, Ehri's Phases of Reading Development, which explain the orthographic mapping process, were also coded as a reading acquisition model when

found on syllabi. The phases are pre-alphabetic phase, partial-alphabetic phase, full-alphabetic phase, and consolidated-alphabetic phase (Ehri, 2014), and these terms were coded as indication of a reading acquisition model. Also included in each syllabus was a list of textbooks required for the course, and since textbooks often provide the majority of course readings, I sought to understand more about the contents of the most widely used textbooks as described in the next section.

Textbook Analysis

Textbook analysis was an additional way to collect data to answer the main research question of this study: “What are future teachers taught about reading acquisition in their literacy preparation courses?” Textbooks are a significant resource that preservice teachers are asked to read, and therefore textbooks may contain information about reading acquisition models students may encounter in their coursework.

To collect data about textbooks Minnesota’s future teachers encounter in their coursework, I recorded the names of textbooks used in the elementary reading courses, as listed in each syllabus. I then computed the frequency of each textbook and created a list of textbooks in order of frequency (see Appendix D). After that, I requested copies of the six most frequently used textbooks and then used the table of contents and index of each textbook to determine if the following reading acquisition models were included in the textbook: the four-part processor, as described by Seidenberg and McClelland (1989); the Simple View of Reading (Gough & Tunmer, 1986); Ehri’s phases of word reading development (Ehri, 1992); and Scarborough’s Reading Rope (2001) or similar

rope/strand models. Models that were included or not included in the most frequently used textbooks can be found in Chapter Four.

Next, the top five most frequently used textbooks were analyzed for the five critical components of reading, as determined by the National Reading Panel (2000) and analyzed by the National Council on Teacher Quality (NCTQ) panel of experts. The NCTQ provides a free, searchable database of popular reading textbooks and their ratings. It is important to understand the methodology of the NCTQ's ratings of textbooks. The panel of researchers that reviewed the textbooks include Dr. Davidson, who is a former university faculty member in education and special education departments, and the current director of Room to Read - a reading intervention program that works worldwide; Dr. Glaser, who has a doctorate in curriculum and instruction and consults with universities and the state of Idaho regarding scientifically based reading instruction; and Dr. Whitney, who was formerly a member of the International Dyslexia Association's board of directors, and has expertise in language disorders and dyslexia. First, the reviewers determined whether a textbook should be categorized as a *comprehensive* text or a *supplemental* text, based on if the focus of the book was specific to one element of reading (such as fluency) or meant to broadly cover the five elements of reading. Next, the reviewers examined the textbooks for coverage of "phoneme (or phonological) awareness, phonics (decoding, word analysis, word study), reading fluency, vocabulary (language development), and comprehension" (NCTQ, n.d. a, para. 9).

To assess the quality of the five elements of reading, the reviewers looked for accuracy in terminology, assessment procedures, and instructional procedures, and rated

them as *exemplary*, *acceptable*, or *not acceptable* (NCTQ, n.d., a). The team looked specifically to see if the content was scientifically based, which the NCTQ described as systematic and explicit. A core textbook could be rated *acceptable* to *exemplary* if all five components were accurate in the three areas of terminology, assessment procedures, and instruction procedures. For supplementary textbooks, these same criteria needed to be met for the component on which it was focused. A textbook could be designated as *not acceptable* for any of the following reasons: “limited, non comprehensive, discussion; misleading information; incorrect definitions; unfounded types of practice; and/or primarily whole language methods” (NCTQ, n.d. b, para. 5).

For my analysis, I searched the database for each of the six most frequently used textbooks and read the NCTQ’s report on each. I looked for trends in both overall ratings for the textbooks and read the reviewer’s rationale for the rating. Information about the ratings and rationales are discussed in Chapter 4.

Understanding which reading models are included or not included in the content of foundational reading courses allows for a deeper understanding of the knowledge base new teachers potentially have from their preparation program coursework. Results of the data collected as described above provide a list of the most frequently used textbooks in preservice reading foundational courses in Minnesota, along with their ratings. The results also provide an analysis of the five components of reading that are included or not included in the most frequently used textbooks. Lastly, this analysis provides data about reading acquisition models that were included within these common textbooks, and these results are discussed in Chapter 4.

Data Analysis for Thematic Analysis

The 12 components of the ICR and the keywords were used to categorize the content of the syllabi as the first level of analysis. Although the ICR was very comprehensive, I also sought to understand other substantive themes in the content taught in foundational reading courses, as indicated through syllabi. Therefore, I used thematic analysis as a second level analysis to determine if there were trends in additional topics taught and to specifically investigate research Sub-question C: Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi? My procedure for thematic analysis is described next.

To analyze themes of additional reading-related content found within the syllabi, I followed the six recursive phases of thematic analysis that Braun and Clarke (2006, 2021) put forth: “familiarisation; coding; generating initial themes; reviewing and developing themes; refining, defining, and naming themes; and writing up” (p. 39). This process involved reading each syllabus an additional time and coding items related to reading that were not already captured in the content analysis. For the first step, I was already familiar with the data from the level one analysis process. Second, I generated initial codes by recording the terminology professors used on their syllabi and compiled a list of terms that indicated instruction in reading that were outside of the rubric used in the level one analysis. During the initial familiarization and coding process, I noted 470 words or phrases related to reading instruction that were outside of what was already found in the content analysis. To aid in searching for themes (Step 3) I printed out each word or phrase and then sorted them into similar groups, and in this process, I fit the 470 words into 46 themes, which can be found in Appendix G.

To review and identify themes (Step 4), I sat with these categories for a few days and considered how the various themes intersected, overlapped, and differed. I also reviewed the phrases in each theme and occasionally recategorized terms that could potentially be in more than one category. For example, the term *World-class Instructional Design Assessment (WIDA) framework* could be sorted into the *assessment* category or the *English Learner* category. When situations such as this arose, I took another look at the syllabus in which the term appeared to see if it provided a deeper context for the phrase. In this case, the term was found within the week that focused on providing appropriate instruction for English learners, so I chose to move it to the *English Learner* category.

Most of the refinement (Step 5) was slightly broadening a theme so that two, three, or even four themes could become one more-inclusive theme. For example, philosophy and beliefs about reading instruction, the history of reading instruction, and the sociocultural view of literacy were initially three separate themes, but I decided to combine them into one theme: History and Philosophy of Reading. Through this process, 46 themes became 26 themes. This reduction was mostly due to combining similar themes, and by eliminating a few categories that were not true themes due to their limited appearance in the syllabi. For a term or phrase to be a theme, I determined it needed to occur in at least ten percent of syllabi. These themes are reported (Step 6) in Chapter 4 and discussed in Chapter 5.

Researcher Assumptions and Reflexivity

A key assumption I made in this research study was that the content contained in the syllabi is close to the same content that is taught in the courses. While it is likely that

course schedules and unexpected events may prevent a given course from following what is delineated in the syllabus exactly, I have assumed that the syllabus still contains the most important content taught in the course. Within this assumption is also the presumption that professors who submitted these syllabi to PELSB have done so in good faith and with the intention of accurately representing the content of their courses.

Another assumption I made as a researcher is that Minnesota's higher education institutions do have some room for improvement in their preparation of future teachers of reading. To be clear, my intention was not to criticize current practices, but instead to considerately look at how practices align and do not align with scientifically based reading research. In the field of education, we often espouse the idea of lifelong learning; in my opinion, this must apply to faculty in higher education, and this includes myself.

As an assistant professor who prepares future teachers of reading at one of Minnesota's universities, I am in the delicate position of analyzing the system in which I work, learn, and collaborate. It is very important to me that my interpretations of the content of syllabi are seen as fair and that my colleagues feel their work is seen and represented well in my study.

I will briefly summarize my educational and teaching experiences regarding reading so that the readers of this dissertation understand the perspectives I bring to this current study. In 2005, I completed my Elementary Education degree, where I was taught to teach reading in a whole language, reading and writing workshop model. I taught Integrated Language Arts to sixth and seventh grade students for the first three years of my career. During this time, I also taught struggling middle school readers in a course

called *Reading Strategies* that focused on teaching reading comprehension strategies and fluency to those who were not yet passing the Minnesota Comprehensive Assessment.

I then switched to teaching fourth grade at an elementary school that used what was described as a balanced literacy curriculum. Our main curriculum was Fountas and Pinnell's *Guiding Readers and Writers* (2008), and Lucy Calkins' *Units of Study* (2001) writing curriculum. During these years of teaching, I did not have access through the school district to phonemic awareness or phonics materials to instruct students who were not yet reading; phonics was not a part of reading instruction but was incidentally taught through weekly spelling units. I used reading comprehension strategies and lower leveled text to try to meet the needs of students who were not reading at grade level.

Throughout my master's and doctoral programs, I have learned more about meeting the needs of students who struggle to learn to read, including those with dyslexia, whose needs I was never fully able to meet in the classroom. Although I have spent the last five years learning about structured literacy approaches to teaching reading, I have not used these methods in a whole group classroom setting and have only used them to tutor individual students and to teach my own children to read. After I took LETRS (Language Essentials for Teachers of Reading and Spelling) (Moats & Tolman, 2019) training and learned foundational skills that were not included in my initial Elementary Education coursework, I revised the foundational reading course I taught and currently teach at the university level, to include the elements of scientifically based reading research. I am involved in a volunteer committee called Higher Education Literacy Partnership (HELP) that strives to bring forth scientifically based reading practices to both classroom teachers and literacy education professors.

My role as a researcher was to set aside my biases and preconceptions and to examine the foundational reading course syllabi with a dispassionate lens. To mitigate my researcher bias, I have taken strategic measures, which include the use of the Innovative Configuration Rubric, and the help of a second coder to ensure that the assumptions I could potentially make when analyzing and interpreting syllabi are accurate. As a third strategy to counteract potential bias, I have provided a summary of my findings from the syllabi to the instructors of the courses to verify that I have satisfactorily interpreted their syllabi and have not missed or confused their use of lecture topics, assessments, assignments, textbooks, and key course readings. These methods for mitigating researcher bias contribute to the reliability and validity of my findings and are described in the section below.

Reliability and Validity

“Validity is that quality of research results that leads us to accept them as true, as speaking about the real world of people, phenomena, events, experiences, and actions” (Krippendorff, 2013, p. 329). To increase the reliability and validity of my study, to avoid pitfalls of previous syllabi-only studies, and to obtain accurate data, I planned and implemented the following measures: the use of multiple coders; built-in, intentional redundancy in the data analysis process; a member-check of my summary of institutional findings; and the use of a previously developed rubric used during the content analysis portion of the study. These measures are described in the sections below.

Reliability - Multiple Coders

To begin the content analysis of syllabi using the ICR, I met with Dr. Lisa Silmsner, who served as an additional coder. The purpose of having an additional coder is

to increase the reliability of the study by showing inter-coder agreement. We began the syllabi analysis process by first discussing the 12 components of the ICR and their key words. We then reviewed the scoring guide for the level of implementation of the elements. After assigning each higher education institution in the study a number between one and twenty-nine, I used a random number generator to determine which seven syllabi, representing 24% of the total sample, we would both review separately. I also used the random number generator to determine which institution's syllabi we would use to complete an initial analysis together to calibrate and make sure we had the same understanding and interpretation of the rubric, keywords, and level of implementation ratings.

During the calibration process, Dr. Silmsler and I decided to make two slight modifications to the scoring guide for the level of implementation of the elements of the ICR. The original codes, as developed by the NCCTQ (2011), had the following criteria: (0) meant "there is no evidence that the component is included in the course syllabus;" (1) meant the "syllabus mentions content related to the component;" we did not modify these codes. The (2) meant the "syllabus mentions the content related to the component and requires readings and tests or quizzes." Dr. Silmsler and I were both concerned that the word *and* could severely limit the institutions that could earn a two or higher, because due to pedagogical reasons, some institutions have moved away from traditional tests and quizzes. For this reason, we changed the coding for (2) to read the "syllabus mentions the content related to the component and requires readings *or* tests or quizzes." A (3) meant that the "syllabus mentions the content related to the component and requires readings and tests or quizzes, and assignments or projects for application: observations, lesson

plans, classroom demonstration, journal response.” I again changed the word *and* to *or* and decided to specify that to meet the criteria for a level (3) journal response would be directed or guided so that students were specifically discussing the key component. I added a general, undirected journal about course content to the level (2) rating indicators. For a rating of (4), the component needed to include the criteria of level (3), plus “teaching with application and feedback: field work (practicum), tutoring.” This rubric refinement allows for clear distinction between the implementation levels, and it eliminated some subjectivity in determining what counted as a journal entry. The final form of this rubric can be viewed in Appendix C.

After inter-coder calibration, the second coder received copies of the syllabi for the seven institutions (24%) identified by the random number generator, as well as the rubric. We met two weeks later to share and discuss the ratings we completed separately for the seven institutions. To determine the inter-rater reliability percentage, I totaled the institution’s score as determined by each rater, for each of the seven institutions. Computations indicated an 89 percent agreement between raters.

To determine the reasoning behind scoring differences, we discussed our rationales behind the scores in which we did not agree. Through this discussion, we came to agreement on each of the discrepant scores, because in most cases there was accidental human error in not noticing an assignment or specific details about an assignment that resulted in differences in the degree of implementation score. By returning directly to the syllabi in which both raters had annotated these accidental omissions, typically of detailed assignment instructions that were present in one part of a syllabus but not present in another section, we resolved the discrepancies between scores. The second area that

led to disagreement in scores was ambiguity in syllabi. For example, most syllabi included textbook chapter titles when assigning reading, but some did not. To resolve this ambiguity, we used the textbook publisher webpage to access a table of contents for the chapter titles in question. This led us to interpret the syllabi more accurately.

Reliability - Redundancy

For a content analysis to be accurate, it was important that I thoroughly review each syllabus, and to think through each section of the syllabi with the lens of each of the 12 elements of the ICR. To ensure a thorough review, I intentionally built in some redundancy to my review process. I completed a first read that was a quick overview of the syllabi to familiarize myself with the layout of sections of each syllabus. During the second read through, I color coded phrases that signified elements of the ICR and made an x to indicate the level of implementation of each item. For example, if a syllabus asked students to read an article on the Frayer method of teaching vocabulary, I highlighted this part of the syllabus in blue, and then went to the vocabulary section of the rubric and placed an x under level one. After the whole syllabus was color coded and the rubric was completed, I did a third read of the syllabus and marked aspects of reading that the syllabus indicated were taught that were not included on the rubric. I added the words and phrases I found verbatim to a spreadsheet that would become the first step to the thematic analysis of the syllabi. Going through each syllabus three times built in an aspect of redundancy and served to mitigate human fallibility related to missing an item or making a mistake.

Validity - Member Check

One concern critics have expressed of studies that analyze syllabi is that syllabi might not indicate every topic that is covered in the course, and therefore conclusions drawn may be incomplete (Allington, 2013, as cited in Ravitch, 2013). While this may be true, this concern is most pertinent when a program is being ranked/rated because it is difficult to tell the quality/coverage of topics from only a syllabus. However, my study looked at foundational reading courses from a bird's eye view and sought to understand the main content taught in the courses. Although I determined the level of implementation, institutions were not ranked in this study, and instead, generalizations and descriptive data about content were made overall. A syllabus is meant to convey the major topics, readings, and assignments a course will cover, and therefore provide appropriate information for this study.

To increase the validity of the syllabi content analysis, I created a summary template for each institution reviewed (see Appendix F) that included the courses analyzed in the syllabi review, the required textbooks as stated in the syllabi, the assignments, and the key topics related to reading. I wrote a letter (See Appendix E) that briefly explained the study and asked the professors to review the summary of my findings from their institution. Professors were asked to indicate if the course list and summaries were an accurate representation of the key content of their course(s). If professors felt the summary missed an important element of the course, they were given an opportunity to explain and provide documentation to support their response.

The response rate from this member check was 75%. The most frequent response was an acknowledgement that the information I had provided was correct, and the second

most frequent response was that the instructor was in the process of revising syllabi and expects to make changes in the near future. Two professors who responded provided more details about how they teach about dyslexia by providing links to online dyslexia modules that were mentioned in the syllabi. Two other professors who responded provided specific information about a course or project listed in the syllabi. Lincoln and Guba (1985) have identified member checking as a way for a researcher to build credibility and validity into a study. Giving professors an opportunity to verify the accuracy of the summary of their syllabi increases the validity and the transparency of the study.

Validity - Innovation Configuration Rubric

The ICR used in this content analysis study was specifically designed as a tool to aid in the examining of the content of teacher preparation courses (NCCTQ, 2011). Under the section “The Purpose of This Document,” the NCCTQ (2011) states that the ICR

...encourages an examination of the similarities, differences, and gaps among programs by answering two questions: what types of instruction and experiences do teachers receive throughout their preparation... that promote the use of evidence-based instruction practices? To what extent are teachers and teacher candidates provided an opportunity to apply these strategies with explicit feedback and sustained implementation and support to ensure fidelity? (p.3)

These questions are very similar to the guiding questions of my research study, and therefore this tool is being used in the way it was intended, which increases the validity of the ICR as an instrument for my purposes. In addition, the key components of reading

that are included on the ICR were based on the findings of meta-analyses, national reports, and government agencies (NCCTQ, 2011; NRP, 2000; Snow, et al., 2008; Vaughn, et al., 2000). These studies reached similar conclusions from the review of hundreds of studies, which provides validity for the inclusion of these components within foundational reading courses.

In this chapter I have outlined my research design, which consists of both content analysis and thematic analysis. I have described the population, sample, and data collection procedures I used. I delineated how data were analyzed during the content analysis phase and the thematic analysis phase. I wrote about my assumptions as the researcher and my reflexivity, as well as how I mitigated my potential bias through intentional reliability and validity measures. Chapter 4 details the results of the findings of the study.

Chapter 4

RESULTS

In this chapter, I present the findings of the content analysis and thematic analysis of the syllabi from reading courses in teacher preparation programs in Minnesota. I begin with a review and analysis of the most commonly used textbooks in the literacy courses that were part of this study. These data help me to answer the main question of the study: What are future teachers taught about reading acquisition in their literacy preparation courses? My analysis also answers Sub-question A: To what extent does the content of course syllabi address the key components of scientifically based reading and the Minnesota state statutes regarding reading acquisition? Sub-question B: To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia? and Sub-question C: Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi?

Textbook Analysis

My analysis of the required textbooks listed in the higher education syllabi served three purposes. First, it allowed me to determine if there were trends in textbook choices across the state. Second, I could assess coverage of the five pillars of reading by accessing the NCTQ database of textbooks. As discussed in Chapter Three, the NCTQ hired three researchers to search the chapters for evidence of the five pillars of reading. The panel of researchers included Drs. Marcia Davidson, Deborah Glaser, and Anne Whitney, who, between them, hold advanced degrees in education, curriculum, dyslexia, and language disorders. Lastly, textbook analysis allowed me to determine which reading models (if any) were discussed within the textbooks.

Trends in Textbook Choices

Each syllabus contained a section that listed the texts required in the courses; some included picture books, young adult novels, or PDFs of governmental reports on reading, in addition to textbooks. All but one institution required a textbook and many institutions required two or three textbooks. In the 51 courses I analyzed, 62 different textbooks were listed as required books. Of these textbooks, fourteen were required by two or more course instructors (see Table 3), and 40 were required in a single course. The most commonly used textbooks in reading courses in Minnesota were *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction*, by Bear, et al. (2016); *Teaching Reading and Writing - The Developmental Approach*, by Templeton & Gehsmann (2014); *The Next Step Forward in Guided Reading*, by Richardson (2016); *The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers*, by Serravallo (2015); *Creating Literacy Instruction for All Students*, by Gunning (2016); and *Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction*, by Fox (2014). Table 3 (below) lists all the textbooks required in more than one course, and a complete list of all required textbooks is provided in Appendix C.

Table 3*Most Frequently Required Textbooks in Minnesota's Teacher Preparation Literacy**Courses*

Textbook Title	Textbook Author(s)	Number of Institutions Requiring This Textbook	NCTQ Classification	NCTQ Rating
<i>Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction</i>	Bear, Invernizzi, Templeton & Johnston	7	Specialized	Acceptable
<i>Teaching Reading and Writing: The Developmental Approach</i>	Templeton & Gehsmann	5	Comprehensive	Acceptable
<i>The Next Step Forward in Guided Reading</i>	Jan Richardson	4	Specialized	Unacceptable
<i>The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers</i>	Jennifer Serravallo	4	Specialized	Unacceptable
<i>Creating Literacy Instruction for All Students</i>	Gunning	3	Comprehensive	Acceptable
<i>Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction</i>	Fox	3	Specialized	Acceptable

Table 3 (continued)

<i>Assessment for Reading Instruction</i>	Stahl, Dougherty, Flanigan & McKenna	2	Comprehensive	Unacceptable
<i>Classrooms that Work: They All Can Read and Write</i>	Allington & Cunningham	2	Comprehensive	Unacceptable
<i>Daily 5: Fostering Literacy Independence in the Elementary Grades</i>	Boushey & Moser	2	Specialized	Acceptable
<i>Improving Reading: Strategies, Resources, and Common Core Connections</i>	Johns & Lenski	2	Specialized	Acceptable
<i>Literacy Development in the Early Years: Helping Children Read and Write</i>	Morrow	2	Comprehensive	Unacceptable
<i>Literacy for the 21st century: A balanced approach</i>	Tompkins	2	Comprehensive	Unacceptable
<i>Phonics, Phonemic Awareness, and Word Analysis for Teachers: An Interactive Tutorial</i>	Leu & Kinzer	2	Specialized	Acceptable
<i>Reading and Writing Genre with Purpose in K-8 Classrooms</i>	Duke, Caughlan, Juzwik & Martin	2	n/a	Not ranked (primarily a writing text)

Of the thirteen most frequently used textbooks, six were classified as *unacceptable* (NCTQ, n.d.). Seven of these textbooks were categorized as *specialized*, and six as *comprehensive*.

NCTQ Report and Reading Model Analysis

The NCTQ textbook database classifies textbooks as a comprehensive core text if the text covers all five components of reading, and also includes information on assessment, and/or struggling readers. A textbook may be considered specialized if it focuses on certain components of reading only. Comprehensive and specialized texts are then rated *exemplary*, *acceptable*, or *unacceptable*, based on their alignment with scientifically based reading research (NCTQ, b., n.d.). The reviewers for NCTQ, who were selected due to their credentials in the field of education, provide a short report that explains their rationale for each textbook's rating. The ratings of the six most widely used textbooks in Minnesota are discussed in the section below.

As explained in Chapter 3, I also examined the textbooks for evidence of the scientifically based reading models, specifically, The Simple View of Reading (Gough & Tunmer (1986), Scarborough's Reading Rope (2001), Ehri's Phases of Word Reading Development (2014), and the Four-Part Processor (Seidenberg & McClelland, 1989). I began this process by examining the table of contents and index of each book to search for the names of the models and their corresponding authors. I then read each page or section mentioned and took notes on the findings.

Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction

The NCTQ (n.d.) found *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (2016) to be the most commonly used of the 1420 textbooks in use in reading teacher preparation programs, and I found it was also the most popular textbook used in Minnesota. The NCTQ determined it was a *specialized* textbook that

gave acceptable information on phonemic awareness, vocabulary, and phonics. Its overall rating was *acceptable*, and the summary below explains the reviewer's rationale:

Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction (7th ed.) may be utilized as a way to promote encoding (spelling) as a support for word identification within a systematic program. It presents word study as an analytic approach that may be used across the language and literacy continuum (K-12) to focus student attention on sound, patterns, and meaning. The text primarily addresses vocabulary through instruction in morphology (the meaning-based aspects of spelling), and the program progresses in an "evolutionary progression that mirrors the development of the orthographic system itself" (p. 9). Specifically, it progresses from the Anglo-Saxon layer of language to the Latin layer, and later to the Greek layer. This text is recommended for use as a supplemental text provided that materials are aligned with a synthetic phonics program's scope and sequence. While the National Reading Panel (2000) reported that both analytic and synthetic phonics were efficacious, more recent studies have asserted the superiority of synthetic phonics (e.g., Johnston & Watson, 2004; Christiansen & Bowey, 2005; deGraff et al., 2009). While it is not recommended as a standalone textbook or program, it is not without merit. The Words Their Way Spelling Inventories may facilitate grouping students for differentiated instruction based upon their demonstration of orthographic knowledge. This differentiated instruction may be supported by flexible resources for spelling and word recognition practice at individual levels of performance. (para. 1)

The seven institutions in Minnesota that included this textbook in their programs also required at least one additional textbook, which is in alignment with the NCTQ's *specialized* classification of this text.

I examined the table of contents, which is very detailed for this textbook, as well as the index for the names of the reading models and their authors. The results are displayed in Table 4 and discussed below.

Table 4

Textbook Analysis of Reading Models - Textbook 1: Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction, 6th ed. (2016)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	
Reading Rope	Scarborough	partial	Page 3 discusses the “braid of literacy,” a model somewhat similar to Scarborough’s Reading Rope.
Ehri’s Phases of Word Reading Development	Ehri	yes	Ehri’s research is frequently cited (12 references); included on p. 45 on the “Concordance of Spelling and Reading Stages across Grade Levels” chart.
4-Part Processor	Seidenberg & McClelland	no	

The Simple View of Reading (Gough & Tunmer, 1986) and the Four-Part Processor Model (Seidenberg & McClelland, 1989) are not taught or discussed in this textbook. However, there were many instances where the authors drew from the scientifically based reading models used in this study. For example, Tunmer (1991) is cited to support the

sentence, “There is an interaction between alphabetic knowledge, the ability to match speech to print, and phonemic awareness” (Bear et al., p. 113). Although the Four-Part Processor is not directly discussed in the quote above, the Tunmer citation shows the authors have drawn connections between orthography and phonology, which are two of the four processors shown in the Seidenberg and McClelland (1989) model.

Scarborough’s Reading Rope (2001) is not mentioned, but a similar model called “The Braid of Literacy” (p. 3) is explained as the weaving of threads - orthography, writing, oral language, stories, vocabulary, and reading. Students’ knowledge of orthography strengthens and bonds the strands (Bear et al., 2016). While Scarborough’s Reading Rope includes several different and additional strands, the models employ similar concepts of the many aspects that integrate into literacy development.

This textbook does include Ehri’s Phases of Word Reading Development (2014), and references Ehri’s research frequently. Each phase is shown in order and in relation to grade level, spelling and reading stages, and book levels (Bear et al., 2016, p. 45). In addition, Ehri’s phases are also discussed throughout the chapters in relation to specific developmental levels of spelling and reading.

Teaching Reading and Writing: The Developmental Approach

Written by Templeton and Gehsmann (2014), *Teaching Reading and Writing: The Developmental Approach*, was the second most frequently used textbook, used by five of the institutions in this study. The NCTQ (n.d.) deemed it to be a *comprehensive* and *acceptable* text for these reasons:

This comprehensive text is based on the developmental spelling and word recognition stages of Words Their Way (Bear, et al.). It guides teachers through a

well-designed assessment and helps teachers plan instruction for a systematic, skill-based word study process. The authors place a good deal of emphasis on phoneme articulation and morphology. This text also includes the recently updated fluency norms. There are some very minor inaccuracies in word examples (i.e. using "bar" as an example of a CVC word despite it containing an r-controlled vowel). The text clearly defines and provides examples of running records as a basic assessment of decoding and fluency, though it is critical to note that it does not encourage the disproven cueing system. Overall, this is an excellent text that will support teachers as they learn to assess readers and plan systematic instruction. (para. 1)

A search of the table of contents and the index of this textbook revealed that the scientifically based reading models are not present.

Table 5

Textbook Analysis of Reading Models - Textbook 2: Teaching Reading and Writing: The Developmental Approach, by Templeton & Gehsmann (2016)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	Chapter 11 discusses profiles of students experiencing difficulty learning to read.
Reading Rope	Scarborough	no	
Ehri's Phases of Word Reading Development	Ehri	no	
4-Part Processor	Seidenberg & McClelland	no	

In the section titled “Profiles of Students Experiencing Difficulty Learning to Read” in Chapter 11, it does not mention the Simple View of Reading (SVR), but it does cite Buly and Valencia’s (2002) and Valencia and Buly’s (2004) research on various profiles of struggling readers, and these profiles are similar to explanations of the SVR’s different combinations of reading difficulties. In an attempt to make sure I was not overlooking the reading models, in addition to searching for the names of the reading models and the researchers, I also looked for the word *dyslexia* to see if an explanation of the four-part processor was discussed in the explanation of the weak phonological processor, but this was not mentioned and only one partial page (p. 417) discussed.

The Next Step Forward in Guided Reading

The Next Step Forward in Guided Reading by Jan Richardson (2016) was the third most commonly used textbook among the courses in this study. Four institutions required students to read this text, and they each had students complete lesson plans that follow Richardson’s guided reading template. In addition to this textbook, one of the four institutions also required a *comprehensive* textbook with an *acceptable* rating. The other three institutions did not require textbooks that were considered *comprehensive* and *acceptable*. The NCTQ (n.d.) found this text to be the 14th most popular textbook in their review, and they classify this textbook as *specialized* and *unacceptable*. Below is the NCTQ’s (n.d.) rationale for their rating:

While differentiated small group instruction is imperative to meet the needs of diverse learners, "guided reading" is an approach that is out of alignment with reading science. Throughout the text, Richardson asserts that the reader should "always teach monitoring for meaning as your first focus" (p. 169). She suggests

that "word solving strategies" are a secondary concern, even though accuracy typically precedes fluency and comprehension. Implicitly and explicitly, she advocates for contextual guessing rather than purposeful decoding. The guided reading approach delineated in the text utilizes leveled texts with "strong picture support". Directives for interventions at the transitional phase are vaguely focused on rereading to improve fluency, sight word drills, and writing support. No mention is made of providing more targeted code-based instruction, even for striving readers. The word study component of guided reading lasts roughly three minutes and is precipitated by student errors rather than following a scope and sequence. It is not explicit, systematic, or cumulative. Instead, word study consists of activities like creating word analogy charts to look for patterns [sic] words. While comprehension is the ultimate goal, it is an outcome, and as such, it is dependent upon many constituent subskills, as represented by Scarborough's Reading Rope. Many of the upper strands, such as vocabulary, verbal reasoning, and language structures are addressed within this text, but "prompting" and "conferencing" are prioritized over the direct instruction of critical content. Additionally, the comprehension focus is selected to match a standard or strategy to the text. Richardson does not devote significant attention to the importance of building background knowledge aside from conducting "picture walks" and preteaching vocabulary. The bottom strands, particularly phonemic awareness and phonics are underemphasized and dismissed as secondary concerns despite the fact that increasing automaticity frees working memory to attend to increasingly more strategic reading. Skilled reading is dependent upon both the fluent

execution and coordination of word recognition and text comprehension, and this text places a disproportionate emphasis on comprehension strategies at all phases of reading skill development, rendering it unacceptable. (NCTQ, n.d., para. 1)

My search of this text for evidence of the reading models revealed that the scientifically based reading models are not included in this textbook.

Table 6

Textbook Analysis of Reading Models - Textbook 3: The Next Step Forward in Guided Reading by Jan Richardson (2016)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	
Reading Rope	Scarborough	no	
Ehri's Phases of Word Reading Development	Ehri	no	
4-Part Processor	Seidenberg & McClelland	no	

Some of the information included in this textbook contradicts what is known about reading acquisition; see Chapter 5 for a discussion of this.

The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers

The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers, by Serravallo (2015) was the fourth most frequently required textbook in Minnesota's reading teacher preparation courses and was ranked eighth in popularity by the NCTQ (n.d.). This *specialized* textbook was rated *unacceptable*; the following summary explains the rationale behind this rating:

This text, positioned as a toolkit for teaching reading comprehension, presents “strategies” in an attractive and appealing one-per-page format. However, it includes little to no information or research to support the strategies it promotes and bases its teaching recommendations on the mistaken assumption that students can learn and practice skills independent of teacher instruction. Phonics is alluded to in what the text calls “print work,” but the multiple strategies recommended for reading unknown words are cueing-based and do not include sounding out the word. A text that might otherwise be a good, specialized resource is rendered unacceptable by the embedded misinformation about word identification and about learning to read in general. (NCTQ, n.d., para. 1)

I obtained this textbook and used the table of contents and index to aid my search for reading models. This textbook did not contain any of the reading acquisition models.

Table 7

Textbook Analysis of Reading Models - Textbook 4: The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers, by Serravallo (2015)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	
Reading Rope	Scarborough	no	
Ehri’s Phases of Word Reading Development	Ehri	no	
4-Part Processor	Seidenberg & McClelland	no	

One institution required only this textbook in their foundational literacy course. The other three institutions used this text in addition to more comprehensive textbooks.

Creating Literacy Instruction for All Students

Written by Gunning (2016), *Creating Literacy for All Students* was the fifth most frequently used textbook in this study, required by three institutions. The NCTQ (n.d.) determined it to be an *acceptable, comprehensive* textbook and provided this rationale for their evaluation:

This is an acceptable comprehensive textbook with minimal deviations from research. All components and assessments are adequate, with one caveat in the area of word recognition. The majority of attention is directed to sounding out words as students read. Teacher candidates are cautioned to disregard recommendations to assess multiple cueing systems during the administration of running records and be aware of whole-language-based terminology such as "miscue." (NCTQ, n.d., para. 1)

The first chapter of this textbook discusses many theories of literacy learning, including behaviorism, cognitivism, constructivism, social cognitive views of learning, the cognitive-behavioral approach, Goodman's (1975) model of the three-cueing system, and interactionist theory. It encourages the readers to determine what they believe about reading development by having them answer an anticipation guide prior to reading about the theories and to review it after reading about each theory (p. 6). The text goes on to explain that this text will take an integrated approach, "The integrated approach is a balanced approach in which systematic instruction and immersion in reading and writing play complementary roles" (Gunning, 2020, p.9).

A search of the detailed table of contents, the index, and the references guided my examination for the scientifically based reading models. I did not find evidence of the Simple View of Reading or Scarborough’s Rope in this text. Table 8 shows that the text does mention Ehri’s Phases and briefly mentions the four processors that are part of the four-part processor model.

Table 8

Textbook Analysis of Reading Models - Textbook 5: Creating Literacy Instruction for All Students, by Gunning (2016)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	
Reading Rope	Scarborough	no	
Ehri’s Phases of Word Reading Development	Ehri	yes	See pages 178 and 179 for description of “Stages in Reading Words.” Orthographic mapping is mentioned briefly on p. 248.
4-Part Processor	Seidenberg & McClelland	yes (minimal)	1 sentence mention on p. 8 - attributed to Adams, not Seidenberg & McClelland

Pages 178 and 179 discuss the stage models of reading. The phases that Ehri (1994) uses in her Phases of Word Reading Development model are included on these pages, but are not attributed to her, and they are called stages instead of phases. Ehri specified her terminology to be phases, by explaining that students do not always fully finish one stage before beginning to use skills in the next phase (Ehri, 1994). The concept of orthographic mapping is also briefly mentioned in a section about word analysis skills, “...over time and having encountered words a certain number of times, most readers develop the ability

to use orthographic mapping, which involves processing letter patterns to bond these words in memory so that words are recognized immediately or ‘at sight’ (p. 248). In summation, this textbook briefly overviews phases of word reading development and minimally mentions the four-part processor; the Simple View of Reading (1986) and Reading Rope models are not included in this text.

Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction

Used by three institutions in this study, *Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction*, was tied for fifth place with *Creating Literacy Instruction for ALL Students*. The NCTQ (n.d.) found this was the 17th most frequently used textbook in their national review. The text, which focuses primarily on phonics, was considered *specialized* and *acceptable*. The NCTQ provided this rationale for its rating:

This specialized text is a self-study resource designed for teachers to complete at their own pace. Although it includes some content that experts might question, it generally presents basic and useful information about phonics and the structure of language. Teacher-candidates who complete it will gain foundational knowledge about how the English language works. This text is considered an acceptable supplemental resource. (NCTQ, n.d., para. 1)

As a *specialized* textbook, it focuses only on phonics, and does not include phonemic awareness, fluency, vocabulary, or comprehension. The NCTQ (n.d.) also determined it did not adequately address the needs of struggling readers. Table 9 summarizes my findings about the reading models discussed in this textbook.

Table 9

Textbook Analysis of Reading Models - Textbook 6: Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction, by Fox (2014)

Reading Model	Researcher Name(s)	Included (yes/no)	Details
Simple View of Reading	Gough & Tunmer	no	
Reading Rope	Scarborough	no	
Ehri's Phases of Word Reading Development	Ehri	no	Ehri's work is cited in support of phonics instruction to help struggling readers, (p. 12), but the Phases of Word Reading Development are not included in this text.
4-Part Processor	Seidenberg & McClelland	no	

This textbook does not contain information about the reading models, as it focuses on phonics instruction and linguistic knowledge, such as the origins of English, and concepts such as syllables, phonemes, and graphemes.

Summary

In summary, the textbook analysis showed that the scientifically based models of reading are sparsely covered in the most frequently used textbooks in Minnesota's teacher preparation programs. A summary of the results is shown in Table 10.

Table 10

Textbook Analysis of Reading Models: Inclusion of Reading Model by Textbook

	Simple View of Reading	Reading Rope	Phases of Word Reading Development	4-Part Processor
<i>Words Their Way</i>	no	partial	yes	no
<i>Teaching Reading and Writing: The Developmental Approach</i>	no	no	no	no
<i>The Next Step Forward in Guided Reading</i>	no	no	no	no
<i>The Reading Strategies Book</i>	no	no	no	no
<i>Creating Literacy for All Students</i>	no	no	yes	yes (minimal)
<i>Phonics and Word Study for the Teacher of Reading</i>	no	no	no	no

The Simple View of Reading was not covered in any of the top six most frequently used textbooks. Scarborough's Reading Rope and its elements were not included in any of the textbooks, though the Braid of Reading was included in *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (2016). Two of the six textbooks had some coverage of Ehri's Phases of Word Reading. One of the five textbooks briefly discussed the four-part processors. Overall, none of the textbooks thoroughly explained the scientific models of reading acquisition.

Of the six most frequently used textbooks, two were considered comprehensive - *Teaching Reading and Writing - The Developmental Approach*, (Templeton & Gehsmann, 2014) and *Creating Literacy Instruction for All* (Gunning, 2016), and the NCTQ (n.d.) determined both to have *acceptable* coverage of the five components of reading instruction. Coverage of the five components of reading instruction and the scientifically based models of reading acquisition may also be found in other areas of the syllabi, and findings from the content analysis of aspects of the syllabi such as lecture topics, assignments, and field experience work are discussed in subsequent sections of this chapter.

The analysis of textbooks helped answer my main research question: What are future teachers taught about reading acquisition in their literacy preparation courses? The results of the textbook analysis show limited coverage of the reading acquisition models. The NCTQ review of the textbooks rated four as *acceptable* and two as *unacceptable*. A discussion of these results is provided in Chapter 5. The next section of this current chapter discusses the results of the content analysis of the reading course syllabi.

Content Analysis of the Syllabi

To complete the analysis of the syllabi, I read each syllabus in its entirety and color-coded phrases that indicated the Innovation Configuration Rubric (ICR) criteria. I then examined the color-coded areas to determine the level of implementation of each criterion. My findings are reported for each of the ICR's 12 categories below. Course readings (such as articles, websites, or chapters), lecture topics, reading responses, discussion topics, projects, assignments, and field placement experiences that were mentioned in the syllabi gave a strong indication of the main topics taught and applied in

the courses. Below I report the findings about the 12 ICR categories. I then describe findings about application of course topics as evidenced by the assignments.

ICR Element Totals

I examined the syllabi for evidence of the following ICR components: scientifically based reading research, phonemic awareness, phonics, fluency, vocabulary, comprehension, integration (of the “big five” reading components), systematic instruction, explicit instruction, dyslexia and screening assessment, progress monitoring, and reading acquisition models. Each component was rated between zero and four depending on the level of implementation described in the syllabus, as explained below:

0: element was not present

1: the syllabus mentioned content related to the component (e.g., lecture topic, video, outcome statement).

2: the syllabus mentioned the component AND required readings, tests/quizzes, or undirected journal responses

3: the syllabus included the criteria of Level 2, plus assignments or projects for application (e.g., observations, lesson plans, classroom demonstrations, or directed journal responses)

4: the syllabus included the criteria of Level 3, plus field work or tutoring for application

As mentioned in Chapter 3, in recognition of the fact that institutions often address reading skills across multiple courses, I scored each institution on one cumulative rubric. I adopted this method to recognize the progressive design of most reading programs and students’ development of skills across multiple courses. Therefore, even if an institution

scored a “1” in an entry-level course, but later gave students the opportunity to apply a particular skill, their initial “low” score would not affect or negate a later “high” score. Figure 1 below displays the mean degree of implementation of the 12 criteria, and below this figure, I report details about the individual categories.

Figure 1

Summary Data of the Innovation Configuration Rubric Criteria

Component	<i>M</i>	<i>SD</i>	<i>RNG</i>	<i>MO</i>
Scientifically Based Reading Research	2.3	0.828	0-3	3
Phonemic Awareness	2.6	1.04	0-4	2
Phonics	2.8	0.761	1-4	3
Fluency	2.5	0.819	0-4	2
Vocabulary	2.7	0.837	0-4	3
Comprehension	3.1	0.845	2-4	4
Integration	1.1	1.015	0-3	0
Systematic Instruction	1.9	1.337	0-4	1, 3
Explicit Instruction	2.1	1.337	0-4	1
Dyslexia & Screening	3.1	0.86	1-4	4
Progress Monitoring	1.6	1.47	0-4	0
Reading Acquisition Models	0.6	1.04	0-3	0

The mean degree of implementation for the ICR components was 2.18, and this data had a range of 2.57. The lowest degree of implementation was reading acquisition models (0.56), and the highest degree of implementation was comprehension (3.137); the dyslexia and screening component was nearly as high as comprehension (3.133). In each section below, I give specific examples of syllabi indicators for the different degrees of implementation.

Scientifically Based Reading Research

The purpose of this component is to ascertain if teacher candidates are required to read scientifically based reading research, which includes peer-reviewed scientific

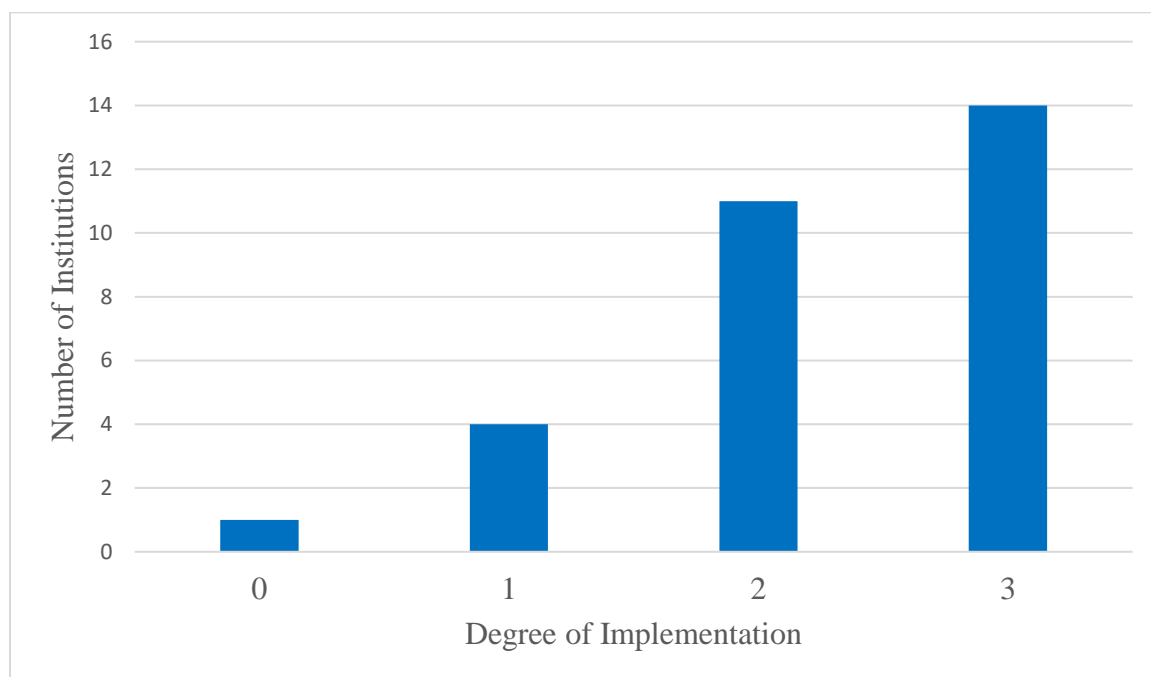
articles. Examples of items that may indicate that a course assigns scientifically based reading research include The National Reading Panel report (2000); summary reports of the NRP, such as “Put Reading First: The Research Building Blocks for Teaching Children to Read” (National Institute of Health and Human Development, 2001); or articles that discuss research-based best strategies for supporting readers. Although the ICR allows for a degree of implementation score between zero and four, a distinction of a four requires that the teacher candidate reads scientific research with children, which would not be appropriate; therefore, the maximum degree of implementation for this category is a three.

All but one institution required their students, at a minimum, to read scientifically based reading research. Eleven institutions required students to apply what they learned in the readings by completing an assignment, such as a general journal response or class discussion. Fourteen institutions had students take their level of application further, for example, by responding to specific prompts about what they read or by preparing and presenting about elements of the scientifically based reading research to their classmates.

The figure below summarizes the institutions’ highest degree of implementation. Accordingly, if an institution introduced a concept during a lecture in one course (scored as a “1”), but later required students to implement that same concept in a field experience (scored as a “4”), their overall score would be a “4”. This same way of representing the data applies to Figures 2 through 13.

Figure 2

Degree of Implementation of Component 1: Scientifically Based Reading Research



Over 83% of the institutions in the study required students to read and engage with scientifically based reading research. I individually analyzed the syllabi for the five components, or pillars, of reading that may be mentioned in scientifically based reading research and report on each component below.

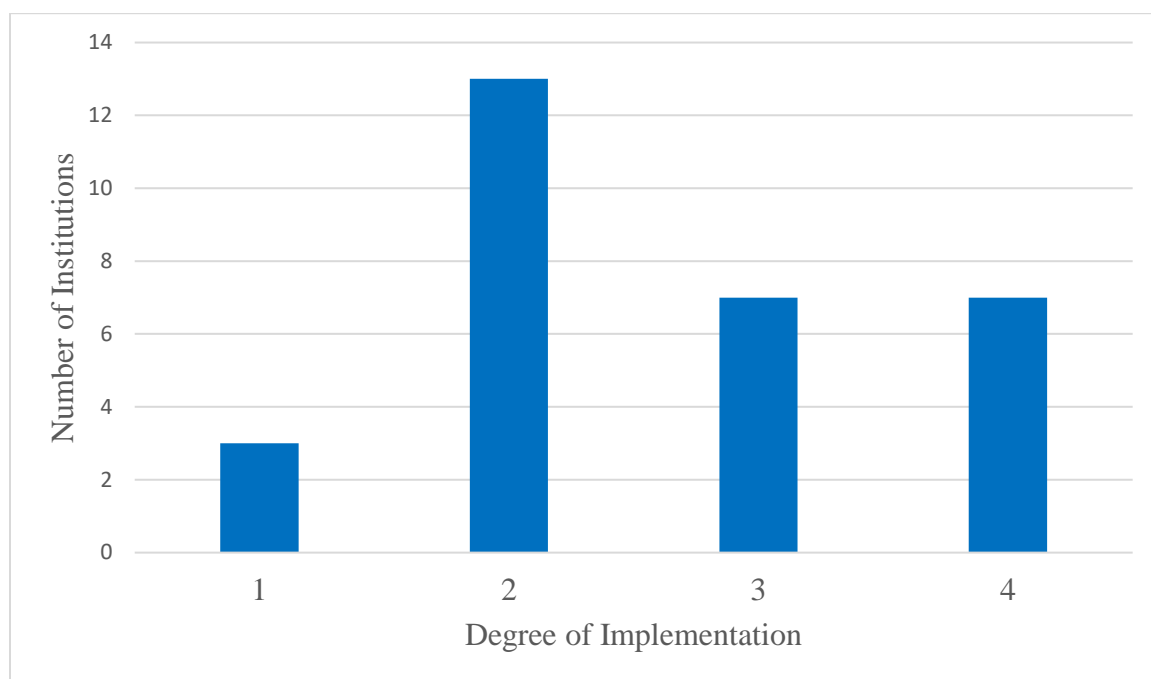
Phonemic Awareness

The second component of the ICR was phonemic awareness. Terms such as rhyme, alliteration, phonological awareness, individual speech sounds, phoneme segmentation/deletion/substitution, counting syllables, and other related terms indicated instruction in phonemic awareness. Institutions with the degree of implementation Level

4 required students to teach a lesson with a phonemic awareness component, or to administer a phonemic awareness assessment.

Figure 3

Highest Degree of Implementation of Component 2: Phonemic Awareness



Approximately 23% of institutions required students to demonstrate their knowledge of phonemic awareness through application projects, such as lesson plans (Implementation Level 3), and about 23% required students to teach or assess students in phonemic awareness (Implementation Level 4).

Phonics

The third component of the ICR was phonics. Terms such as phonics scope and sequence, the alphabetic principle, letter-sound correspondence, and terms such as blend, digraph, diphthong, and other related descriptors indicated the teaching of phonics.

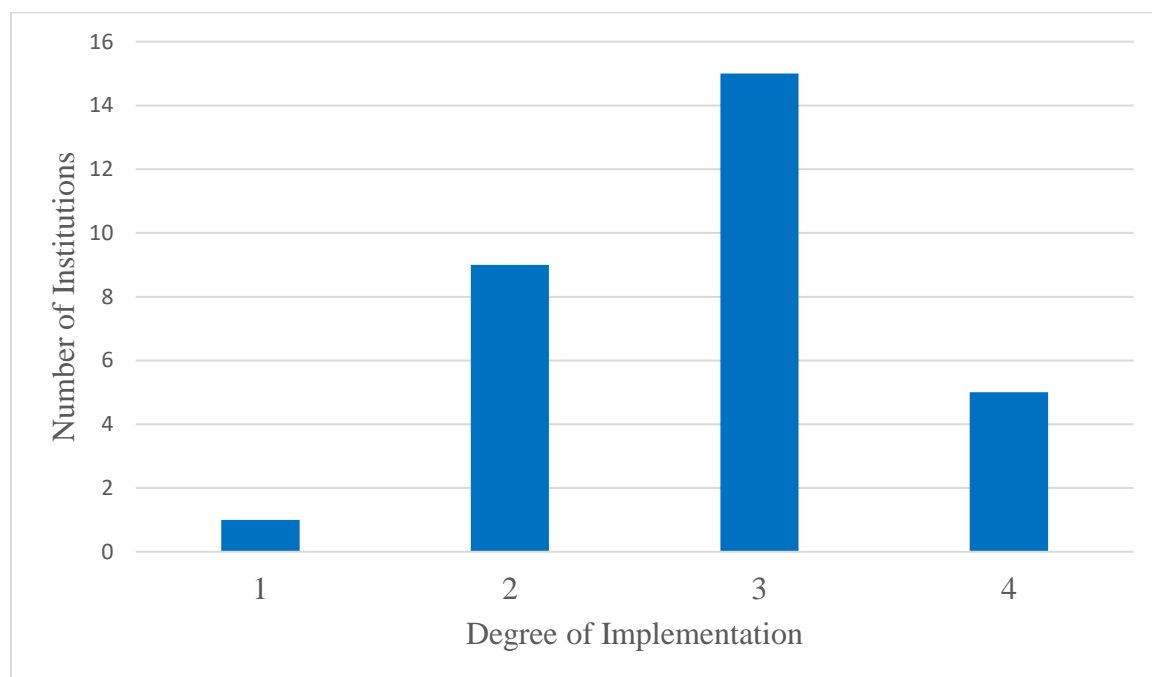
Institutions that reached Level 3 as the degree of implementation typically had teacher candidates write phonics lesson plans or do a demonstration of a phonics skill to peers.

The institutions at Level 4 required teacher candidates to plan and teach a phonics lesson

to elementary students. Figure 4 displays the number of institutions at each level of implementation.

Figure 4

Highest Degree of Implementation of Component 3: Phonics



Approximately one-third of institutions in Minnesota have students read about phonics and also respond or participate in a discussion about phonics (Level 2), but do not require application of the concepts. About two-thirds of the courses in this study required students to teach phonics lessons either to their peers or with elementary students (Levels 3 and 4).

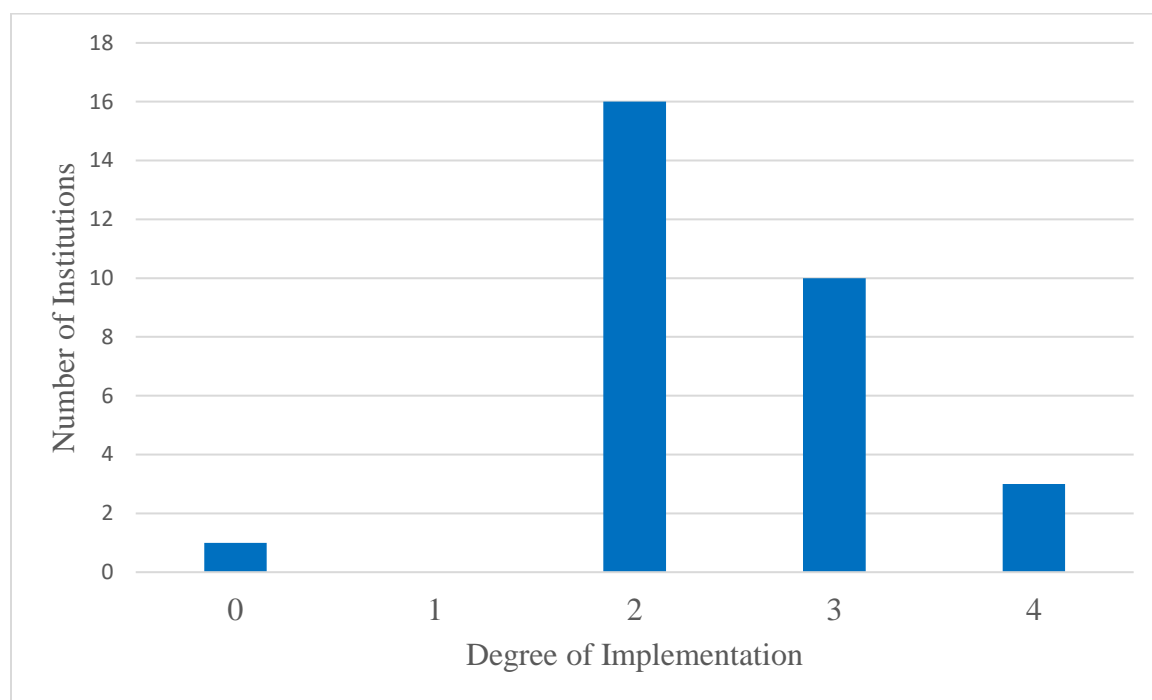
Fluency

The fourth component of the ICR, fluency, was indicated by terms such as rate, accuracy, prosody, words correct per minute, and intonation. Degree of implementation Level 3 required students to apply what they learned about fluency through course readings and/or lectures to an application project, such as designing a fluency activity, or

the administration of an Oral Reading Fluency test to a peer. To reach Level 4, teacher candidates worked on fluency with students and/or administered a fluency assessment to elementary students. The figure below shows the breakdown of degree of implementation ratings across the institutions.

Figure 5

Highest Degree of Implementation of Component 4: Fluency



Fifty-three percent of institutions were at Level 2, which indicates that teacher candidates were assigned course readings or experienced a lecture on the topic of fluency, and then submitted either a written response or were given a quiz or test on the information. Ten percent of courses required teacher candidates to work with students on fluency or fluency assessments (Level 4).

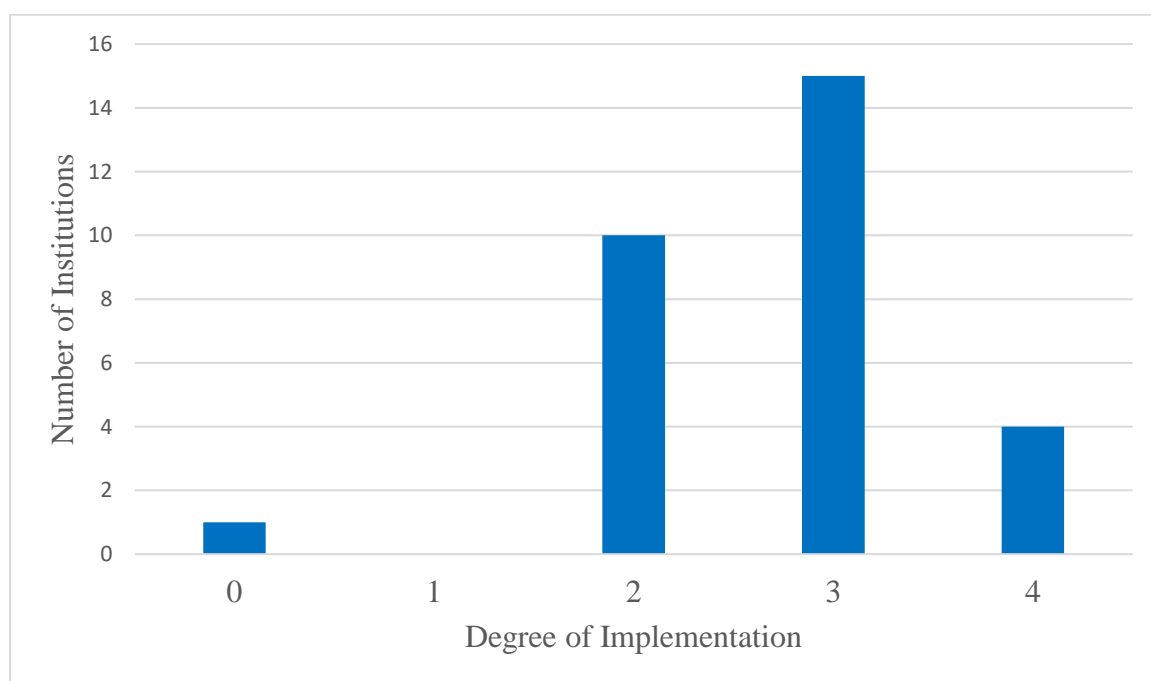
Vocabulary

Vocabulary instruction was indicated on the syllabi most often with simply the word *vocabulary*. Other phrases that indicated vocabulary instruction included academic

language, oral language, or “tiers of vocabulary.” A degree of Level 4 was reached if teacher candidates worked directly with students on a lesson meant to build vocabulary, or if they were required to list specific vocabulary words they would teach within another lesson, such as a read-aloud lesson or a lesson that focused on comprehension. Level 4 could also be reached if teacher candidates administered a vocabulary assessment. Figure 6 shows the number of institutions at each level of implementation.

Figure 6

Highest Degree of Implementation of Component 5: Vocabulary



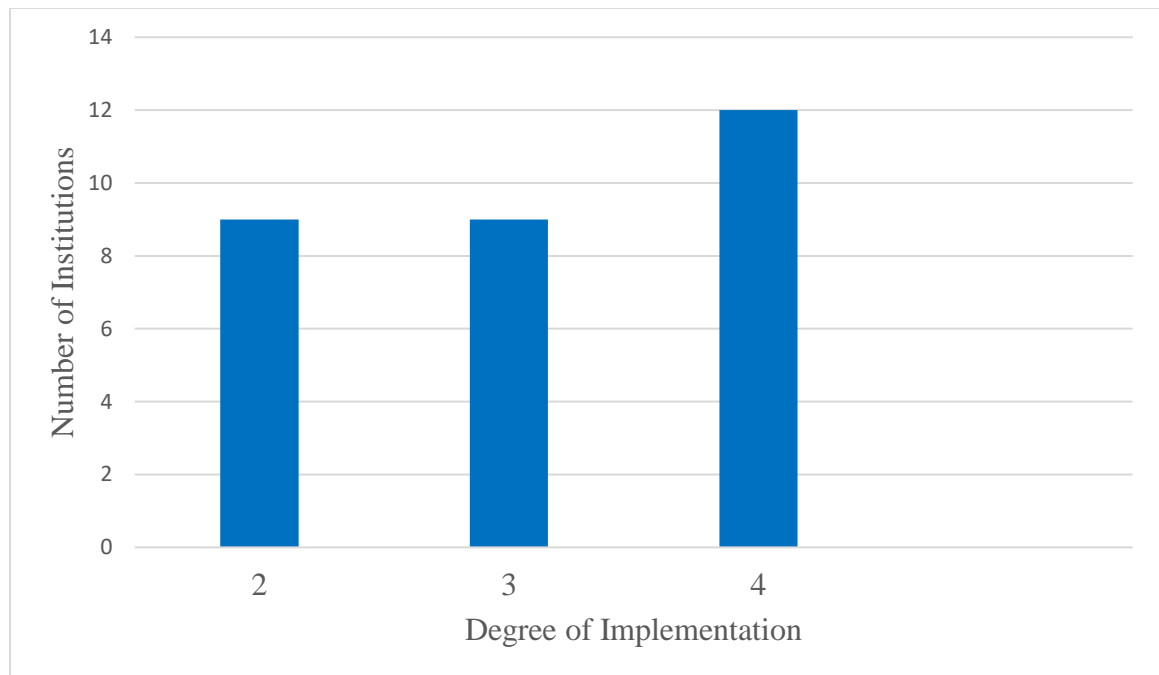
About sixty-three percent of institutions required teacher candidates to reach the application levels of implementation for vocabulary (Level 3). About thirteen percent of institutions required teacher candidates to interact with students in the area of vocabulary (Level 4).

Comprehension

Comprehension instruction was indicated on syllabi most frequently by the term comprehension or comprehension strategies. I also interpreted phrases such as reading strategies, think-alouds, and interactive read alouds to be examples of comprehension instruction. The figure below shows the distribution of the various degrees of implementation.

Figure 7

Highest Degree of Implementation of Component 6: Comprehension



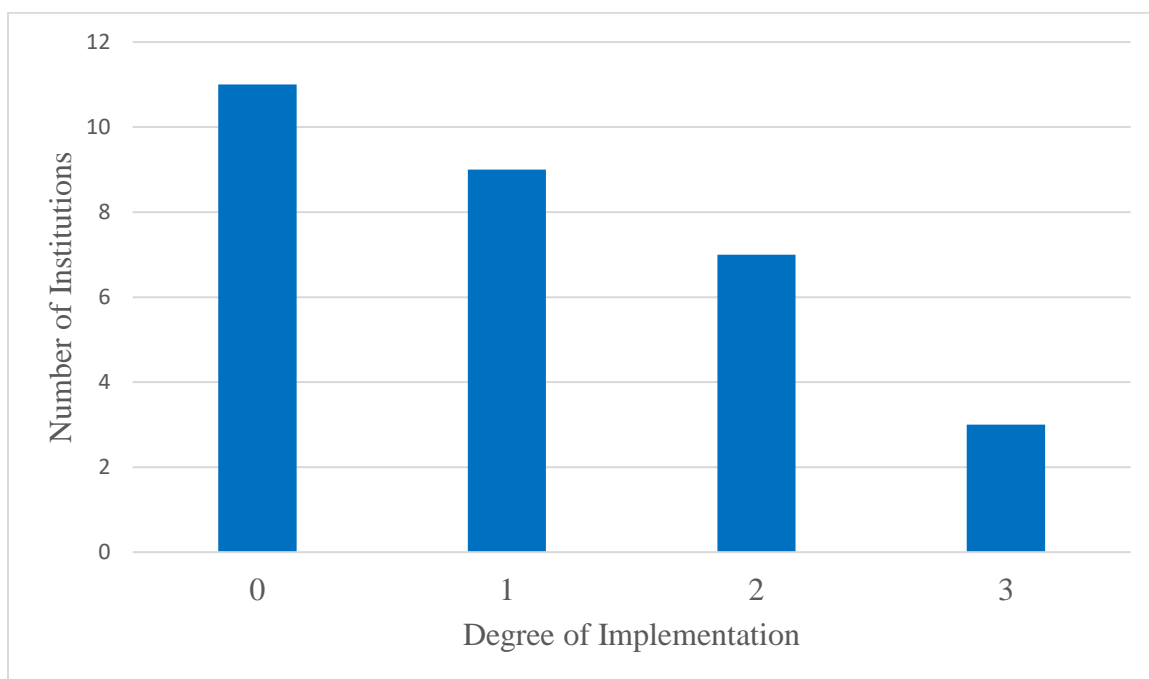
Every institution included comprehension instruction at a minimum of Level 2. Seventy percent of syllabi met the application at Level 3 or 4. Analysis of assignments indicated on syllabi showed that comprehension lesson plans were the most frequent topic of assigned lesson plans.

Integration

In my examination of syllabi, I looked for terms such as weaving, connection, or integrated to indicate integration of the “big five” reading components. Although many syllabi specifically mentioned integrating reading and writing, three indicated integrating phonemic awareness, phonics, fluency, vocabulary, and comprehension. Figure 8 displays the data for institutions regarding the degree of implementation of Integration.

Figure 8

Highest Degree of Implementation of Component 7: Integration



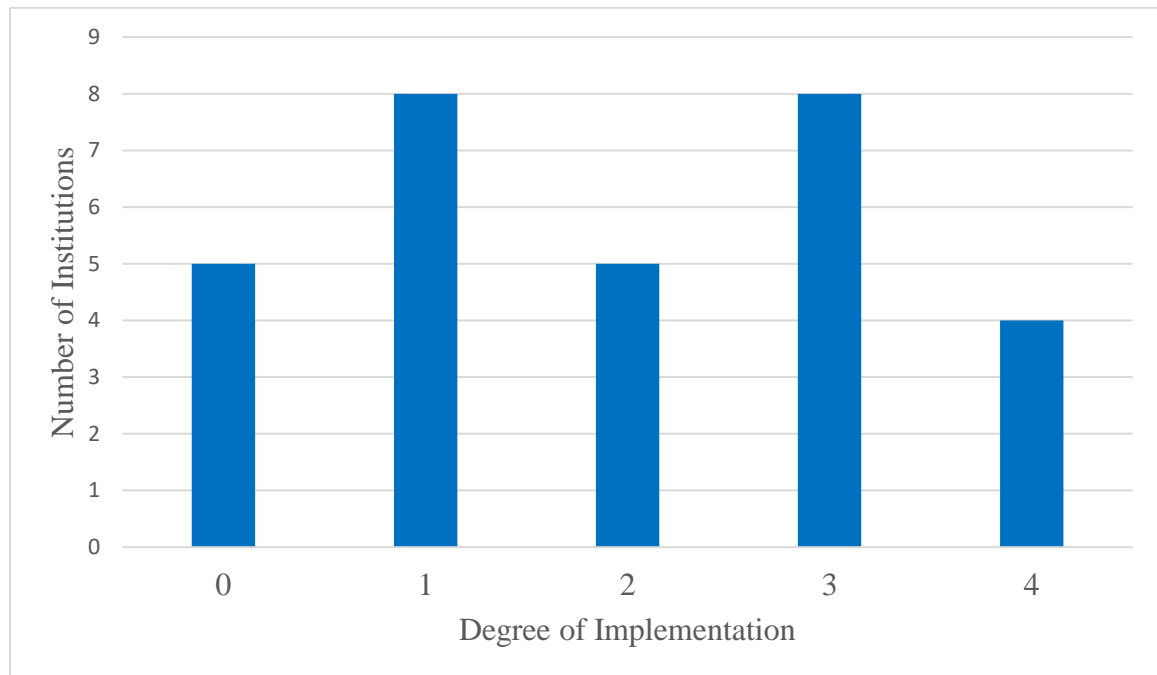
The data indicates that two-thirds of institutions in this study do not require students to apply the concept of integration of the big five elements of reading (Level 3 or 4). This may be a topic that is just not indicated well on syllabi, which I will discuss further in Chapter 5.

Systematic Instruction

Systematic instruction in the context of the ICR means instruction that follows a purposeful scope and sequence for phonemic awareness and/or phonics. As I analyzed syllabi for this concept, I coded terms such as scope and sequence, and planned/purposeful sequence as indicators of systematic instruction. I also interpreted the term structured literacy as an example of systematic instruction, as it is defined as “explicit, systematic, and sequential teaching of literacy at multiple levels—phonemes, letter–sound relationships, syllable patterns, morphemes, vocabulary, sentence structure, paragraph structure, and text structure” (Spear-Swerling, 2018, p. 52). My analysis of the syllabi for evidence of systematic instruction provided an indicator of the presence and prevalence of research Sub-question B: To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia? Figure 9 shows the degrees of implementation of systematic instruction across the institutions in this study.

Figure 9

Highest Degree of Implementation of Component 8: Systematic Instruction



Syllabi that had students read or read and respond to text about structured literacy fell into the categories of Level 1 or 2 for implementation, respectively. Some syllabi stated that students were required to plan structured literacy instruction and were coded as a Level 3. Three institutions required students to teach a structured literacy lesson to students who have dyslexia or did not meet grade level requirements in reading, which met the parameters for a Level 4 in degree of implementation. The mean score in the category Systematic Instruction was 1.93.

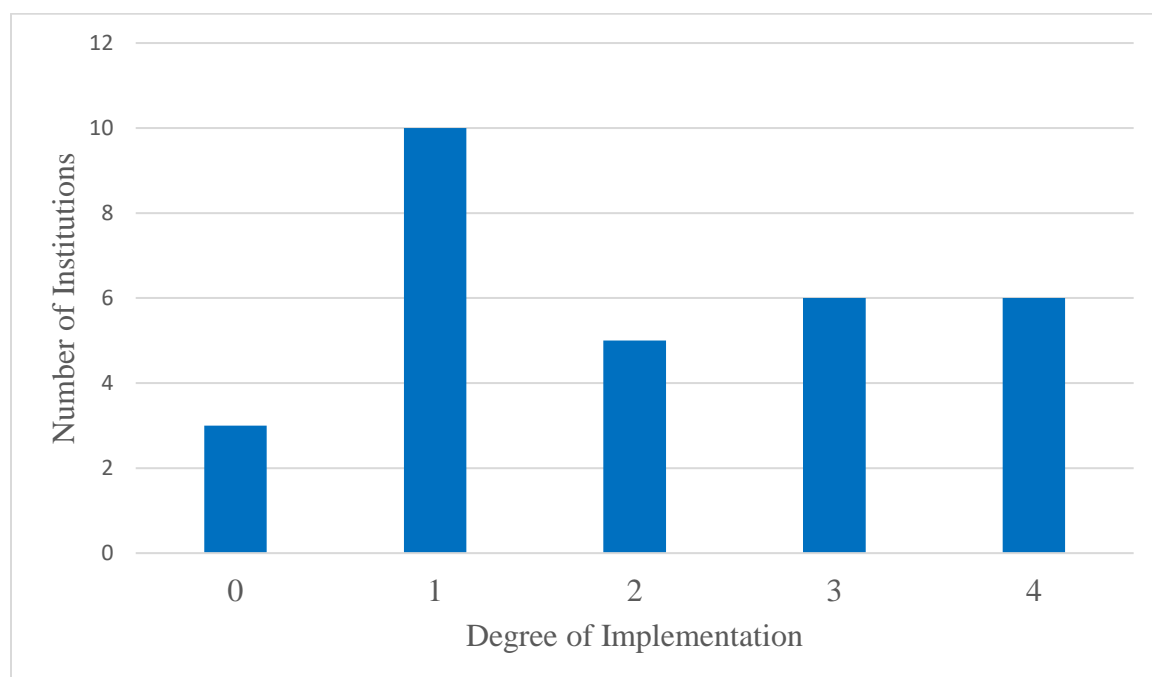
Explicit Instruction

As I coded the syllabi for explicit instruction, I looked for the phrases structured literacy and direct instruction. Evidence of explicit instruction indicated incidence of the syllabi meeting the requirements of the Minnesota state statutes regarding dyslexia and

structured literacy, which helped to answer Sub-questions A and B of my study. Often, articles assigned in the syllabi about dyslexia discussed both systematic and explicit instruction, and for many institutions, their degree of implementation for systematic instruction and explicit instruction were the same. However, some syllabi required students to write and/or teach a lesson with explicit instruction, but fewer institutions required it to be systematic and fit into a scope and sequence, possibly due to limitations of the field experience placement. One institution required teacher candidates to work at a reading lab with students with dyslexia and to prepare systematic and explicit reading instruction to the same student or group of students for several consecutive lessons. Figure 10 displays specific information about degrees of implementation across the institutions.

Figure 10

Highest Degree of Implementation of Component 9: Explicit Instruction



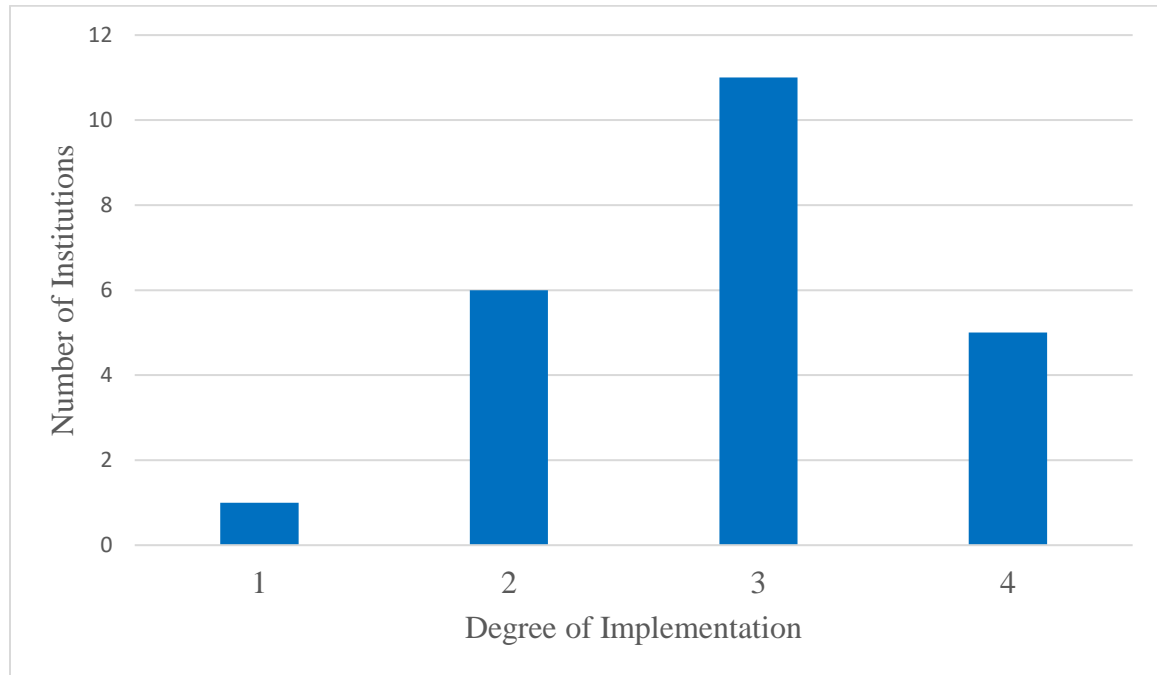
Twenty percent of institutions required students to complete an application assignment on explicit instruction (Level 3), and an additional twenty percent required that the teacher candidates teach a lesson using explicit instruction (Level 4). The mean degree of implementation score for Explicit Instruction was 2.066.

Dyslexia and Screening

The dyslexia and screening criteria of the ICR was a third way I sought to answer Sub-question A: To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia? Dyslexia and screening for dyslexia were indicated on every syllabus I reviewed in this study. Most institutions included materials about the definition of dyslexia, characteristics of dyslexia, and interventions for dyslexia that were provided by the Minnesota Department of Education. These materials included the articles “Screening and Identifying Characteristics of Dyslexia” (MDE, 2019), “Navigating the School System When a Child is Struggling with Reading or Dyslexia” (MDE, 2015), and “Dyslexia in the Classroom: What Every Teacher Needs to Know” (International Dyslexia Association, 2017). Implementation Level 3 was obtained by institutions that had students create projects about aspects of dyslexia or write lesson plans to target the needs of students with dyslexia. Institutions at Level 4 of degree of implementation required students to work with a student with dyslexia to practice giving assessments or to work on reading intervention lessons. Figure 11 below shows the degrees of implementation across the institutions in this study.

Figure 11

Highest Degree of Implementation of Component 10: Dyslexia and Screening Assessment



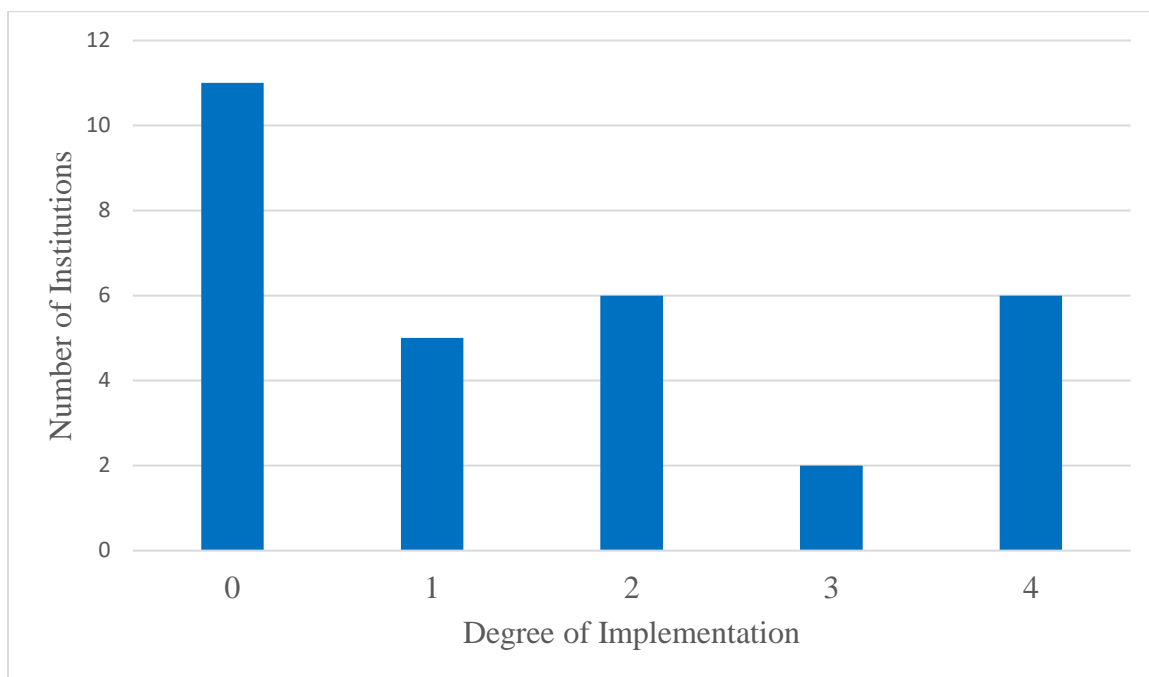
Due to the Minnesota state statute section 122A.092, institutions were required to include information about dyslexia in their syllabi, and it appears every institution has complied.

Progress Monitoring

Progress monitoring in the context of this study refers to assessing and then periodically reassessing students to determine if the instruction students are given is helping them make progress in targeted areas. Terms such as ongoing and frequent assessment, in addition to progress monitoring, were terms that indicated this component was included in the syllabi. Figure 12 below shows the degree of implementation of progress monitoring across the institutions in this study.

Figure 12

Highest Degree of Implementation of Component 11: Progress Monitoring



The mean implementation level of progress monitoring was 1.56. Approximately 36 percent of syllabi in this study did not include readings, lectures, or assignments about progress monitoring (Level 0). Another 36 percent of syllabi mentioned progress monitoring but did not require students to apply the concept to specific assignments or with students (Levels 1 and 2). About 26 percent of institutions did require an application level of the concept of progress monitoring, and those institutions received a Level 3 or 4 for degree of implementation.

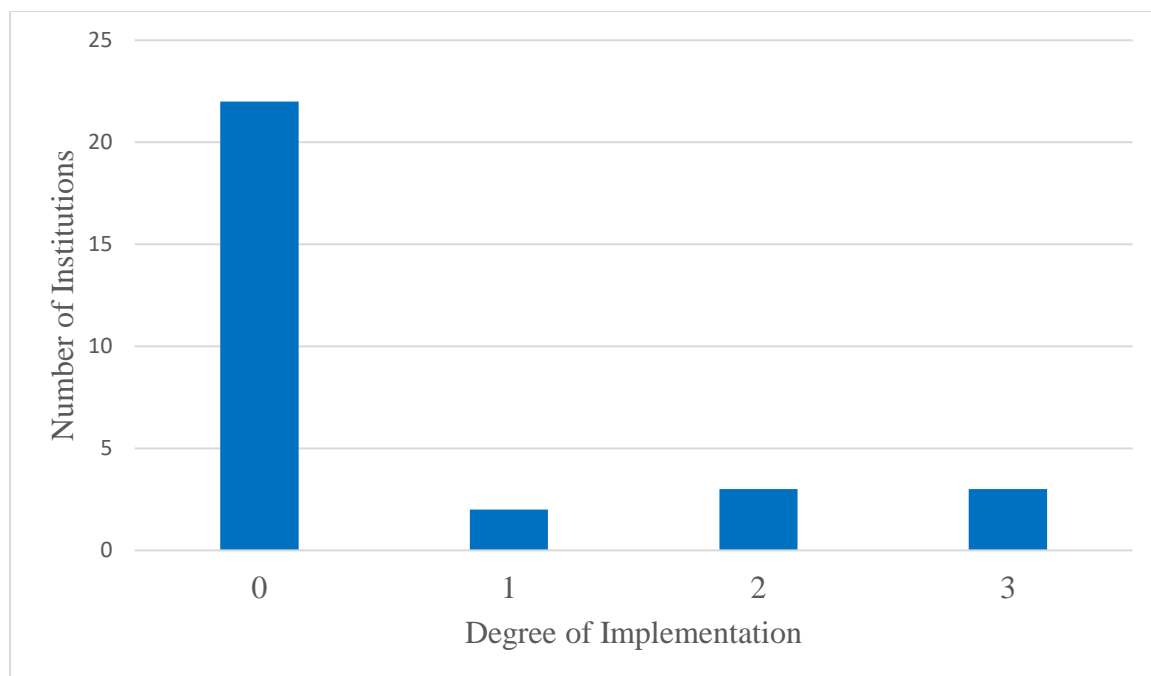
Reading Acquisition Models

To code syllabi for reading acquisition models, I looked specifically for the names of the models, or the authors, or the key concepts of each model. For example, for the Simple View of Reading model, I looked for that term, the authors - Gough and Tunmer, and/or the formula: word recognition times language comprehension equals reading

comprehension. Since it would not be appropriate to teach elementary students about these reading models, the maximum degree of implementation for this category was three. Figure 13 shows the degree of implementation across the institutions.

Figure 13

Highest Degree of Implementation of Component 12: Reading Acquisition Models



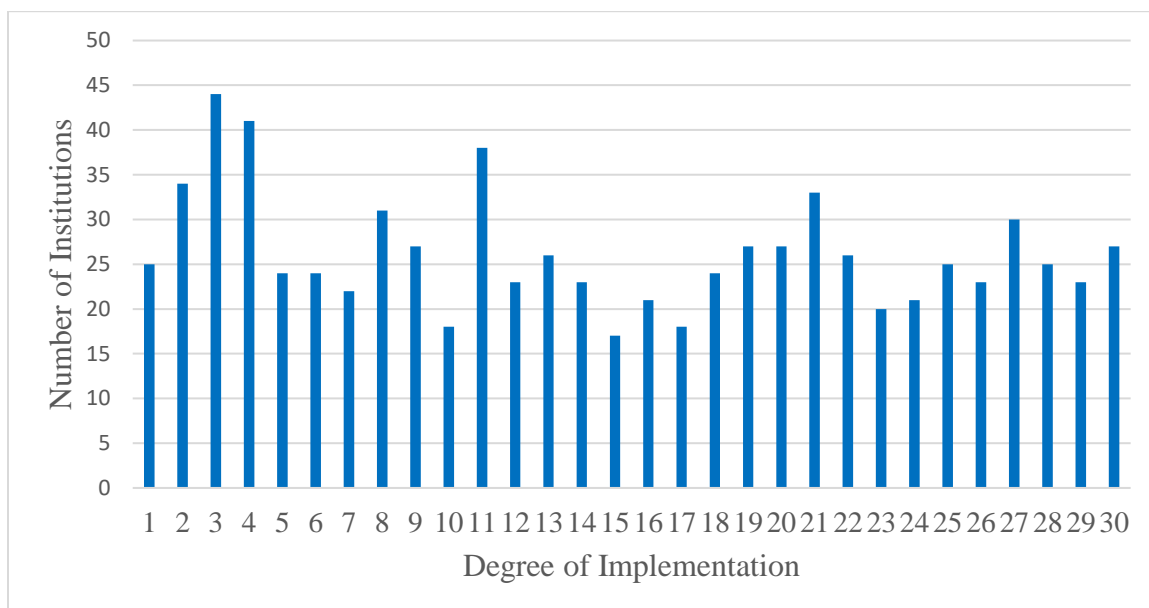
Approximately 73 percent of the institutions did not include the reading models in their syllabi (Level 0). Twenty percent of institutions did include one or more reading model in the syllabi and also required students to respond about the model (Level 2) or apply the concepts of the reading model in an assignment (Level 3).

Summary Statistics

There were 12 total ICR components; ten of which could receive a degree of implementation Level 4, and two could receive a maximum degree of implementation Level 3, so the maximum total an institution could receive is 46. The figure below shows the totals for degree of implementation for each institution in the study.

Figure 14

Institutions' Total Scores for Degree of Implementation



Total scores ranged from 17 to 44, with a mean score of 26. Six institutions scored above a 27. The wide range of scores indicates that students attending different teacher preparation programs have vastly different experiences in what they are required to take to the application level with lesson planning and teaching elementary students. I will discuss this further in Chapter 5.

Trends in Assignments

Typical assignments in the syllabi included attendance, participation, reflections, or forums to respond to course readings, and journals of observations from field experiences. Assignments specific to applying reading instruction content included assessment, children's literature, dyslexia, and lesson plans; data about these assignments is discussed below.

Assessment

Ten institutions required teacher candidates to complete case study or data analysis assignments with at least one student. The most frequent assessment teacher candidates learned to administer was a running record, followed by informal reading inventories, and qualitative spelling inventories. About 10 percent of syllabi specified that teacher candidates learned to administer a phonological awareness assessment, such as the Phonological Awareness Screening Test (PAST). Although many syllabi listed readings related to universal screening for dyslexia, fewer than ten percent of syllabi required teacher candidates to administer a universal screener for dyslexia. Other assessments that were mentioned, but less frequently, were handwriting assessments, writing sample assessments, and fluency assessments.

Children's Literature

Nearly every institution in my study required students to learn about children's literature through lectures, videos, or discussions, and in addition approximately 33 percent of syllabi also had teacher candidates apply what they learned by selecting children's literature. Syllabi used the terms *high-quality children's literature*, *diverse children's literature*, *multicultural literature*, and *representative literature* to describe the type of books expected to be part of assignments such as annotated bibliographies, book talks, and book baskets. In addition, the children's literature assignments often required the selected texts to be varied in genre.

Dyslexia

The most frequently cited course readings on the topic of dyslexia I found in the syllabi were the resources provided by the Minnesota Department of Education, such as the “Screening and Identifying Characteristics of Dyslexia” (MDE, 2019), “Navigating the School System When a Child is Struggling with Reading or Dyslexia” (MDE, 2015), and “Dyslexia in the Classroom: What Every Teacher Needs to Know” (International Dyslexia Association, 2017). Twenty-five institutions had students apply what they learned from the course readings and lectures to a wide range of projects, which included essays, reports, a dyslexia toolbox, a dyslexia portfolio of resources, group presentations, quizzes, and a dyslexia awareness fair. A total of 12 institutions had teacher candidates plan lessons to meet the needs of students with dyslexia and/or to gather assessment data on students with dyslexia. Three of these twelve institutions required the lesson to be based on the assessment data and to provide systematic, explicit, structured literacy instruction.

Lesson Plans

The institutions in this study, on average, required students to write two and a half reading lesson plans. Some syllabi stated that the student could select from any of the “big five” components of reading, and others had more specific requirements. Specific lesson plan requirements in order of frequency were comprehension or comprehension strategy, guided reading, shared reading, phonics, and interactive read aloud.

The content analysis which used the ICR, and the analysis of the textbooks helped answer my main research question, What are future teachers taught about reading

acquisition in their literacy preparation courses? A main finding was that teacher candidates may have widely varying experiences, as institutional total scores ranged from 17 to 44, and there was a wide range of textbook titles required for the courses. Teacher preparation programs are required to align to content area standards and are approved by the state licensing board, but results from this content analysis indicate the degree of implementation of each component of reading instruction is program dependent; this may be because content standards do not address the degree of which a topic must be covered, but instead list the topics that must be included. On average, the degree of implementation for the elements was 2.18, with areas of comprehension and dyslexia characteristics and screening being notable strengths with degrees of implementation greater than 3, and areas of reading acquisition models, progress monitoring, and integration noted as areas for improvement with degrees of implementation less than 1.6. The following section describes the next step in this study - the thematic analysis of syllabi.

Thematic Analysis

I completed the thematic analysis of the syllabi after the content analysis to investigate research Sub-question C: Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi? This process involved reading each syllabus an additional time and coding items related to reading that were not already captured in the content analysis. I followed the six recursive phases of thematic analysis that Braun and Clarke (2006, 2021) put forth: “familiarisation; coding; generating initial themes; reviewing and developing themes; refining, defining, and

naming themes; and writing up” (p. 39). In this section I discuss the initial themes I generated, and the process of reviewing, refining, defining, and naming.

During the initial familiarization and coding process, I noted 470 words or phrases related to reading instruction that were outside of what was already found in the content analysis. To aid in generating themes, I printed out each word or phrase and then sorted them into similar groups, and in this process, I fit the 470 words into 46 themes, which can be found in Appendix G.

To review and identify themes, I sat with these categories for a few days and considered how the various themes intersected, overlapped, and differed. I also reviewed the phrases in each theme and occasionally recategorized terms that could potentially be in more than one category. For example, the term *World-class Instructional Design Assessment (WIDA) framework* could be sorted into the *assessment* category or the *English Learner* category. When situations such as this arose, I took another look at the syllabus in which the term appeared to see if it provided a deeper context for the phrase. In this case, the term was found within the week that focused on providing appropriate instruction for English learners, so I chose to move it to the *English Learner* category.

Most of the refinement was slightly broadening a theme so that two, three, or even four themes could become one more-inclusive theme. For example, philosophy and beliefs about reading instruction, the history of reading instruction, and the sociocultural view of literacy were initially three separate themes, but I decided to combine them into one theme: History and Philosophy of Reading. Through this process, 46 themes became 26 themes. This reduction was mostly due to combining similar themes, and by eliminating a few categories that were not true themes due to their limited appearance in

the syllabi. For a term or phrase to be a theme, I determined it needed to occur in at least ten percent of syllabi. These themes are listed in the table below in order of frequency.

Table 11

Refined Themes, Frequency and Example Words/Phrases

Theme	Frequency	Examples of Words/Phrases Included in this Theme
Diversity, Equity, and Inclusion in Literacy	≥ 66%	Culturally relevant and sustaining literacy instruction, culturally responsive classroom management, diverse literature, multicultural literature, inequity and bias in assessment, critical analysis of texts, creating inclusive literacy classrooms, windows/mirrors in texts
Meeting the Needs of All Learners	≥ 66%	Response to Intervention (RTI), Multi-Tiered Systems of Support (MTSS), differentiation, inclusive education, gifted learners, advanced readers
Supporting English Language Learners	≥ 66%	English Learners/ELs, multilingual learners, WIDA framework, supporting emergent bilinguals
Reading To and With the Class	≥ 66%	Shared reading, interactive read alouds, read alouds, big book read alouds
Readers/Writers Workshop	≥ 66%	Literacy workshop, workshop model, Daily 5, reading workshop, conferring, mini-lessons
Motivating and Engaging Learners	≥ 66%	Motivation, engagement, student choices, reading interests/attitudes surveys, fostering motivation, student agency, book talks
Comprehending Different Genres	≥ 66%	Reading strategies, content area literacy, text structures, concept maps, genre study
History and Philosophy of Teaching Reading	≥ 66%	Sociocultural view of literacy, beliefs about how children learn to read, literacy autobiography, philosophy and approach to literacy teaching, theoretical framework of literacy teaching, history of reading instruction, crafting literacy beliefs, reading wars

Table 11 (continued)

Building Community in Literacy	≥ 66%	Literacy and the role of the family, home and community; conferring with students and parents; family interview; home/school partnerships/connections; creating a dynamic classroom culture; reading at home; fostering literacy; lifelong readers
Digital Literacy and Technology	≥ 66%	Digital learning, credible resources, integrating technology and literacy, reading images, digital text structures, using technology tools to enhance learning
Emergent Literacy	33-65%	Concepts of print, concepts about print, print awareness, sight words, High Frequency Words, Dolch words, Fry words, word walls
Guided Reading	33-65%	Guided reading, Jan Richardson guided reading plan
Running Records	33-65%	Running records, and reading records
Selecting Appropriate Texts	33-65%	Text level, text complexity, matching books to readers, independent/instructional/frustration levels, Lexile levels, leveled text, predictable text, decodable text
Balanced Literacy	33-65%	Balanced literacy framework/approach, creating a balanced literacy plan, balanced literacy
Spelling	33-65%	Spelling, spelling stages, spelling inventories, spell check
Cueing Systems	10-32%	Miscue analysis, cueing systems, semantic/syntactic/graphophonic cues, MSV
Assessment	10-32%	Formative assessment, informal reading inventories, student-centered assessment, summative assessment
Literature Circles	10-32%	Book clubs, literature circles, responding to literature
Scaffolding Instruction	10-32%	Gradual release of responsibility, scaffolding literacy instruction, modeling/prompting/reinforcing

Table 11 (continued)

Higher Order Thinking/Questioning	10-32%	Higher order talk and writing about text, higher level questions, interactive literacy and questioning techniques, questions and prompts with picture books
Basal Reading Programs	10-32%	Basal readers, basal programs, teaching literature
Literacy Standards and Legislation	10-32%	Minnesota state standards, common core state standards, MN ELA standards and benchmarks
Grouping for Instruction	10-32%	Grouping students for small group instruction; grouping for instruction, organizing for a literacy block
Evaluating Literacy Curriculums	10-32%	Evaluation of a textbook series; examining literacy curriculum; teaching with fidelity; evaluating classroom literacy curriculum
Working Effectively with Support Staff	10-32%	Working with paras and volunteers, making best use of teaching assistants, literacy support staff

As noted in Table 11, ten themes were present in at least two-thirds of programs:

Diversity, Equity, and Inclusion in Literacy; Meeting the Needs of All Learners; Supporting English Language Learners; Reading To and With the Class; Readers/Writers Workshop; Motivating and Engaging Learners; Comprehending Different Genres; History and Philosophy of Teaching Reading; Building Community in Literacy; and Digital Literacy and Technology. These may be considered major themes since they occur in two-thirds or more of programs. Many of these themes addressed needs of the students and pedagogy.

Seven themes were present in one-third to two-thirds of programs: Emergent Literacy, Guided Reading, Running Records, Selecting Appropriate Texts, Balanced Literacy, Spelling, and Cueing Systems. These may be considered intermediate themes

since they appear in the middle third of programs. This section of themes primarily dealt with instruction and instructional approaches.

Nine themes were found in ten to thirty percent of programs: Assessment, Literature Circles, Scaffolding Instruction, Higher Order Thinking/Questioning, Basal Reading Programs, Literacy Standards and Legislation, Grouping for Instruction; Evaluating Literacy Curriculums, and Working Effectively with Support Staff. These may be considered minor themes since they appear in a third or fewer of the programs. These themes covered a variety of topics.

In Sub-question C of my research question, I ask, are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi? My thematic analysis shows there are substantive themes across programs, including ten themes that are present in greater than two-thirds of the syllabi. In addition, seven medial themes were present in one-third to two-thirds of the syllabi I analyzed.

Conclusion

My content analysis, thematic analysis, and textbook analysis unearthed clear information about the inclusion of scientifically based reading instruction, the presence of reading acquisition models, the themes in reading courses, and the textbooks most frequently used in Minnesota's Elementary Education reading courses. This information provided data to answer the study research questions, and the highest-level findings are summarized below.

I used content analysis and the Innovation Configuration Rubric to answer my main research question: What are future teachers taught about reading acquisition in their literacy preparation courses? Through this analysis, I found that the component with the

highest degree of implementation was Comprehension (3.137). This means most courses teach reading comprehension and have teacher candidates demonstrate their learning to a level of application (Level 3). The component with the lowest degree of implementation (0.56) was Reading Acquisition Models. The topics of the most frequent assignments found in the syllabi included projects in assessment, children's literature, dyslexia, and lesson plans.

The textbook analysis also helped to answer my main research question. The first finding was that a wide variety of textbooks are used in the courses in this study. Sixty-four different textbooks were used, and only fourteen of these textbooks were used by two or more courses. Of the six most frequently used textbooks, the NCTQ did not rate any as *exemplary*; four were rated *acceptable*, and two were rated *unacceptable* in their coverage of the five components of reading.

The textbook analysis showed limited coverage of the reading acquisition models, as four of the six most frequently used textbooks did not include the Simple View of Reading, Ehri's Phases of Word Reading Development, the 4-Part Processor, or Scarborough's Reading Rope. Two of the six textbooks did discuss Ehri's Phases of Word Reading Development, and of these two texts, one discussed the Braid of Literacy and the other briefly mentioned the 4-Part Processor.

Other components on the ICR, including phonemic awareness, phonics, fluency, vocabulary, and systematic and explicit instruction, had a degree of implementation below Level 3; this means these components were taught, but teacher candidates did not have to apply the concepts in specific assignments, and they did not have to implement them in a field experience with students.

In Sub-question B., I asked: To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia? I found that the Dyslexia and Screening component of the ICR had the second highest degree of implementation (3.133), which means that the average course requires students to apply information about dyslexia and screening to a specific assignment (such as a lesson plan or presentation). Most institutions did not require teacher candidates to teach a structured literacy lesson to students. Nearly every institution required teacher candidates to read articles on dyslexia that were suggested resources from the Minnesota Department of Education.

In Sub-question C., I asked: Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi? The thematic analysis I conducted revealed 26 themes that were found in a minimum of 10 percent of the courses. Ten themes were found in at least two-thirds of the courses: Diversity, Equity and Inclusion in Literacy; Meeting the Needs of All Learners; Supporting English Language Learners; Reading to and with the Class; Readers/Writers Workshop; Motivating and Engaging Learners; Comprehending Different Genres; History and Philosophy of Teaching Reading; Building Community in Literacy; and Digital Literacy and Technology.

The content analysis, textbook analysis, and thematic analysis provided information that may be helpful for the instructors of the courses to be aware of, and the findings may be of interest to anyone interested in how reading is taught to preservice elementary teachers. In Chapter 5, I provide a discussion of areas of strength and areas for growth based on the results I reported in this chapter.

Chapter 5

DISCUSSION

The purpose of this study was to understand more about what future teachers are taught about reading acquisition in their literacy preparation courses, and specifically (A) to determine to what extent the content of course syllabi address the key components of scientifically based reading and the Minnesota state statutes regarding reading acquisition, (B) to determine to what extent the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia, and (C) to determine which substantive additional themes are present in the syllabi but were not identified by the Innovative Configuration Rubric (ICR).

Limited previous research exists on this topic specific to Minnesota. Previous research by the *Minnesota Reads* research group (Dillon & Heine, 2003; Vagle et al., 2006) focused on preservice teacher preparation in literacy at four institutions. The *Minnesota Reads* research took place during the No Child Left Behind era of the early 2000s; this was a time of pressure for accountability and a call for standards for teacher preparation programs. Nearly two decades later, national and state attention on reading persists, and through this study, I sought to examine what Minnesota's teachers learn about reading acquisition. This study differs from previous studies done in Minnesota in that it looks specifically at reading acquisition, structured literacy, dyslexia, and adherence to state statutes. My scope was broad, examining foundational reading courses from every institution in the state that prepares elementary school teachers. The content and thematic analyses provide previously unpublished information about what is taught

in foundational reading courses in elementary teacher preparation programs in the state of Minnesota.

Currently in Minnesota, thousands of elementary school teachers and dozens of literacy professors are participating in the Language Essentials for Teachers of Reading and Spelling (LETRS) professional development. Over a dozen professors from several different institutions have created a professional learning community to align their syllabi with the science of reading. My study provides baseline data that reflects the content of syllabi prior to any revisions professors may elect to make after LETRS training. The results of my study may be of interest to those involved in conversations regarding primary reading instruction in Minnesota's classrooms.

To conduct this study, I obtained the syllabi from foundational reading courses for each of the 29 institutions that prepare elementary school teachers in Minnesota. I completed a content analysis of each syllabus that looked at 12 components of scientifically based reading instruction. I then completed a thematic analysis to determine if substantial themes existed in the syllabi outside of the 12 components of scientifically based reading instruction. In addition, I analyzed the six most frequently used textbooks for evidence of the five pillars of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension; as well as for evidence of reading acquisition models: the Simple View of Reading, Ehri's Phases of Word Reading Development, Scarborough's Reading Rope, and the 4-Part Processor model. In this chapter, I will briefly review key findings from these three analyses and then discuss strengths and challenges found in my data analysis related to content and themes in the syllabi. Lastly, I

conclude with several recommendations for higher education faculty in Minnesota as they strive to align their syllabi with the science of reading.

Key Findings

The complete results of this study are presented in Chapter 4. I briefly review the key findings in this section for the reader's convenience.

Textbook Analysis

Sixty-four different textbooks are used across the foundational reading courses taught in Minnesota's elementary teacher preparation programs. The most commonly used textbooks are listed below:

1. *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction*, by Bear, et al. (2016)
2. *Teaching Reading and Writing - The Developmental Approach*, by Templeton & Gehsmann (2014)
3. *The Next Step Forward in Guided Reading*, by Richardson (2016)
4. *The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers*, by Serravallo (2015)
5. *Creating Literacy Instruction for All Students*, by Gunning (2016)
6. *Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction*, by Fox (2014)

The National Council on Teacher Quality (NCTQ) assesses textbooks and rates them *exemplary*, *acceptable*, or *unacceptable* based on their coverage and accuracy of the five components of reading instruction and inclusion of assessment and instructional practices (NCTQ, n.d., a). Of the most frequently required textbooks in this study, four were rated

acceptable. Two textbooks were rated *unacceptable*: *The Next Step Forward in Guided Reading* and *The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers*.

I used the table of contents and index of each of the six most frequently used textbooks to determine their coverage of The Simple View of Reading (Gough & Tunmer, 1989), The Reading Rope (Scarborough, 2001), Phases of Word Reading Development (Ehri, 2014), and the Four-Part Processor (Seidenberg & McClelland, 1989). *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* integrated Ehri's Phases of Word Reading Development throughout several chapters. *Creating Literacy Instruction for All Students* briefly mentions the "stages" of word reading development but does not attribute the stages to Ehri; however, it does address the concept of reading acquisition as a progression of individual letters, to chunks of letters, to automatic recognition of entire words. In the most frequently used textbooks, the other reading models were not covered or covered very minimally (e.g., one mention, or one sentence). The textbook analysis contributed to answering the research question, What are future teachers taught about reading acquisition in their literacy preparation courses?

Content Analysis

Through the content analysis, I sought to continue answering the research question: What are future teachers taught about reading acquisition in their literacy preparation courses? Along with Sub question B: To what extent does the content of syllabi address the Minnesota state statutes regarding structured literacy instruction and dyslexia? I used an Innovation Configuration Rubric as a tool to collect data about the

following elements: scientifically based reading research, phonemic awareness, phonics, fluency, vocabulary, comprehension, integration (of the “big five” reading components), systematic instruction, explicit instruction, dyslexia and screening, progress monitoring, and reading acquisition models.

Degrees of implementation of each element ranged from 0 if an element was not present, to 4 if an element was applied with elementary students. The mean degree of implementation score of all 12 elements across the institutions was 2.18. ($SD = 0.79$), which means that on average the 12 elements are taught, but not required to be applied. The lowest degree of implementation was reading acquisition models ($M = 0.56$), and the highest degree of implementation was comprehension ($M = 3.14$, $SD = 0.85$). The category Dyslexia and Screening, specific to Sub-question B, had a mean score of 3.133 ($SD = 0.86$). This score can be interpreted as a sign that the average program requires content in dyslexia and screening and for teacher candidates to apply the knowledge through an application assignment. The components Explicit Instruction and Systematic Instruction helped answer the structured literacy element of Sub-question B. Explicit Instruction had a mean of 1.93 ($SD = 1.34$) and a mode of 1. Systematic Instruction had a mean of 2.066 ($SD = 1.34$), and modes of 1 and 3. This means an average teacher candidate reaches a knowledge level on these topics but are not required to apply what they learned in assignments or lessons.

Thematic Analysis

I completed the thematic analysis of the syllabi after the content analysis to investigate research Sub-question C: Are there substantive additional themes not identified by the Innovative Configuration Rubric that appear in the syllabi? In this

process, I followed the six recursive phases of thematic analysis suggested by Braun and Clarke (2006, 2021). This process resulted in 26 themes that were present in 10 to 100 percent of programs. A list of these major, intermediate, and minor themes can be found in Table 10 in Chapter 4, and the most significant themes are discussed below.

Discussion of Research Findings

Areas of Strength

Information I gleaned from this study showed many broad-level and specific strengths of Minnesota's teacher preparation programs. At the broad level, the thematic analysis revealed the intentionality of programming to meet the needs of students who are diverse in culture, language, ability, and experience. Prevalent in over two-thirds of the courses were lecture topics and assignments related to diversity in children's literature and the importance of classroom libraries and curriculum that reflect the students' experiences and cultures and that also broaden students' perspectives. When assigned lesson plans, teacher candidates were routinely required to plan differentiated instruction that considered the needs of all students, including English learners, students with dyslexia, and students with special needs. This is especially important since the time and support students need to reach grade level standards varies. To address the individual needs of students, most schools have implemented a Multi Tiered System of Support (MTSS) which is intended to provide a structure for differentiation so that individuals and small groups of students can receive targeted instruction specific to their needs. When teacher preparation programs require teacher candidates to apply differentiation strategies within their lesson plans, it builds their capacities to serve their future students well. Minnesota schools have seen a great increase in English learners (ELs) in the last

two decades, and currently 8.6 percent of students are considered ELs (NCES, 2022). One specific way teacher preparation programs prepared teacher candidates to teach ELs was through the World-class Instructional Design and Assessment (WIDA) development framework. The WIDA standards were developed with intentionality regarding weaving equity and culturally sustaining practices into its standards and framework, thus enabling teachers to best meet the needs of multilingual students (WIDA, 2020). Learning about the definition and characteristics of dyslexia is not only mandated by Minnesota state statutes, but benefits students, as five to seven percent of the population has dyslexia (Wolf, 2007) and as much as twenty percent of the population has a language-based learning disability (Shaywitz, 2003). Including differentiation strategies and scaffolds into lesson plans is an effective practice and strength throughout Minnesota's teacher preparation programs.

A second broad-level strength was incorporation of motivation and engagement into lessons. Two-thirds of syllabi indicated that lectures, readings, and discussions about the importance of active engagement, student choice, student agency, and fostering motivation were present. This is a strength, as researchers have found that motivation has a small positive effect size of .20 on reading achievement (McBreen & Savage, 2020). Researchers have also identified motivation and interest as factors of whether students choose to engage with specific texts (O'Brien et al., 2009). Since increases in time spent reading also increase reading ability and vocabulary knowledge (Stanovich, 1986), learning to engage and motivate readers is time well-spent.

The results indicate that comprehension instruction is a specific strength of Minnesota's teacher preparation programs. A mean degree of implementation score of

3.1 ($SD = 0.85$) and a mode of 4, which signifies that teacher candidates receive comprehension instruction and apply the knowledge, typically through a lesson plan that emphasizes a comprehension strategy or support. Given that comprehension is the goal of reading, this particular strength shows that teacher preparation programs focus on the big picture purpose of reading instruction and instructional practices that support student engagement in strategies that aid their comprehension of text. Particularly impactful comprehension strategies include the reciprocal teaching strategies of predicting, questioning, clarifying, and summarizing, which when used flexibly during reading instruction can increase comprehension a significant amount ($d = .74$) (Hattie, 2009).

Both the content analysis using the ICR, and the analysis of the most frequent assignments indicated that preservice teachers are exposed to credible information about the definition, characteristics, and signs of dyslexia. Nearly every course provided resources from the International Dyslexia Association, and/or the Minnesota Department of Education. The mean degree of implementation for the Dyslexia and Screening category of the ICR was 3.1 ($SD = 0.86$), which indicates that on average, teacher candidates are required to apply what they learned through a specified discussion, presentation, or by writing lesson plans. Application of these concepts will likely improve the ability of future teachers to recognize characteristics of dyslexia, which in turn can lead to effective early intervention. Early intervention with reading difficulties can lead to remediation and avoidance of social and emotional challenges that can accompany a struggle with reading (Tajik-Parvinchi et al., 2021).

Challenges

While knowledge and application of Dyslexia and Screening was a strength of programs, application of this knowledge through systematic, explicit phonics instruction remains a challenge. Only four syllabi delineated the requirement that teacher candidates follow a phonics scope and sequence to provide structured literacy instruction that is systematic and explicit. Research discussed in Chapter 2 provided strong evidence that systematic, explicit phonics instruction is necessary for students who struggle to learn to read, and helpful for all students (Snow & Juel, 2005), yet there is little evidence that teacher candidates are required to apply this with students in Minnesota teacher preparation programs. Without specific training on how to provide structured literacy instruction and interventions for students with characteristics of dyslexia, elementary students may not receive appropriate instruction. It is imperative that interventions begin early (McMaster et al., 2005), as readers who are not meeting grade level expectations by the end of first grade tend to remain behind in later years (Torgeson et al., 1999; Torgeson et al., 2000; Vellutino et al., 2004).

Progress Monitoring is a related category that also has room for improvement. Progress monitoring, as described by the ICR used in this study, relates to using diagnostic assessment to monitor students' reading progress. Progress monitoring had a mean degree of implementation score of 1.6 ($SD = 1.47$), which indicates that the majority of programs mention and define progress monitoring, but do not have students engage further with this concept. Progress monitoring is a tool teachers use to determine if students are meeting benchmarks and gaining foundational skills. Data provided by progress monitoring can guide instruction, differentiation, flexible grouping decisions,

and academic interventions. Without an understanding of how to effectively monitor student progress, new teachers likely will not be as effective at targeting the needs of students.

A major theme in courses was discussion about the history and philosophy of reading instruction, and many courses asked teacher candidates to develop their own philosophies of reading after lectures, course readings, and discussions. One challenge is that 73% of course syllabi did not contain evidence that reading acquisition models are taught. In addition, the textbooks found most frequently in the courses examined in this study did not thoroughly cover reading acquisition models. An understanding of the reading acquisition models can also help teachers target instruction to remediate underlying weaknesses in the phonological processor, in elements of language comprehension, or aspects of decoding that may contribute to reading difficulty. Cognitive function is non-intuitive and complex; if teacher candidates are not guided by experts, it is unlikely they will understand how reading acquisition occurs. Therefore, it is logical to conclude that many teacher candidates are missing important information as they determine their beliefs about reading and write essays on their philosophy of reading. Teaching reading acquisition models in preservice reading courses can help ensure that future teachers understand the important processes and the instruction that helps to build the cognitive structures that facilitate reading comprehension.

Another major theme I found through this study was content regarding teaching reading and writing through a workshop model approach. Terms such as “literacy workshop,” “reading workshop,” “Daily 5” appeared in the thematic analysis 26 times. The workshop approach, as developed by Calkins (2001), Fountas and Pinnell (2008),

and Routman (1999) is present in many elementary school classrooms today, but is based on an incorrect, but seemingly intuitive, theory that children learn to read by experiencing reading, primarily through mini-lessons, guided reading, read-aloud, shared reading, and independent reading (Richardson, 2016). Current research shows that learning to read is not natural and instead occurs most efficiently when students are given direct instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension (NRP, 2000; Seidenberg, 2017). Although each of these elements can be included in a workshop model, historically, systematic, and explicit phonics instruction has not been encouraged by proponents of the workshop approach to teaching reading (Routman, 1999). New recommendations for a 90-minute literacy block include 30-45 minutes on whole group, direct instruction on the core components of literacy; this is followed by 45 minutes of small group, differentiated instruction to target the needs of individual students, and at this time supplemental instruction and reading interventions may occur (Just Read, FL, 2022). Foundational reading course instructors should revisit their rationale for using a reader's workshop model and review research about the efficacy of this approach. If a workshop model is retained, it may need major adjustments to align with scientifically based reading instruction.

Two of the six most frequently used textbooks used in the courses in this study are often used in conjunction with a workshop approach, and the NCTQ rated them as *unacceptable*. Of particular concern is that *The Next Step Forward in Guided Reading* (Richardson, 2016) includes the three-cueing system as a way of determining what the words say; there is very limited instruction in phonemic awareness and phonics and limited time spent on building vocabulary (NCTQ, n.d.). Likewise, *The Reading*

Strategies Book: Your Everything Guide to Developing Skilled Readers (Serravallo, 2015) focuses heavily on comprehension strategies and promotes using cueing to determine words. The most effective path to determine words is to learn the sound and letter correspondences, and therefore strategies that take students' attention away from the letter sequence should not be used (Ehri, 2014).

Limitations

Syllabi provide a course plan, and in the case of the Minnesota syllabi in this study, they delineate how required standards are met, the key assignments and the required textbooks and other readings. However, a limitation of this study is that there is no guarantee that everything mentioned on the syllabus is taught in the course. In addition, it is possible that what is listed on the syllabi does not convey the full extent of how a particular concept is covered. The level of detail I found in syllabi varied from very specific to a general outline, and this affected the amount of information I could understand about a particular course. To increase the accuracy of the content analysis, I completed a member check (described fully in Chapter 4) in which professors were asked to confirm the accuracy of the key elements I found in my content analysis of the course. The member check response rate was 75 percent, and it is important to note that the most frequent reply affirmed my findings, which validates the accuracy of the findings of the content analysis part of this study. Four professors included further details about course assignments or sent me links to the dyslexia modules they have their students review. Positive responses and limited additional information provided through the member check leads me to conclude that the syllabi provided accurate and nearly complete

information for the criteria included on the Innovation Configuration Rubric in this study.

The age of the data set used in this study is also a limitation, as most syllabi were from the year 2020 or 2021. From responses I received during the member check part of this study, it was clear that instructors are considering revisions or are in the process of making changes to their syllabi and therefore it is important that the results of the study be viewed as a snapshot in time of reading instruction in Minnesota in the early 2020s.

Recommendations

A Call for Collaboration

In analyzing the results of the data collected through this study, it became clear there is wide variation in what is taught in preservice reading courses for elementary school teachers. Although each program must meet the content area standards to be approved by the licensing board, there was great variation in textbooks, course content, and what teacher candidates are required to apply. The wide range and variation leads me to call for collaboration amongst faculty members who teach reading courses to elementary teachers, especially in the areas of textbook selection and the key content of reading courses.

Textbooks

Analysis of required textbooks showed that a wide variety of textbooks are used in teacher preparation courses. Fifty-one course syllabi were analyzed and there were sixty-two different textbooks used; just fourteen textbooks were used by multiple courses. The great variety of textbooks usage leads me to infer that there is little collaboration amongst professors at different institutions of higher education. Since none of the

textbooks required in the syllabi were deemed *exemplary* by the NCTQ reviewers, it is likely this is an area that could be improved. I propose that professors who teach foundational reading courses consider the following questions:

- What does the NCTQ textbook report state are the strengths and weaknesses of your current textbook selection?
- Are you currently supplementing with other required readings to address the missing elements of your textbook?
- Would you consider reviewing an *exemplary* textbook to see if it fits the needs of your course?

There is great potential for collaboration on textbooks. Interested professors could coordinate review and summarize *exemplary* textbooks and share their findings with each other. Most courses in this study required extensive textbook chapter reading, so increasing the quality of what teacher candidates are asked to read and understand could potentially improve what future teachers understand about reading acquisition and instruction.

Content of Courses

The topic of reading instruction has gained and sustained attention over the last few years, and popular media attention has taken a critical look at teacher preparation and curriculum decisions at the K-12 level (Hanford, 2019). As Vagle et al. (2006) discussed, there is national, state-level, and local interest in the topic of reading, and it is necessary that the voices of university faculty lead discussions around standards and curriculum. This same sentiment is apt in the current situation where the science of reading is in public purview and pressure mounts. It is unclear from this study what the absence of the

inclusion of reading acquisition models indicates, but it is clear from this study that most teachers do not leave their preparation programs having been provided with instruction in how the brain learns to read. As experts in the field, it is imperative that reading faculty members have a strong understanding of the cognitive elements that underlie reading; after all, “one cannot teach what one doesn’t know” (Buckingham et al., 2013).

Collaboration amongst peers can increase faculty knowledge base, which in turn can increase the knowledge base of future reading teachers. Collaboration amongst Minnesota’s professors has the potential to allow those in higher education to lead the conversation surrounding decisions regarding the depth of understanding about reading acquisition that is necessary at the undergraduate, masters, and doctoral levels.

A Call for Application of Key Concepts

Prior to technological advances that allow researchers to follow the eye movements of readers and for neuroscientists to observe the brain as one reads through fMRI imaging, prominent theorists in education hypothesized that one became a reader through exposure to print and by using syntax, semantics, and graphophonics to determine words (Goodman, 1969; Clay, 1979). Through scientific advances, current understanding is that automatic word recognition happens through the process of orthographic mapping, in which the brain views the sequence of letters and interprets their corresponding sounds (Ehri, 2014). Initially, this is a letter-by-letter process, but with experience, the brain soon recognizes chunks of words, such as blends, digraphs, and common prefixes and suffixes (Ehri, 1995). Practice and experience strengthen the orthographic process of word recognition and next, whole words are recognized automatically, or by sight (Ehri, 1995). Understanding that time and attention to letter

sequence and sound correspondence ultimately changes what is prioritized in reading curriculum, and our teacher preparation programs should reflect this. Selecting comprehensive course textbooks that discuss the reading acquisition models and are aligned to scientifically based reading instruction is a key step that could affect what teachers understand about teaching early reading.

In addition, results of this study showed there is room to grow or change what preservice teachers are asked to apply. Specifically, more emphasis should be placed on having teacher candidates implement lessons with students on phonemic awareness, phonics, fluency, vocabulary, and systematic and explicit instruction in phonics. Teacher candidates should have the opportunity to work with a student with dyslexia or other significant reading challenges. This would allow the teacher candidate to administer screening tools, use diagnostic assessment to plan structured literacy instruction, and to progress monitor the effectiveness of the instruction throughout the field experience. It may be helpful to think of the content of foundational reading courses from the lens of Bloom's Taxonomy (1956), which is a hierarchy of levels of understanding ranging from knowledge and comprehension at the lowest levels, to application, analysis, synthesis, and evaluation as progressively higher levels. Results from this study show that on average, key elements of reading are being taught at the knowledge or comprehension levels. Choosing to shift to the application level deepens teacher candidates' experiences as they learn to teach reading. If given the opportunity to reach the application level of teaching foundational elements of reading, it enables reflections and class discussions to then move to the analysis, synthesis and evaluation levels and could potentially result in positive outcomes of preparedness to teach reading effectively.

Concluding Summary

In this research study I used content analysis and thematic analysis as a means of determining how reading acquisition is taught in Minnesota's elementary teacher preparation programs. Specifically, I sought to understand what was being taught in relation to scientifically based reading instruction, dyslexia, structured literacy, and reading acquisition models. The data and conclusions of this study may be of interest to the instructors of foundational reading courses, and to other special interest groups who are interested in aligning teacher preparation programs to the science of reading.

Key strengths reported from this study include intentionality of programming to meet the needs of students who are diverse in culture, language, ability, and experience; planning of differentiated instruction to meet the needs of diverse learners, including English learners; incorporation of motivation and engagement into lessons; and instruction about reading comprehension. These are strengths to be retained as professors determine which content to revise to align with the science of reading.

The main challenges that were revealed by this analysis include a need for more application of the most effective instructional models, namely structured literacy, or systematic and explicit phonics instruction. Overall, textbooks chosen for foundational reading courses should be sure to include the reading acquisition models, and teacher candidates must learn about these models prior to developing their views on reading instruction for philosophy of reading assignments. Lastly, a major finding was that workshop models of teaching reading are most prevalent in the courses in this study. This study did not examine the rationale behind this theme, but recent research indicates other

structures of the literacy block use instructional time more effectively (Just Read, FL, 2022).

The variety of textbooks used in courses and inconsistencies of how reading acquisition is taught in the courses in this study led me to call for collaboration amongst professors of education. Collaboration on choosing *exemplary* textbooks that include reading acquisition models has the potential to strengthen the knowledge of Minnesota's future teachers. More collaboration is needed amongst education professors so that all programs find creative ways to provide opportunities for teacher candidates to apply key components of reading instruction with elementary students in clinical settings.

It is my hope that the results of this study will be useful in driving collaborative conversations in reading education in Minnesota so that professors can create change that will improve reading outcomes for children in the state.

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Appendix A

List of Institutions in this Study

Augsburg University, Minneapolis

Bemidji State University, Bemidji

Bethany Lutheran College, Mankato

Bethel University, St. Paul

Capella University, Online

College of St. Benedict/St. John's University, St. Joseph/Collegeville

College of St. Scholastica, Duluth

Concordia College - Moorehead, Moorehead

Concordia University, St. Paul

Crown College, St. Bonifacius

Gustavus Adolphus College, Saint Peter

Hamline University, St. Paul

Martin Luther College, New Ulm

Metro State University, St. Paul

Minnesota State University – Mankato, Mankato

Minnesota State University - Moorehead, Moorehead

North Central University, Minneapolis

Southwest Minnesota State University, Marshall

St. Catherine University, St. Paul

St. Cloud State University, St. Cloud

St. Mary's University, Winona

University of Minnesota – Crookston, Crookston

University of Minnesota - Duluth, Duluth

University of Minnesota - Morris, Morris

University of Minnesota - Twin Cities, Minneapolis/St. Paul

University of Northwestern, St. Paul

University of St. Thomas, St. Paul

Walden University, online

Winona State University, Winona

Appendix B

Innovation Configuration Rubric

INSTITUTION:

COURSES EVALUATED:

Scientifically Based Reading Research	0	1	2	3	4	Integration	0	1	2	3	4
<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • NRP Report (2000) • 5 essential elements of reading: phonemic awareness, phonics, fluency, comprehension, vocabulary • Research-based strategies • Reading success for all students • Scientifically based research - randomized studies, peer reviewed, replicated, minimize bias 						<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • Planned connections of instruction for 5 essential elements of reading • Weaving of “big 5” or any of components, taught first in isolation and always placed back in meaningful context • Integrated 					
Phonemic Awareness	0	1	2	3	4	Systematic Instruction	0	1	2	3	4
<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • Individual speech sounds • Phonemes • Early indicator of risk • Precursor to phonics • Detect, segment, blend, manipulate phonemes • Rhyming, alliteration in Pre-k and K • Elkonin boxes 						<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • Planned/purposeful/sequential • Step-by-step • Example: teach certain letters (b, m, a) before others (y, x, tch). • Teach from easy to more difficult • Directions for determining whether reading programs use skills sequence and provide adequate practice 					

Phonics	0	1	2	3	4	Explicit Instruction	0	1	2	3	4
Key Words/Phrases: <ul style="list-style-type: none"> • Correspondence of sounds and letters • Phoneme-grapheme correspondences • Blending, decoding, encoding • Syllable types • Prefixes, suffixes, base words • Alphabetic principle • Word analysis • Phoneme-grapheme mapping • Letters and sounds working in a systematic way 						Key Words/Phrases: <ul style="list-style-type: none"> • Direct/straight- forward • No room for guessing • Example: This is the letter B; it represents the /b/ sound. • I do it, we do it, you do it 					
Fluency	0	1	2	3	4	Dyslexia & Screening Assessment	0	1	2	3	4
Key Words/Phrases: <ul style="list-style-type: none"> • Rate, accuracy, prosody • Repeated readings • Fluency training • Partner reading • Measurable goals • Charting progress 						Key Words/Phrases: <ul style="list-style-type: none"> • Early identification and prevention • Brief measures • All students • Identifying students who require additional support • Valid and reliable instruments • Nature, symptoms, and characteristics of dyslexia • Structured literacy instruction for those with characteristics of dyslexia 					
Vocabulary	0	1	2	3	4	Progress Monitoring	0	1	2	3	4
Key Words/Phrases: <ul style="list-style-type: none"> • Taught directly and indirectly • Pre-teach 						Key Words/Phrases: <ul style="list-style-type: none"> • Ongoing and frequent assessment for those 					

<ul style="list-style-type: none"> • Oral language • Multiple contexts, meanings • Choosing and leveling words for explicit inst. • Word consciousness • Context • Morphemes 						<ul style="list-style-type: none"> • requiring additional support • Providing additional support, monitoring every 1–2 weeks, and so on • Instructional modifications made accordingly • Reflects appropriateness of the teacher’s intervention 					
Comprehension	0	1	2	3	4	Reading Acquisition Models	0	1	2	3	4
<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • Questioning strategies (i.e., before, during, and after reading) • Summarize/predict/retell • Metacognitive strategies • Both narrative and expository text structure • Collaborative strategic reading 						<p>Key Words/Phrases:</p> <ul style="list-style-type: none"> • Simple View of Reading (language comprehension, decoding/word recognition, reading comprehension). • Scarborough’s Reading Rope • 4-part Processing Model • Ehri’s Phases of Reading Development (orthographic mapping) 					

Appendix C

Degree of Implementation Parameters

Degree of Implementation	Parameters
0	No evidence of the component
1	The syllabus mentions content related to the component (lecture topic, video, or outcome statement)
2	Syllabus mentions the component and requires one or more reading, test/quiz, or undirected journal response
3	Criteria of degree Level 2, plus at least 1 assignment or project for application - such as observations, lesson plans, classroom demonstrations, or directed journal response
4	All of degree Level 3, plus field work or tutoring application

Appendix D

Textbooks used in Reading Courses in Order of Frequency

Table 12

Textbooks used in Reading Courses in Order of Frequency

Textbook Information	Number of Institutions that Require the Textbook
Bear, D. R., Invernizzi, M., Templeton, S., & Johnston, F. (2016). <i>Words their way: Word study for phonics, vocabulary, and spelling instruction</i> (6th ed.). Pearson.	7
Templeton, S., & Gehsmann, K. M. (2014). <i>Teaching reading and writing: The developmental approach</i> . Pearson.	5
Richardson, J. (2019) <i>The next step forward in guided reading: An assess-decide-guide framework for supporting every reader</i> . Scholastic.	4
Serravallo, J. (2015). <i>The reading strategies book: Your everything guide to developing skilled readers</i> . Heinemann.	4
Gunning, T., G. (2020). <i>Creating literacy instruction for all students</i> . Pearson.	3
Fox, B. J. (2014). <i>Phonics and Word Study for the Teacher of Reading: Programmed for Self-Instruction</i> (11th ed.). Pearson.	3
Dougherty Stahl, K. A., Flanigan, K., McKenna, M. C. (2020). <i>Assessment for reading instruction</i> (4th ed.). Guilford Press.	2
Allington, R. & Cunningham, P. (2011). <i>Classrooms that work: They all can read and write</i> (5th ed.). Pearson.	2
Boushey, G., & Moser, J. (2014). <i>Daily 5: Fostering literacy independence in the elementary grades</i> (2nd ed.). Stenhouse Publishers.	2
Johns, J., & Lenski, S. (2019). <i>Improving reading: strategies, resources, and common core connections</i> . Kendall Hunt Publishing Company.	2

Table 12 (continued)

Morrow, L. M. (2019). <i>Literacy development in the early years: Helping children read and write</i> (9th ed.). Pearson.	2
Tompkins, G. E. (2010). <i>Literacy for the 21st century: A balanced approach</i> . Allyn & Bacon.	2
Leu, D. J., & Kinzer, C. K. (2017). <i>Phonics, phonemic awareness, and word analysis for teachers: An interactive tutorial</i> (10th ed.). Pearson.	2
Duke, N., Caughlan, S., Juzwik, M. M., & Martin, N.M. (2012). <i>Reading and writing genre with purpose in K-8 classrooms</i> . Heinemann.	2
Thomas, S. (2016). <i>Reading, writing, and talk: Inclusive teaching strategies for diverse learners, K-2</i> . Sage Publications	2
Archer, A. L., & Hughes, C. A. (2011). <i>Explicit instruction: Effective and efficient teaching</i> . Guilford Press.	1
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Copple, C., Bredekamp, S., Koralek, D. G., & Charner, K. (2014). <i>Developmentally appropriate practice. Focus on children in first, second, and third grades</i> (C. Copple, S. Bredekamp, D. G. Koralek, & K. Charner, Eds.). National Association for the Education of Young Children.	1
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Dehaene, S. (2009). <i>Reading in the brain: The science and evolution of a human invention</i> . Viking.	1
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Fisher, D., Frey, N., & Akhavan, N. (2019) <i>This is balanced literacy</i> . Sage Publications.	1
Fountas, I., & Pinnell, G. S. (2002). <i>A reader's notebook</i> . Heinemann.	1
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Hougen, M., Smartt, S., Cardenas-Hagan, E., & Ebbers, S. (2020). <i>Fundamentals of literacy instruction and assessment, Pre-K-6</i> . Brookes Publishing.	1
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Leslie, L. & Caldwell, J. (2021). <i>Qualitative Reading Inventory 7</i> (7th ed.). Pearson.	1
Lillard, P. (1996). <i>Montessori today: A comprehensive approach to education from birth to adulthood</i> . Schocken Books.	1
Mather, N., & Wendling, B. J. (2012). <i>Essentials of dyslexia assessment and intervention</i> . Wiley.	1
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Pollock, M. (2008). <i>Every-day Anti-racism: Getting Real About Race in School</i>	1
Pople, C. (2011). Powell, R., & Rightmyer, E. C. <i>Literacy for all students: An instructional framework for closing the gap</i> . Routledge.	1
Pressley, M. (2006). <i>Reading instruction that works: The case for balanced teaching</i> (3rd ed.). Guilford Press.	1
Reutzel, D. R., & Cooter, R. B. (2019). <i>Teaching children to read: The teacher makes the difference</i> (8th ed.). Pearson.	1
Roe, B. D., Smith, S. H., & Burns, P. C. (2005). <i>Teaching reading in today's elementary schools</i> (9th ed.). Houghton Mifflin Co.	1
Scharer, P. L. (2018). <i>Responsive literacy: A comprehensive framework</i> . Scholastic.	1
Serravallo, J. (2014). <i>The literacy teacher's playbook, grades K-2: Four steps for turning assessment data into goal-directed instruction</i> . Heinemann.	1
Shanker, J. L., & Cockrum, W. A. (2009). <i>Locating and correcting reading difficulties</i> (9th ed.). Allyn & Bacon/Pearson.	1
Shanker, J. L., & Ekwall, E. E. (2000). <i>Ekwall/Shanker reading inventory</i> (4th ed.). Allyn and Bacon.	1
Temple, C. A., Ogle, D., Crawford, A. N. & Freppon, P. (2018) <i>All children read: Teaching literacy in today's diverse classroom</i> (5th ed.). Pearson.	1
Vacca, J. L., Vacca, R. T., & Gove, M. K. (1987). <i>Reading and learning to read</i> . Little Brown.	1

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Young, T. A., Bryan, G., Jacobs, J., & Tunnell, M. (2020). <i>Children's literature, briefly</i> . Pearson.	1
Ziemke, K., & Muhtaris, K. (2019). <i>Read the world: Rethinking literacy for empathy and action in a digital age</i> . Heinemann.	1

Appendix E

Letter Sent to Institutions

Dear Professor,

My name is Abbey Payeur and I am a doctoral student in the Curriculum and Instruction Department at the University of Minnesota. I am seeking to understand how higher education programs in Minnesota prepare preservice teachers to teach beginning readers. Today, I am writing to you as a measure to ensure the accuracy of the data set I have obtained. **In order for your response to be included in the study, please respond via email by August 8th.**

As an institution that prepares preservice elementary teachers, you have submitted syllabi to PELSB documenting how you plan to meet the Minnesota state statutes regarding reading and, specifically, dyslexia. My analysis examined the content of these syllabi and looked for textbooks and articles, key assignments, and assessments taught in the courses. I have summarized the key findings from your syllabi below, and I am asking for you to confirm that this information is accurate.

Please respond to this email by August 8th and indicate if the course list and summaries are an accurate representation of the key content of your courses. If you feel the summary misses an important element of the course, you may explain what you feel is missing or inaccurate in your response and provide documentation to support this response. In some cases, I have asked a clarifying question about the syllabi or content; your response is greatly appreciated.

Thank you in advance for your help in contributing to this research study.

Sincerely,
Abbey Payeur
University of Minnesota Doctoral Candidate

Appendix F

Summary Template for Content Analysis

Institution and Professors:	Courses Analyzed:
Textbooks in Literacy Courses:	
Overview of Literacy Content	
Assignments:	
Key Topics (related to Reading):	
Questions: <ul style="list-style-type: none"> • Does your program require any other foundational literacy courses for initial elementary teaching licensure students? 	

Appendix G

List of Themes Prior to Refinement

3 Cueing/MSV
Assessment
Balanced Literacy
Basal Reading Programs
Classroom/School Environment
Comprehension Strategies
Concepts of Print
Content Area Reading/Nonfiction Text Features
Culturally Responsive Teaching/Pedagogy
Differentiated Instruction
Diversity/Representation in Children's Literature and Curriculum Materials
English Learners
Evaluating Programs
Genre Study
Gifted/Advanced Learners
Gradual Release of Responsibility
Guided Reading
High Frequency Words and Sight Words
History of Reading Instruction
Independent Reading
Informal Reading Inventories (IRIs)
Interactive Read Alouds
Language Experience Approach

Lifelong Learners
Literature Circles/Book Clubs
Matching Texts and Readers
Mini Lessons
MTSS & RTI
Philosophy/Beliefs of Reading Instruction
Questioning Strategies
Read Alouds
Reading Standards and Legislation
Reciprocity of Reading and Writing
Running Records
Scaffolding
School-Family Partnership
Shared Reading
Small Group Instruction
Sociocultural View of Literacy Development
Socioemotional Learning
Spelling
Student Motivation and Choice
Technology
Text Complexity and Leveling
Working with Support Staff
Workshop Model