Special Education Teachers Use of Reading Strategies to Support Students with Learning Disabilities in Reading

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Ali A. Alhamdan
SPECIAL EDUCATION TEACHERS USE OF READING STRATEGIES TO SUPPORT STUDENTS WITH LEARNING DISABILITIES IN READING

Ali A. Alhamdan, Ed.D.
Western Michigan University, 2019

This research captures how special education teachers select, use, and monitor reading strategies for 4th and/or 5th grade students who have learning disabilities in reading. A multiple case study, the research focused on five different southwest Michigan classrooms where special education teachers teach students with learning disabilities in reading. Data was collected through teacher interviews, classroom observations, and document review. The study results include that small group instruction is the approach teachers value most for Tier II instruction, while direct instruction is valued most for Tier III instruction. At both Tier II and III, teachers select interventions and group students based on the students’ needs. Teachers perform many types of assessments to confirm students are making progress and value opportunities to collaborate about their students with other professionals. The teachers’ perspective of student learning is confirmed by outcomes, although the teachers’ understanding of their students’ lives help the teachers contextualize and better understand the formal assessments.
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CHAPTER I

INTRODUCTION

Many scholars of literacy agree students must develop their reading ability in order to succeed in school (Fiester, 2010; Fuchs, Fuchs, & Vaugh, 2014; Houck & Ross 2012; Musen, 2010). Additionally, students in the early grades (K-3) need to build a strong foundation in reading by the end of the third grade (Chall, Jacobs, and Baldwin, 1990; Fuchs et al.; Musen, 2019). It is also recognized that reading tasks change for students around the fourth grade. Chall et al. coined the phrases capturing the differences between third grade reading and fourth grade reading tasks. They note that students in grades K-3 are “learning to read,” while students, starting at about grade four, are being asked to use “reading to learn” (p. 11). Because students are expected to learn content by using their reading skills as early as the fourth grade, it is important to consider the educational experience of those students who do not build the foundation they need for reading success. Mastropieri, Scruggs, and Graetz (2003) note, for example, that students with learning disabilities (LD) often struggle as they are learning to read. In fact, the authors say such students struggle with reading more than with any other academic area. Sencibaugh (2007) found that students with LD who are having difficulties in reading often struggle in all areas of reading, including early reading development skills, such as phonemic awareness, as well as more advanced skills, such as comprehension, which depends on other reading skills, like fluency and vocabulary. For many students with LD in the area of reading, the school experience will include initial struggles followed by more and more days when they are not performing as well as peers. Often students with LD are three to four years below grade-level in reading ability by the time they start high school (Wagner et al., 2003).

Much research has focused on helping students with reading disabilities learn to read,
because of the importance that learning to read plays in school success, In addition to the research in this area, two pieces of legislation and the development of the National Reading Panel have influenced efforts to improve reading instruction and reading ability for all students (Arlington, 2012). No Child Left Behind (2001) (NCLB) focuses on ensuring that all students are able to succeed in K-12 schools by requiring schools offer more opportunities for parental involvement and choice in student education and more standardized assessment. IDEA-2004 specifically focuses on making sure all students with disabilities experience appropriate opportunities to succeed in school. In focusing on that goal, the law also attempted to establish procedures that would ensure students are not misplaced into special education program. The National Reading Panel’s (NRP) 2000 report focused on needed areas for reading research and offered a review of evidence-based practices (EBPs) (NICHD, 2000).

The call for research into specific areas of reading and the list of EBPs in the NRP report offer insights that could greatly help teachers meet the requirements of NCLB and IDEA 2004. Nevertheless, a research gap exists despite the focus that legislation has placed on student success in education and the NRP report’s calls for more research in specific reading areas. Only a few qualitative studies explore special education teachers’ perception of the most effective strategies to use to support students who have learning disabilities in reading, how those teachers determine students’ success with the strategies, and how students’ outcomes relate to the teachers’ perceptions of the students’ reading development (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005; Edmonds et al., 2009; Jitendra, Edwards, Sacks, & Jacobson, 2004; Odom et al., 2005). More research in this area would benefit the field in supporting students with LD in the area of reading. Therefore, this study will focus on what strategies an instrumental sample of upper elementary special education teachers use to support students with
LD in reading, how the teachers in the sample determine effectiveness for each strategy, and whether student outcomes correspond to the teachers’ perspectives.

**Background**

Vaughn, Levy, Coleman, and Bos (2002) found that “90% of students with learning disabilities” have difficulties learning to read. Schiller, Sandord, and Blackorby (2008) found a less dramatic statistic related to the reading ability of students with LD. These researchers found that 66% of elementary level students with LD scored lower than the 20th percentile on the Woodcock-Johnson Passage Comprehension Test. In summary, the research regarding students with LD indicates that such students will continue to struggle in school because of their inability to master essential reading skills (Wagner et al., 2003). Therefore, a number of researchers have focused on ways to help students with LD improve their reading abilities (Al Otaiba & Rivera, 2006; Fuchs et al., 2014; Houck & Ross 2012; Marzano, 2004; Musen, 2010; Nagy and Townsend (2012). Wexler, Vaughn, Edmonds, and Reutebuch, 2008; and Whitten, Esteves, & Woodrow, 2019).

One of the most promising EBPs for helping all students learn reading and mathematics skills is a three-tier assessment and teaching framework known as Response to Intervention (RTI) (Whitten et al., 2019). Whitten et al. explain that RTI combines brief curricula-based assessments of students’ reading skills with small group or individual lessons that are based on the results of the brief assessments. RTI helps teachers develop early interventions for students who are struggling with reading. Using it, teachers can help some struggling students conquer reading issues without the students needing to go through special education evaluation. However, RTI can also help teachers gather data that can play an important role in the process of identifying students who should be referred for special education services (Gersten et al., 2008).
Vellutino, Scanlon, Small, Fanuele, and Sweeney (2007) describe Tier 1 RTI instruction, which is offered to all students, as “. . . balanced, explicit, and systematic reading instruction that fosters both code-based and text-based strategies for word identification and comprehension” (p. 186). Tier 2 instruction is only taught to students whose assessment of Tier 1 curricula indicates the students are unable to perform Tier 1 reading skills. Tier 2 instruction often takes place in supplementary instruction or in small group settings where students’ progress is carefully monitored (Gersten et al., 2008). Tier 2 students who struggle with curricula content are moved to Tier 3 for more intensive instructions. Such instruction can include various forms of purposeful grouping or individualized assistance. Finally, if the close assessment and progress monitoring of students in Tier 3 indicate the students are still struggling with learning, the students can be referred for evaluation that may lead to special education services.

RTI scholarship indicates that the use of RTI and the related efforts to help students with LD in reading are driven by the school-based curriculum and professional choices of individual teachers (Whitten et al., 2019). Therefore, teachers’ professional choices and experience play a huge role in the ultimate success of their students. However, there is still a lack of qualitative studies that explore special education teachers’ perceptions of the most effective strategies to use to support students who have learning disabilities in reading, how those teachers determine students’ success with the strategies, and how students’ outcomes relate to the teachers’ perceptions.

**Problem Statement**

Students with LD face impediments to learning either at school or home or at both. A number of studies have examined strategies for supporting the students with LD (Cook et al., 2015; Cook, Tankersley, Cook, and Landrum, 2008; Fuchs, Fuchs, & Stecker, 2010). Learning
challenges and problems for students with LD often begin because the learning style and particular needs of the students are not considered. For example, a teacher may not have a broad enough set of instructional strategies that fit a student’s strongest learning modality. If the student is performing significantly below grade level, a teacher may not have learning resources that are appropriate for the student’s learning level. Another example might be that the teacher does not know how to create a learner centered classroom environment. When students with LD do not receive instruction that is appropriate for their learning needs, they fall further behind (Montgomery & Hayes, 2005). The result can be failure in learning grade level content, frustration resulting in lack of motivation, and/or rejection from peers. For example, Sencibaugh (2007) suggests that because reading to learn content is a major learning strategy for students after grade three, students who struggle with reading will rarely be able to grasp, on their own, much of the content in all of their subjects. Montgomery and Hayes found that upper elementary students (grades four through six) who struggle in reading often lack self-confidence and become disinterested in reading, especially reading on their own. As students who struggle to read and to learn through reading attempt to develop with their grade school peers, they can perceive themselves as different from students who read and learn successfully and from students who enjoy reading on their own. By the fourth grade, such students are beginning to recognize that they are at a disadvantage from their peers, and the gap between students who read successfully and those who struggle continues to grow as the students age.

**Purpose of the Study**

The purpose of this research is to describe how special education teachers select, use, and monitor reading strategies for fourth and/or fifth grade students with LD in reading. This multiple case study research will focus on classrooms in southwest Michigan where special
education teachers teach students with LD in reading. Data will be collected via teachers’
interviews, classroom observations, and document review. The study results will explain the
reading strategies the participants perceive as most effective when working with students with
LD in reading; how the teacher participants determine the effectiveness of the strategies; and the
extent to which the student outcomes match the special education teachers’ perceptions of the
students’ reading development.

**Research Questions**

The four overarching research questions guiding this study are:

1. What reading strategies do special education teachers perceive as most effective when
   working with students who have LD in reading? Does this vary by Tier II or III?
2. How do teachers determine the effectiveness of the strategies? Does this vary by Tier
   II or III?
3. Do student outcomes match the teachers’ perception of the students’ reading
   development?
4. From the teacher’s perspective, has the implementation of RTI framework improved
   and/or supported their knowledge and use of EBPs in teaching students with LD in
   reading?

**Study Significance**

The study can help special education and general education teachers understand what
reading strategies are most effective when working with students who have LD in reading, what
strategies they use, how they determine the effectiveness of strategies, and how student outcomes
on documents related to the lessons match the teachers’ perceptions of the students’ reading
development.
CHAPTER II

LITERATURE REVIEW

Reading: An Essential Academic Skill

To succeed at school, students, especially during the early elementary (K-3) level, must build a strong foundation of reading ability that will continue to develop as educational demands increase over the years. Educational research has focused on the importance of early reading development for more than fifty years (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1966), and scholars have agreed that students’ reading ability in the early elementary grades must undergo major development or students will begin to fall behind in many aspects of their education (Fiester, 2010; Fuchs et al., 2014; Houck & Ross 2012; Musen, 2010). Chall et al., (1990) engaged in reading research that considered why children living in poverty are more likely to fall behind in school than are more affluent students. They also introduced phrases such as “reading to learn” and “learning to read” (p. 11). Specifically, the researchers noted that comparisons of National Assessment for Educational Progress (NAEP) scores for different students indicated that students who lived in poverty often scored similarly to other students in grades one and two. However, by grade three differences in scores started to be evident, and by grade four students who lived in poverty had begun falling behind their peers. The researchers suggested that more affluent students begin school with more exposure to books and a richer vocabulary than do students who live at or below the poverty level. As many of the students who live in poverty advance through school, they are never able to catch up to the reading levels of their more affluent peers.

The researchers also connected the score differences to Chall’s (1983) six stages of reading development, which indicate a major change in reading curricula and expectations
beginning in the fourth grade. Chall’s reading development stages are culturally bound. The stages range from stage 0 to stage 5, with stages 3 through 5 moving away from the home culture that children are familiar with to the school culture that requires children to use reading to learn. At stage 0, which ranges from birth to approximately age 6, children are gaining pre-reading insights, such as naming letters or playing at reading. Stage 1 is characterized by an increase in reading ability as children, usually in first grade, learn the principles needed to decode words while reading very simple texts. Stage 2, usually when children are in grades two to three, is also characterized by additional development. In this stage, students gain fluency as they are able to use their prior reading skills to understand simple texts that use words, situations, and thought procedures familiar to the students. Stage 3, which usually begins in grade four, requires students to use their reading abilities to deal with and actually learn from previously unknown texts and thought processes. Stage 4 and 5, usually ranging from grade five through high school and college, require more and more reading sophistication from students. In words of Chall et al., students at stages 1 and 2 are “learning to read” and those in stages 3 through 5 are “reading to learn” (p. 11).

While these researchers used their findings to discuss inequalities in education, other researchers focused on the changes in reading curricula and demands that Chall et al. (1990) detailed. For example, Fuchs et al. (2014), among others, suggest that by the time students are in the fourth grade, they are using reading to learn and are assumed to have fundamental reading skills. Recent scholars have suggested that the distinction between grades one to three and reading from grade four on has had an unintentional negative consequence. In some cases, teachers of students at and above grade four have been led to believe that students should have learned to read by grade four; consequently, some teachers at and above grade four do not feel
obligated to teach reading strategies even when students struggle with reading (Houck & Ross, 2012).

**Students with Learning Disabilities (LD): Struggling with Reading**

Despite recent critiques about the consequences of their work, Chall’s et al. (1990) research has indicated the importance of helping students learn to read in early grades and the challenges students will face if they do not acquire grade-level reading abilities. For students with LD, the educational challenges they can face because of struggles with reading can be enormous. Mastropieri, Scruggs, and Graetz (2003) suggest that students with LD struggle with reading more than any other academic area. Additionally, scholars indicate such students struggle in all areas of reading, ranging from what some consider finite reading skills, such as phonemic awareness, to comprehension skills, that include making inferences and drawing conclusions (Houck & Ross, 2012; Sencibaugh, 2007; Stahl, 2011).

Clearly, students with LD in the area of reading will struggle to learn in many classes if they are not taught to master reading skills. However, despite understanding how students with LD learn to read or read to learn, few qualitative studies have explored the following: 1) special education teachers’ perception of the most effective strategies that support students who have LD in reading; 2) how those teachers determine students’ success with the strategies; and 3) how students’ outcomes relate to the teachers’ perceptions of the students’ reading development.

**How students with LD struggle**

Learning challenges and problems for students with LD often begin because the learning modality and particular needs of the student are not considered. For example, a teacher may not have a broad enough set of instructional strategies that fit a student’s strongest learning modality (Nagro, Hooks, Fraser, & Cornelius, 2016). Similarly, if a student is performing significantly
below grade level, a teacher may not have learning resources that are both age-appropriate and at the student’s learning level (Brown, Ernst, Clark, DeLuca, & Kelly, 2018). Because continually developing one’s reading ability is essential for students to learn as they advance in school, students with LD who do not receive reading instruction appropriate for their learning modality and needs will fall further behind. Vaughn et al. (2002) suggest that “90% of students with learning disabilities” have difficulties learning to read. Furthermore, students with LD will most likely have difficulties in all areas of reading (Stahl, 2011; Houck & Ross, 2012; Sencibaugh, 2007). In addition, Schiller et al. (2008) noted in the 2008 Special Education Elementary Longitudinal Study (SEELS) that 66% of elementary level students with LD scored lower than the 20th percentile on the Woodcock-Johnson Passage Comprehension Test. In fact, by the time students with LD reach high school, they are generally 3.4 years below grade level in reading (Wagner et al., 2003).

Education professionals, education researchers, and legislators have long considered ways that educators, parents, and students can overcome such barriers so that all students, including students with LD, have the opportunity to learn to read and succeed in school. There is no doubt that students with LD related to reading face incredible barriers throughout their schooling if they are not explicitly taught to read.

The Impact of IDEA (2004) and NCLB

Since the middle of the last century, federal legislation has attempted to ensure that all students have the opportunity to learn, at no charge, in a public-school environment in the least restrictive environment (LRE). As Osgood (2005) indicates, a free appropriate public education (FAPE) has been a core concern for students with special needs since the Education for All Handicapped Children Act (1974). In this century, two important pieces of legislation, the No
Child Left Behind (NCLB) Act in 2001 and the Individuals with Disabilities Education Act of 2004 (IDEA 2004), have continued the FAPE and LRE principles of educating children. NCLB and IDEA 2004 have also attempted to standardize some educational and assessment practices and some curriculum content. In addition, the two laws have attempted to help teachers, staff, and administrators take advantage of research, understand how to work with all students, and effectively use strategies that can support all students as they learn and succeed in school.

Specifically, NCLB focuses on supporting students in general by increasing opportunities for parental involvement and choice, standardizing curriculum that would allow common assessment of student progress and school accountability, encouraging local educational choices and flexibility, and increasing the use of EBPs and assessment (Vannest, Mahadevan, Mason, & Temple-Harvey, 2009). IDEA 2004 focuses on correcting issues that were seen as being problematic in special education. Those issues included ensuring minority students are not disproportionately placed into special education programs (Ferri & Connor, 2005; Tefera & Voulgarides, 2016) and that students are not misplaced into special education programs (Wright, 2004). As a way to encourage that students not be misdirected to special education services, IDEA 2004 also encouraged the use of early intervention strategies for students who were struggling; furthermore, the law allowed districts to use funds previously used for some special education programs to pay for effective, evidence-based K-12 intervention (Burdette, 2007). The law also made a highly influential change to the way that students could be evaluated and determined to be eligible for special education services (Preston, Wood, & Steeker, 2016). Prior to IDEA 2004, students could be determined to have an LD and to be eligible for special education programs if their achievement scores on such assessments as the Woodcock-Johnson Achievement Test were, at minimum, two standard deviations from their scores on IQ
assessments such as the *Wechsler Intelligence Scale for Children (WISC)* (IRIS Center, 2019). However, as Fuchs and Fuchs (2006) indicate, IDEA 2004 offered the use of RTI as a “new, alternative method” or “substitute” to the “IQ-achievement discrepancy” model (p. 93).

In summary, as Solis et al. (2012) indicate, these two pieces of legislation have increased the value and importance of reading research and evidence-based reading instruction and assessment practices related to students with LD. In large part, these two pieces of legislation have been responsible for many efforts to help teachers rely on evidence-based practices and to help train new teachers to find, use, and assess the outcomes of such practices.

**Evidence Based Practice**

Cook, Tankersley, Cook, and Landrum (2008) note that both IDEA 2004 and NCLB promote EBPs, which the authors define as “instructional techniques shown by research as most likely to improve student outcomes meaningfully” (p. 69). They also explain that such practices are “traditionally supported by the findings of multiple, high-quality, experimental research studies” (p. 69). Furthermore, the authors note while neither NCLB nor IDEA 2004 actually include the specific term ‘evidence-based practice,’ the two pieces of legislation encourage EBPs by using synonyms, such as “scientifically based research [and] . . . instructional practices” and “proven educational methods” (p. 70). Cook et al. also explain various terminology has been used to indicate that instructional techniques are valuable for students. They also state that much of the terminology is based on personal experience and opinion of professionals rather than on scientific research, and an overabundance of such opinion-based information promoting numerous ‘best practices’ has caused teacher confusion about the value of different teaching practices. Finally, the authors note that Odom et al., (2005) were the first researchers to use the now preferred term ‘evidence-based practice.’
To help special education professionals know when they were using EBPs, the Council for Exceptional Children (CEC) Board of Directors asked a group of seven professionals in the field to develop a set of standards. In response, Cook et al., (2015) issued a report clearly defining the “standards for determining evidence-based practices in special education” (p. 212). In developing the standards for special education professionals, Cook et al. (2015) acknowledge their reliance on the responses of 23 anonymous special education researchers as well as previous scholarship that moved toward establishing such standards, including the efforts by Gersten et al. (2005) related to “quality indicators for experimental and quasi-experimental studies for special education” (p. 149); Horner et al., (2005) focused on the use of “single-subject research . . . in the development of evidence-based practice in special education” (p. 165). Ultimately, the CEC’s Standards for Evidence-Based Practices in Special Education focus on group comparison studies from which it is possible to deduce causation and on single-subject experiments that repeat measurements of dependent variable to “systematically address common threats to validity” (Cook et al., 2014, p. 206). Additionally, there are eight well-defined quality indicators that any study in special education must meet to be considered evidence-based. On the next page, Table 1: CEC Quality Indicators for Evidence-Based Practices in Special Education, replicates the quality indicator categories and brief overall explanations for each indicator.
Table 1

**CEC Quality Indicators for Evidence-Based Practices in Special Education**

<table>
<thead>
<tr>
<th>indicator</th>
<th>description</th>
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<tr>
<td>1.0.</td>
<td>Context and setting. The study provides sufficient information regarding the critical features of the context or setting.</td>
</tr>
<tr>
<td>2.0.</td>
<td>Participants. The study provides sufficient information to identify the population of participants to which results may be generalized and to determine or confirm whether the participants demonstrated the disability or difficulty of focus.</td>
</tr>
<tr>
<td>3.0.</td>
<td>Intervention agent. The study provides sufficient information regarding the critical features of the intervention agent.</td>
</tr>
<tr>
<td>4.0.</td>
<td>Description of practice. The study provides sufficient information regarding the critical features of the practice (intervention), such that the practice is clearly understood and can be reasonably replicated.</td>
</tr>
<tr>
<td>5.0.</td>
<td>Implementation fidelity. The practice is implemented with fidelity.</td>
</tr>
<tr>
<td>6.0.</td>
<td>Internal validity. The independent variable is under the control of the experimenter. The study describes the services provided in control and comparison conditions and phases. The research design provides sufficient evidence that the independent variable causes change in the dependent variable or variables. Participants stayed with the study, so attrition is not a significant threat to internal validity.</td>
</tr>
<tr>
<td>7.0.</td>
<td>Outcome measures/dependent variables. Outcome measures are applied appropriately to gauge the effect of the practice on study outcomes. Outcome measures demonstrate adequate psychometrics.</td>
</tr>
<tr>
<td>8.0.</td>
<td>Data Analysis. Data analysis is conducted appropriately. The study reports information on effect size.</td>
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**Every student succeeds act and what works clearinghouse**

It is possible to view the Every Student Succeeds Act (ESSA) of 2015 as a continuation of civil right legislation from the mid-1960s that influenced U.S. public thinking to connect education and evolving civil rights. U.S. Department of Education (n.d.) indicates that the legislation of ESSA was passed at least in part because many legislators and educators had begun
to view the 2002 NCLB legislation as too constraining. When ESSA replaced NCLB, the newer legislation focused on such efforts as fortifying the educational rights of “America’s disadvantaged and high-need students,” which include students with LD. In addition, ESSA continued to link K-12 student and school success to such factors as information transparency for parents and community members and accountability determined by standardized curricula and assessments, although each state could make individual curricular and assessment decisions within ESSA guidelines. Furthermore, the ESSA used the term “evidence-base intervention” in efforts to promote the development of and easy access to research and practices that meet strict research criteria. The ESSA standards indicate that interventions, or practices, can be classified as either “strong,” “moderate,” or “promising” as an evidence-based intervention. For a practice to earn a “strong” evidence-based rating, at least one “randomized . . . study . . . [that indicates] positive student outcomes” must be recognized, and no studies about the practice should indicate important negative outcomes (Cheung & Slavin, 2016). A practice can achieve a “moderate” EBP label if research about it includes a minimum of “one quasi-experimental . . . study [that indicates] positive student outcomes,” and no studies about the practice document important negative outcomes (Cheung & Slavin). Finally, the “Promising” category can be assigned to a practice if a minimum of ‘one correlational . . . study with controls for inputs [indicates] positive study outcomes” and no research reports negative concerns about the practice (Cheung & Slavin). A practice can also be placed into what amounts to a holding category. Practices placed in this category show promise, but the research on the practice does not meet the above criteria and no classification has been determined.

The What Works Clearinghouse (WWC) was established by the Institute of Education Science (IES) in 2002 after the passage of NCLB. The WWC locates, analyzes, classifies,
promotes, and shares on its website research about educational topics in multiple areas, including special education (Straight talk on evidence, 2019). The Clearinghouse is a repository of educational research that has been vetted by experts at the IES who follow a standardized set of procedures first noted in NCLB and reinforced in ESSA. Among other duties, the IES staff conducts an ongoing, extensive, sophisticated, and “comprehensive” literature search that includes database, web, and print reviews as well as reviews of studies submitted by educators and others (Cheung & Slavin, 2016). IES staff follow a standardized procedure that includes specific criteria for determining the “Strong,” “Moderate,” and “Promising” practice classifications that are also used as ESSA standards (Cheung & Slavin). The criteria, for example, includes a cut-off date for research. Nothing conducted prior to 1990 is reviewed if the research does not include technology, and nothing conducted prior to 2000 is reviewed if the research considered technology assisted approaches. The research that can be used to determine whether a practice is evidence-based or not and at what tier (strong, moderate, promising) must also have been conducted for 12 weeks or more, must have a minimum number of teachers (two) and students (thirty), must be replicable, and must follow effect size and pooling effect size standards. IES staff efforts has created a valuable resource in the WWC, as they enact the mandate of encouraging EBPs that is a part of both NCLB and ESSA.

In summary, in special education practices, the term ‘evidence-based practice’ refers to strategies that have met a very stringent set of criteria. It is also assumed that the individual teachers who are using such strategies to help students with LD are very aware of the rigor the term implies and are trained in education research and instructional design.
Response to Intervention (RTI) and Monitoring

Preston, Wood, and Stecker (2016) describe one EBP framework that was encouraged by IDEA 2004 is Response to intervention (RTI), an educational practice that combines instruction and assessment. Although IDEA 2004 increased the importance of RTI, the authors suggest versions of or precursors to today’s RTI models can be dated back to the late 1970s. More than thirty-five years ago researchers were noticing the ability-achievement discrepancy, and there was a growing concern as the number of students identified as having LD grew from 3% to 6%. Preston et al. indicate that when considering the steep increase in special education identification the researchers Heller, Holtzman, and Messick (1982) offered what is a version of RTI. Writing in the 1980s, the authors suggested the increase in special education diagnoses could be reduced if general education teachers used multiple interventions with struggling students and documented the students’ progress in response to the interventions. Heller et al., explained, “The measure of the child’s potential is not his or her initial performance but the degree of progress made in response to instruction” (p. 61). From at least 1982, researchers and teachers have moved toward supporting students with reading and math difficulties by promoting RTI as an assessment and teaching framework supporting all students. In more recent years, scholars have considered that in RTI models teachers use progress monitoring to assess students’ learning (Fuchs & Fuchs, 2006). Other researchers (Preston et al., 2016; Whitten et al. 2019) RTI has also come to include common elements. First students are taught in general education classes (Tier 1) where teachers employ EBPs and screen and progress monitor the students’ academic skills. Then students who have struggled with the instruction and learning are identified and receive more intensive evidence-based instruction (Tier II) while the teachers monitor the students’ progress. If students are still struggling at Tier II then they receive individual or small group
instruction in addition to Tier I and II which is referred to as Tier III and typically delivered by a specialist. Based on the real assessment of the students’ progress, educators are able to make data-informed decisions about the students’ needs, including that some students may be referred for special education evaluation.

Given the long history of RTI, it is not surprising that scholars who support it have different ideas about its implementation. Fuchs, Fuchs, and Stecker (2010) divide the different approaches into two groups, which they call the “IDEA Group” and the “NCLB Group (p. 302). The authors suggest that the “IDEA group” is motivated by the IDEA 2004 suggestion that a child’s response to EBP be used to determine the child’s potential special education referral (Fuchs et al., p. 302). This group adheres to an RTI version encouraged by the National Research Center on Learning Disability, which begins with assessment of each class member to determine any student academically at-risk. The “NCLB group” is motivated by the NCLB suggestion that students will not be deemed to be in need of special education services if they receive the correct method of education for them, and the authors place the Council of Administrators of Special Education (CASE) and National Association of State Directors of Special Education in this category (Fuchs et al., p. 304). The authors also suggest that the NCLB group promotes rigorous standards and “accountability for all” (Fuchs et al., p. 302).

Preston et al., (2016) avoided the potential political issues associated with grouping professionals in opposing IDEA 2004 and NCLB camps; instead, they divide RTI groups into the “problem-solving model” and the “standard treatment protocol” (p. 177). For these authors, the problem-solving model includes some of the scholars and organizations that Fuchs et al., (2010) grouped as NCLB RTI advocates. Basically, the problem-solving model includes different instructional tiers and progress monitoring, and it attempts to find educational strategies will help
a student learn should the student not progress at Tier 1. For Preston et al., the standard treatment protocol advocates of RTI also try to provide early assistance for students and to identify those who have LD. However, the instructional strategies are similar for all students. Also, the standard treatment group distinguishes between general education students and students with LD. In addition, practitioners in the group do not assume that a student’s struggles with learning can be resolved by a search for the correct approach for the individual student.

Despite the model that is followed, RTI enables early interventions for students struggling with reading and can help some students overcome reading issues without being referred for special education evaluation. RTI offers support by combining brief targeted assessments of students’ reading skills with small group or individual lessons based on the results of the brief curricula assessments (Gersten et al., 2008; Whitten, Esteves, & Woodrow, 2019).

As Whitten et al. (2019) explain, RTI, in general, includes three tiers or levels of instruction. For these authors and others, Tier 1 instruction is offered to all students, and is described by Vellutino, Scanlon, Small, Fanuele, and Sweeney (2007) as “. . . balanced, explicit, and systematic reading instruction that fosters both code-based and text-based strategies for word identification and comprehension” (p. 186). Tier 2 instructions, or interventions, are taught to students whose assessment of Tier 1 curricula indicates the students are not grasping needed concepts or are unable to perform the reading skills being taught. Often students placed at Tier 2 levels are taught reading skills in supplementary instruction, small groups, and their progress is carefully monitored (Gersten et al., 2008). If students struggle within Tier 2, they are provided Tier 3 more intensive instruction that can include a variety of individualized or small group instruction from a specialist. If close assessment and monitoring of students’ progress reveal that
students continue to struggle at Tier 3, the students may be referred for evaluation that may lead to their receiving special education assistance.

The vast scholarship about RTI indicates the framework can be empowering for teachers and students alike. The Division for Learning Disabilities (2002) emphasized that in terms of ensuring students with LD are successful at school, teachers have to provide “intensive, iterative (recursive), explicit instruction” (p. 2). Finally, more than ten years ago, Burdette (2007) made the case that RTI and early intervening services (EIS) were “the future of education” (p. 3). These two efforts demand cooperating teams of general and of special education professionals who, together, can reduce incorrect referrals to LD and special education services and can help educators meet the needs of all students.

**Reading Stages: Fluency, Vocabulary, and Comprehension**

Reading researchers and practitioners discuss the act of reading and students’ reading development in terms of stages. Montgomery and Hayes (2005) note that some scholars list four stages of reading development, some list five stages, some list six stages, and some list as many as eight stages. The authors also suggest that most educators prefer the shorter stage models. In addition, all of the stage models agree that students need to be able to use the same set of skills to become proficient readers. For years, scholars have recognized that in addition to using all the skills together, successful readers combine the skills quickly as they reach a level of “automaticity” in reading (LaBerge and Samuels, 1974, p. 296).

In 1997, in response to a call from the U.S. Secretary of Education and Congress, the National Reading Panel (NRP) was organized to review reading research and report about the usefulness of reading instruction approaches. That NRP’s report listed six reading topics and sub-topics that needed more research. Three of the topics are skills areas, including
“Alphabetics,” “Fluency,” and “Comprehension” (National Institute of Child Health Human Development (NICHD), 2000, p. 2). Strickland, Boon, and Spencer (2013) note that those three topics and sub-topics represent five skills beginning readers must gain to be successful at reading. Those skills are “(a) phonemic awareness, (b) phonics, (c) reading fluency, (d) vocabulary and (e) reading comprehension” (p. 2). Because the current study is concentrated on the upper elementary level, I will discuss three of the skills students at that level need to be taught and need to develop, which are fluency, vocabulary, and reading comprehension.

**Definition and Importance of Fluency**

Fluency is the cognitive ability to read quickly with an understanding of the text (Therrien, 2004; Samuels, 1979). The NRP noted that fluency is critical to the development of reading skills and that readers who are fluent “can read text with speed, accuracy, and proper expression” (NICHD, 2000, p. 3).-1.

**Difficulties with Fluency**

More than 35 years ago, Allington (1983) argued that fluency was a “neglected” reading skill (p. 556). In the late 1960s and early 1970s, reading researchers and professionals began to focus attention on the role that fluency and instruction in fluency play in the development of reading comprehension; they also began to consider how students who lack fluency skills struggle (Clay, 1969; Clay & Imiach, 1971; LaBerge & Samuels, 1974; Samuels, 1979; and Therrien, 2004). Reading researchers and professionals have long recognized a connection between readers’ recognition of words and the ability to understand written text; however, the scholarship and practice tended to focus on word recognition development rather than on fluency itself. LaBerge and Samuels connected readers’ struggles with fluency to limited word recognition skills. They reasoned that readers who did not readily recognize words, or decode
words, used a great deal of their cognitive energy on the decoding stage of the reading process. Therefore, these readers did not focus on the meaning of words, which hindered their ability to move to the comprehension stage. Schreiber (1980) suggested that some readers may have word recognition skills but may not be able to infer the role of prosodic markers—such as tone, emphasis, rhythm, and other aspects of oral speech—in a written text. Logan (1997) asserted that while fluency required fast word decoding, fluent readers also gained comprehension from sentences of a text, paragraphs of a text, and a whole text itself. The author suggested that readers who failed to comprehend meaning at any of those levels likely struggled with fluency.

Samuels (1997) explains that fluency is important because students who are not able to reach that stage of reading skills will concentrate upon the recognition stage or decoding. The author also suggests that some students who are deficient in fluency will focus on how to say words correctly as they struggle to decode words they do not automatically recognize. **Fluency EBPs**

The NRP found that the most effective intervention for increasing fluency is oral repeated reading (ORR) (NICHD, 2000). ORR attempts to help students with LD spend less and less attention on decoding/word recognition as they maximize their reading comprehension (Al Otaiba, and Rivera, 2006). Wexler, Vaughn, Edmonds, and Reutebuch (2008) suggest that ORR is an EBP that can help students with LD increase their reading fluency. NICHD (2000), Rasinski (1990), and Dowhower (1987) report that as a supplemental strategy, ORR can enhance reading fluency, speed, and accuracy for students with or without LD. Samuels (1997) also suggests that ORRs can help students with LD develop automatic decoding. Meyer and Felton (1999) suggest three approaches to ORR. One ORR approach involves encouraging silent or unassisted reading, which means that students read a text by themselves.
several times without assistance of any sort. A second ORR approach pairs a struggling reader with a peer who has reading fluency. The third approach has a student listen to an adult read a text while the student simultaneously reads and listens to the same text; this strategy helps students gain awareness of prosodic markers as they learn about intonation of words and increase their automatic recognition of intonation, which is part of fluency and of comprehension. Lee and Yoon (2017) also found that the third approach to ORR is an effective intervention to help students with LD increase their automatic reading. Those authors asserted that ORR should be done at least four times or more a week to enhance students’ reading fluency. Chard, Vaughn, and Tyler (2002) have suggested that ORR should be done five times a week for ten minutes each day. Al Otaiba and Rivera (2006) suggest that practitioners should be aware of differences between repeated reading and ORR. These researchers note that ORR provides students immediate feedback; however, repeated reading does not provide feedback for students. Because of the immediate feedback involved with ORR, the authors suggest that it is a more effective reading enhancement approach than is repeated reading without feedback.

Class-Based Assessment of Fluency

For roughly 30 years, curriculum-based measurement (CBM) has been used as a reliable and valid assessment to gauge various student literacy skills, including fluency (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Shinn, 1989). CBM allows teachers to engage in realistic assessment of students’ skills because the teachers use texts that are part of the class curriculum or that help students with skills they need to succeed in their actual class. In CBM for fluency, teachers count the number of words per minute a student correctly reads aloud of a new text that the student has not previously read. In this way, the teacher can measure a student’s reading rate and accuracy and can follow the student’s improvement in or continued struggle with fluency (Hasbrouck, &
Teachers use CBM during their progress monitoring of student achievement. If a student whom a teacher is evaluating through progress monitoring indicates difficulty in reading fluency, CBM can help the teacher determine what the student needs to practice in more depth.

Hasbrouck and Tindal (2006) conducted a study of student reading fluency in grades 1 through 8 to determine norms for reading fluency. They suggested five reading scales, the 10th, 25th, 50th, 75th, and 90th percentiles. Using an in-class CBM, teachers can determine the reading scale of each student for a given text. A student who correctly reads 90% or more of a class text would score at the 90th scale for reading fluency. However, students who only read 10%, 25%, 50%, or 75% would score at those respective scales. The authors recommend that a reasonable goal for any student is to be able to read at beyond the 50th percentile. The authors also claimed that fluency is one reading skill and is not the ultimate goal of proficient reading. When combined with other reading skills, fluency increases the meaning making cognitive process. Therefore, if students can be helped to learn needed reading skills, they can become proficient readers.

For students with LD, the expectation for progress is connected to many factors related to their individual ability, motivation, and reading development. Deno, Fuchs, Marston, and Shin (2001) argued a reasonable individualized education plan (IEP) goal for beginning readers with LD is that the student will gain two words a week in fluency; older students with LD can be expected to increase in fluency by one word per week. Additionally, the authors emphasized that teachers should be flexible as they track the fluency development progress of students with LD.

In summary, fluency is a vital reading skill that helps students grasp meaning as they read. It is an important part of another reading skill—comprehension. Teachers should not set strict fluency goals when looking for fluency proficiency in readers with LD. However, teachers
should be able to help such students develop their fluency and should be aware of the need to prepare such students for the next reading skill, which is vocabulary.

**Definition and Importance of Vocabulary**

Vocabulary knowledge is a crucial part of students’ reading, academic, and life success (Beck & McKeown, 2007; Beimiller & Slonim, 2001; Chall, Jacobs, & Baldwin, 1990; NICHD, 2000; Pinnell, Lyons, Deford, Byrk, & Seltzer, 1994; Wessels, 2011). Mezynski (1983) defined vocabulary as “word meanings [that] can be ‘known’ to varying degrees” (p. 265) and emphasized that context plays a key role in vocabulary skills and development. Stahl (2005) offers a context-based definition of vocabulary by explaining that vocabulary is “knowledge . . . of a word . . . and how that word fits into the world.” (p. 95).

Kamil and Hiebert (2005) suggest that an individual possesses and uses at least four different types of vocabularies. For Kamil and Hiebert, “oral vocabulary” includes the words an individual can comprehend from speech (p. 2); “print vocabulary” includes the words an individual comprehends from print and during silent reading (pp. 2-3); “productive vocabulary” includes the words that an individual employs when talking or writing; and “receptive, or recognition vocabulary” includes all words an individual can comprehend, whether perfectly or not, as they listen or as they read (p. 4). The authors explain that each of these vocabularies plays a part in an individual’s reading development and reading ability. Therefore, for teachers to help readers develop, it is important teachers know which vocabulary students are using when they read.

Kamil and Hiebert (2005) explain that individuals bring their oral vocabularies to their reading. They suggest readers decode print to speech by using their sight and oral language skills, including “letter-to-sound correspondences,” as they “translate” printed text into their
oral language comprehension” (Kamil & Hiebert, p. 4). Until about the 3rd grade, students who do not struggle with reading, can usually read and comprehend printed words that are in their oral vocabulary. Therefore, the students’ reading and oral language comprehension are essentially the same. However, when students are able to decode words in their oral vocabulary easily (again, about at the 3rd grade), they are ready to begin to develop their vocabulary through encounters with printed text increasing their vocabulary by requiring them to develop more advanced strategies for reading and understanding printed words.

Kamil and Hiebert (2005) stress the importance of vocabulary in reading development when they explain “vocabulary serves as the bridge between the word-level processes of phonics and cognitive processes of comprehension” (p. 4). Furthermore, the authors explain vocabulary is not just a reading development skill. Instead, as Rupley and Nicholas (2005) also note, an individual’s vocabulary and vocabulary comprehension strategies continue to develop. Because the more an individual reads, the more his/her vocabulary increases. Joshi (2005) and Kame’enui and Baumann (2012) suggest readers’ growth in what Kamil and Hiebert call ‘print’ and ‘recognition’ vocabulary and comprehension also improves an individual’s speaking (or ‘production’) vocabulary and listening abilities.

Difficulties with Vocabulary

When discussing how students struggle with vocabulary, it is important to understand when a child may first begin to struggle with vocabulary learning. Similar to Kamil and Hiebert’s (2005) suggestion oral vocabulary influences a child’s print vocabulary and reading skills development, Pikulski and Templeton (2004) discuss a child’s “meaning/oral” vocabulary and its relationship to a child’s “literate” vocabulary (pp. 1-2). These authors first note that a child’s “meaning/oral” vocabulary is developed at home, or prior to kindergarten and the first
grade. The child listens and begins to understand the meaning of oral words and use more and more sophisticated language to communicate his meaning. When a child starts school, he moves from understanding oral words to recognizing those words in print, which is the basis of his ‘literate’ vocabulary. Since this transformation is a beginning stage of learning to read, it is also a time when students can begin to struggle. For example, if a child’s oral vocabulary is not as rich as his peers’ oral vocabulary, the child will start his reading development process at a disadvantage. Hart and Risley (1995) noted a socioeconomic statistical connection to a child’s reading development struggles. They found that children at a low socioeconomic status (SES) were exposed to approximately 10,000 words yearly while children at higher SESs were exposed to 30,000 words yearly, approximately three times the number of words children at low SESs experienced. Hart and Risley reasoned that many children at low SESs entered school at a disadvantage to their more well-off peers as the children at low SESs tended to have less developed oral/meaning vocabularies to bring to the early reading development stages. Stanovich (1986) referred to the gap in reading readiness that researchers found between many children at low SES and children at higher SES as the “Matthew effect” in reading. This reference is to a biblical notion that rich individuals will become richer while poor individuals will grow poorer. The Matthew effect in reading refers to the fact that children who start out as poor or struggling readers will continue to struggle as their peers’ reading development increases.

While low SES has been found to correlate with students who struggle in early reading development, the gap between students who are successful readers and those who are not can also be traced to the fact that most of the students who struggle with learning to read and with reading also may have some type of learning disability. For example, students may have learning disabilities or other disabilities that limit their ability to translate print vocabulary to oral
vocabulary or to comprehend and grow their print vocabulary. Jitendra, Edwards, Sacks, and Jacobson (2004) explain students with LD may have trouble generalizing vocabulary to new situations. Students are also likely to be at a disadvantage if their home culture does not include the language that is dominated in the school culture where they are learning to read. By the fourth grade, many students are living the Matthew effect in reading and are falling further and further behind their peers who do not have such deficits or who do not have different home languages. When children struggle with reading, their motivation to learn to read decreases, and they develop negative images of their ability to read.

**Vocabulary EBPs**

The NRP found that the best vocabulary EBPs engage students’ own experiences in learning (NICHD, 2000). Nagy and Townsend (2012) specifically state vocabulary instruction should help students move new words they have captured at school in their short-term memories into their long-term memories. This growth can be more readily accomplished by ensuring students make connections between their school-based vocabulary learning and their own experiences in life. Lane (2014) added vocabulary EBPs should focus on breadth, resulting in students “knowing many words,” and depth, resulting in students “knowing some words very well” (p. 16). Furthermore, Jitendra, Edwards, Sacks, and Jacobson (2004) noted something that may seem obvious: students who struggle with vocabulary development should be taught vocabulary learning strategies.

Perhaps one of the best known EBP vocabulary learning strategies encourages readers to learn to recognize specific words and their meanings. Early reading instruction often encourages students to learn to recognize and comprehend the printed form of a specific list of words (Kamil & Hiebert, 2005). To support this strategy, Fry, Fountoukidism, and Polk (1985) engaged in
extensive development of vocabulary list categories capturing the most common words in English printed text for beginning and young readers. These authors also devised extensive vocabulary and symbol lists that older readers being asked to learn history, science, mathematics, literature, and other academic subjects through reading should have in their print, recognition, and production vocabularies.

The NRP Report divided vocabulary instruction EBPs into five categories. The categories and a brief explanation of each are offered next, and a table listing a typical example of each instruction is also included. The five categories of vocabulary instruction EBPs include the following: 1) **Explicit instruction**—In such an approach, teachers directly teach students what they need to know about new words or vocabulary comprehension. 2) **Implicit instruction**—To adhere to this approach, teachers do not provide vocabulary information to the students but instead offer multiple opportunities for the students to experience and develop an understanding of the word during reading. 3) **Multimedia methods**—In this approach, teachers bring in various media to encourage students to interact with the vocabulary from a given text.

4) **Capacity methods**—While the other vocabulary methods in the NPR division are named for the approach that teachers take with students, the capacity method category focuses on the goal of the instruction. In this case, the goal of the method is to bolster the capacity of students’ vocabulary comprehension as teachers help students read more automatically with fewer disruptive hesitations. 5)—**Association methods**—As the name of this category implies, teachers using this approach to help students learn new words by creating associations between the what the students already know and words new to them. Table 2 on the next page lists examples of each of the method categories name by the NRP for vocabulary instruction.
### Examples of Five Vocabulary Instruction EBPs

<table>
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<tr>
<th>Strategies</th>
<th>Examples</th>
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<tbody>
<tr>
<td><strong>Explicit</strong></td>
<td>Teachers pre-teach new words using an “I Do,” “We Do,” “You Do” approach. For example, a teacher helping students learn roots and prefixes for a science lesson using the words <em>neophyte</em>, <em>epiphyte</em>, and <em>hydrophyte</em> explains that the root <em>phyte</em> means ‘grow,’ the prefix <em>neo</em> means ‘new,’ the prefix <em>epi</em> means ‘on or about,’ and the prefix <em>hydro</em> means ‘water.’ The teacher shows how to add the word parts together and figure out the meaning in context. For example, <em>neo</em> (new) + <em>phyte</em> (grow) = new grow, or thing newly growing (I Do). Together the students and teacher determine that <em>epi</em> (on or about) + <em>phyte</em> (grow) = on grow or about grow, or something growing on or about something else, which in the context of the science lesson likely means that an <em>epiphyte</em> is a plant that grows on another plant (We Do). Finally, the students use the strategies to determine, on their own, that the word <em>hydrophyte</em> can be written as <em>hydro</em> (water) + <em>phyte</em> (grow) = water grow, or, giving the context of the lesson, hydrophyte is a plant that grows on or in water.</td>
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<tr>
<td><strong>Implicit</strong></td>
<td>Teachers have students read a text that includes new vocabulary, determine potential meanings of the new words on their own, and then read the new words multiple times in other readings to eventually grasp the new word meanings in contexts.</td>
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<td><strong>Multi-media</strong></td>
<td>Graphic organizers, such as Vocabulary Four Square, help students use productive strategies to link new words with their knowledge. In this graphic organizer, students define a word, find a synonym for the words, draw a picture that illustrates the word, and use the word in a sentence as they engage with the word in four ways.</td>
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<td><strong>Capacity</strong></td>
<td>Because students work on one aspect of vocabulary at a time, they read, for example, a text only for the purpose of determining how to say the new words, <em>convince</em>, <em>concluding</em>, and <em>contrast</em> rather than trying to concentrate on the meaning of the new words. Or students may read for meaning practice rather than trying to say the word correctly. In this way, students increase their automatic reading capacity with the three words.</td>
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<tr>
<td><strong>Association</strong></td>
<td>Students link new words to words they already know by focusing on a similarity. For example, when working on the term “association,” they may be asked to think of all words that are similar to that word, such as ‘link,’ ‘connection,’ ‘group’. Or students will list different forms of ‘association,’ words that end in ‘tion,’ words that rhyme with “association,” etc.</td>
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Source: Categories are taken from the NRP Report (NICHD, 2000).
Marzano (2004) devised another vocabulary EBP, which has the following six steps: 1) explain meaning of new word, 2) paraphrase explanation of new word in students’ own vocabulary, 3) describe new word through a picture or drawing, 4) engage students with new word by comparing it to something or by using a metaphor, 5) review the words from time to time, and 6) play a game that uses the new word so that students have multiple opportunities to relate to its meaning. Marzano’s six steps fall into the different NRP vocabulary instruction categories listed in the NRP report. For example, when a teacher engages in the first step (explain meaning) and fifth step (review words periodically) of Marzano’s approach, they are using what the NRP report would identify as an explicit method of instruction. The second step (paraphrase in students’ existing vocabulary) and fourth step (use comparison or metaphor) are examples of the association method. Finally, the third step (picture or drawing) and sixth step (play a game) are examples of the multi-media approach.

Teachers can draw on an abundance of EBPs to help students, including those with learning disabilities, improve their vocabulary as part of their reading ability. As they are teaching students, the teachers also need to have specific methods of class-based assessment to be able to understand their students’ needs and growth in this area.

**Class-Based Assessment of Vocabulary**

Literature about class-based assessment of vocabulary can be discussed in terms of five major trends: 1) assessment critique, 2) multi-dimensional/criteria-based assessments, 3) learning objective-based assessment, 4) assessment based on teaching strategies, and 5) standardized assessment use. In this section, these five trends are discussed as they relate to class-based assessment of vocabulary.
Assessment critique

Critique of vocabulary assessment tends to focus on the fact that it is difficult to assess what students know about vocabulary because vocabulary includes so many cognitive aspects. Beck, McKeown, and Kucan (2013) capture the difficulty of assessing vocabulary knowledge when they ask, “what does it mean to know a word?” (p. 103). Pearson, Hiebert, and Kamil (2012) characterize the assessment of vocabulary as being “grossly underdeveloped” in both the “theoretical and practical aspects” (p. 231). The authors suggest that theoretically no lucid explanation of the nature of vocabulary assessment or of how vocabulary relates to other reading aspects, especially to comprehension, exists. In addition, Pearson et al. summarize on a practical level vocabulary assessment is “driven by tradition, convenience, psychometric standards, and a quest for economy” (p. 231). They also note scholars have critiqued simple vocabulary matching and true/false quizzes at least since the 1980s.

Multi-dimensional vocabulary assessment

Beck, McKeown, and Kucan’s (2013) question what it means to actually know a word; their question captures the difficulty of assessing the complicated, multi-dimensional phenomenon that is vocabulary knowledge. A number of scholars have responded to the difficulty of vocabulary assessment by suggesting that such assessment should focus on multiple dimensions of vocabulary knowledge. Farstrup and Samuels (2008), for example, developed an assessment rubric for vocabulary that includes six criteria—“word identification, word meaning, reading the word, writing the word, word-learning strategies, and word consciousness” (pp. 85-85). The rubric includes descriptors and numbers allowing teachers to rate student vocabulary development as “Advanced,” “Developing,” and “Striving” for each criterion and to devise a general score of the students’ vocabulary development level (Farstrup & Samuels, 2008),
Beck, McKeown, and Kucan also promote multi-dimensional vocabulary assessment, although they use the term “multipronged” (p. 105). For example, the authors suggest that a matching test may be used along with asking students to provide an example demonstrating how the word can be used. The authors also discuss a “context interpretation” assessment requiring students to use vocabulary knowledge to infer information from the context (p. 106). Such assessments list the word students are being tested on and then two sentences are provided about the same content that are very similar in structure. However, only one sentence demonstrates the correct meaning of the word and students who know the word well can determine which sentence demonstrates the word correctly by inferring from the context. Such assessment gauge multiple aspects of students’ vocabulary knowledge, although they require prior preparation by teachers.

**Learning objective-based assessment**

In addition to suggesting vocabulary assessment requiring students to demonstrate more than one aspect of word knowledge, Beck, McKeown, and Kucan’s (2013) suggest vocabulary assessments can also be simplified and tied to the specific objective of a lesson. For example, if the goal of a vocabulary lesson is to help students recognize five different words representing different kinds of plants discussed in a chapter of a science book, then a matching test having students draw a line to connect the correct naming word to the type of plant pictured is appropriate. The assessment may not focus on students’ ability to use the word in a sentence, but they will have likely demonstrated they know which of the plants are *hydrophytes* that can grow in water. Farstrup and Samuels (2008) briefly describe how a teacher used a multi-dimensional assessment approach to discover that four of her students were not meeting the learning objective of “word conscious[ness],” which can be defined as having an interest in learning new words (p.
To encourage the students to develop an interest in learning new words, the teacher had students develop Vocabulary Self-Collections, which engages students by having them collect interesting and new words from their reading for themselves and for the class to study. In the example that Farstrup and Samuels share, the students develop word consciousness after they spend time on the Vocabulary Self-Collections. However, such focused efforts would not have crossed the teacher’s mind except for the fact that she used an assessment for that specific objective.

**Assessment based on teaching strategies**

Beck, McKeown, and Kucan (2013), despite their critique of vocabulary assessment strategies, acknowledge the instructional strategies they have developed can also be used for assessment. In addition, some of the traditional vocabulary assessments, such as multiple choice or true/false tests can be tweaked to provide more reliable results (Beck et al.). True/false quizzes can be rewritten by offering a sentence that demonstrates the vocabulary word correctly and a sentence that does not demonstrate the word. Students can also draw pictures of vocabulary words, complete Mind Maps, complete graphic organizers, write stories using the vocabulary words and complete exit cards.

**Standardized assessment use**

The assessment strategies discussed above can be used for formative or summative assessment. Formative assessments, usually focused on increasing students’ learning, offer data teachers can use as choices while teaching (Heritage & Bailey, 2006; IRIS, 2019). For Whitten et al., (2019), summative assessment is used to evaluate student learning at the end of a lesson or period as a way to determine whether or not students have achieved the learning outcomes. They also allow teachers to understand what students have learned over time. While
unit tests; mid-term and final exams; and essays, presentations, and projects graded on outcome-based rubrics are used for summative purposes, so are standardized tests, like DIBELS and M-STEP (Michigan Student Test of Educational Progress). With standardized summative assessments, teachers can see if students are meeting state standards and can compare students’ scores to help determine what instruction students need.

**Definition and Importance of Reading Comprehension**

Scholars define reading comprehension (RC) as a cognitive process that requires the reader to make multiple connections in order to construct meaning from part of a text or from a whole text (Durkin, 1993; McNamara & Magliano, 2009; McMaster, et al. 2014; Woolley, 2011). Wright and Cervetti (2016) indicate the importance of reading comprehension when they call comprehension the “ultimate goal” of instruction based on reading. Other scholars explain how complicated reading comprehension is and support its importance by discussing comprehension as the outcome of other reading and cognitive skills working together (McMaster, et al., 2014; Van den Broek, Young, Tzeng, & Linderholm, 1999). Specifically, Stone (2018) notes that comprehension involves six reading competencies, including “phonological awareness, word-level reading, lexical-semantic vocabulary, syntactical-grammatical knowledge, working memory, and background knowledge” (p. 35). These six competencies are important to the author because they can also be categories of reading problem areas for students. Because students struggle in these areas, they are also areas of instruction. Stone’s six reading competencies agree, in general, with the at least two of the five factors of comprehension listed by Gersten, Fuchs, Williams, and Baker (2001). Like Stone, Gersten, et al. suggest that comprehension involve a reader’s vocabulary competency and ability to use background knowledge to construct meaning while reading. Also like Stone, the factors that
Gersten, et al. list are areas that can cause students to struggle and so are also areas of potential instruction. However, unlike Stone, Gersten et al., add to the definition of comprehension the importance and functions of a reader’s knowledge about genre structures, a reader’s fluency, and a reader’s “task persistence” (p. 286). For example, Gersten et al. indicate that students who are familiar with typical patterns of narrative structures, are better equipped to comprehend key aspects of a story than are students who lack knowledge about the structure of narratives. When discussing fluency, the authors reference the theory that students who can quickly recognize and comprehend words focus more cognitive capacity on comprehension. Students who struggle to pronounce words or understand their meaning will spend more time and cognitive functioning on vocabulary and/or phonetic concerns rather than on comprehension. Finally, Gersten et al. also discuss that comprehension skills involve a reader’s active engagement with a reading task and a readers’ persistence in comprehending a given text.

Graesser (2015) further complicates the meaning of comprehension as he explains that “shallow,” “deeper” and “critical” readers will experience different levels of comprehension based on their own “metacognitive standards of comprehension” (p. 44). For example, shallow readers will feel satisfied that they have comprehended a text if they can recognize the words in the text or believe that they can understand a text at the individual sentence level. Deeper readers, for Graesser, notice gaps in the coherency of a text and generate meaning as a way to close the gaps in meaning they have noticed. Critical readers, however, will notice information that is not accurate or inconsistent claims within a text and between texts. This study will not consider how fourth grade teachers can help students with LD become critical readers. However, Graesser’s suggestion—that comprehension is tied to an individual’s personal standards of comprehension—makes two points clear. First, comprehension is an extremely complicated
reading function and, second, personal motivation and frustration are factors in reading comprehension.

Perfetti and Stafura (2014) offer an interesting comment on reading comprehension research and teaching strategies when they say, “reading comprehension is too broad a target for precise models” (p. 23). While researchers and practitioners continue to develop models that explain how comprehension work, teachers are charged with helping all students, including those who struggle with that aspect of reading, achieve success in reading comprehension. Teachers are also the ones who witness in the natural environment of a school lesson how students, especially those with LD, struggle with reading comprehension.

**Difficulties with Reading Comprehension**

Reading scholars and practitioners have yet to explain exactly how individuals gain reading comprehension. Nevertheless, scholars and practitioners have documented ways that students, especially those with LD, may struggle to become proficient in reading comprehension. Gersten et al. (2001) explain that earlier scholars used to maintain that students with LD lacked one or many cognitive processing abilities. More recent scholarship consider that students with LD have all of the “cognitive tools” required for information processing; however, these individuals are not able to manage strategic processing abilities and are not aware of their own thought processes (p. 280). For example, Gersten et al. note that students with LD may not realize when they have failed to comprehend a text or a key part of a text. Therefore, such students likely do not reread passages or use comprehension strategies that effective readers use automatically. In addition, students with LD may not be able to determine what information is crucial in a text and what is less valuable. They may also lack knowledge of and experience with typical textual organization patterns (e.g., often an example will follow a definition or
comparisons show similarities while contrasting efforts focuses on differences). If students lack such textual organization pattern awareness, they will not be able to use text knowledge to help them generate comprehension.

Perfetti and Stafura (2014) illustrated that students with LD struggle with comprehension because they are unable to negotiate “pressure points” in the reading process (p. 26). For the authors, pressure points are factors that are essential in the reading comprehension process, and the two scholars focus on the pressure point of work knowledge. Specifically, Perfetti and Stafura suggest that, at minimum, five related work knowledge reading abilities are needed for readers to accomplish comprehension. These five abilities include: 1) the ability to automatically recognize a word form, 2) the ability to automatically connect the word form to memory knowledge, 3) the ability to connect the word-based understanding to memory of recently read text, 4) the ability to quickly discern context-based insights, and 5) the ability to quickly integrate these processes to update a developing comprehension. Perfetti and Stafura also suggest that a student with LD may struggle with any of the five abilities above, which will cause the student to struggle with reading comprehension.

Gersten et al. (2001) also stress that word knowledge, which they call “vocabulary knowledge” is crucial for comprehension and that students with LD often have less vocabulary knowledge that they can use in reading (p. 283) than do more successful readers. Consequently, students with LD will struggle with comprehension and may continue to do so as they move through school. This continued struggle is related to the fact that students with LD also tend to read less than do individuals with larger vocabularies. A cause and effect dynamic seems to function in this situation. Self-motivated readers continue to broaden their vocabularies as they read more, while readers who have limited word knowledge will rarely, if ever, willingly engage
in reading and so will not continue to grow their work knowledge from reading. Stone (2018) also suggests that students who can engage in successful comprehension of text will increase their vocabulary knowledge. However, students with LD in reading are not likely to be reading self-starters or to be able to develop their reading comprehension and vocabulary from reading. Wright and Cervetti (2016) also note the importance of a student’s vocabulary knowledge in comprehension and in reading enjoyment and reading for pleasure.

Students may also struggle with reading comprehension because a text is a mismatch for them. In such cases, the students do not have the needed background knowledge to be able to read the text (Gersten, et al., 2001; Stone, 2018). Also, students who do have background knowledge that will allow them to comprehend a text but who do not know how to connect their background knowledge with a text will also find comprehension is a struggle.

In summation, students with LDs can struggle with comprehension in multiple ways and for multiple reasons. If such students are not supported in their efforts to understand this multifaceted reading ability, they will find comprehension a major problem area in their reading. Furthermore, because comprehension requires the effective use of multiple reading abilities, including vocabulary knowledge and fluency, students may struggle with comprehension if they need help in any sub-area of comprehension (NICHD, 2000). It may seem intimidating to consider both the multiple ways that students may struggle with comprehension and the many ways that students could need support from their teachers. However, the use of comprehension EPBs and class-based assessments, including those that are similar to what has been discussed in the Fluency and Vocabulary sections of this chapter, can keep teachers optimistic about their ability to help all of their students develop their reading abilities.
**Reading Comprehension EBPs**

The NRP defined reading comprehension improvement strategies as “procedures that guide students as they attempt to read and write” (NICHD, 2000, p. 4-40). Many of those procedures focus on the discrete tasks that are involved in reading comprehension as a way to help students struggling with reading understand how to improve their comprehension abilities (Ehren, 2005; Englert, & Thomas, 1987; Montague, Maddux, & Dereshiwsky, 1990). The NRP also stressed that students should engage in active learning about their “own cognitive processes” so that the students can eventually internalize and master them (NICHD, 2000, p. 4-40). The goal of teaching students metacognitive awarenesses and habits to improve their reading comprehension is ambitious. Likely for that reason, the NRP offers eight categories of EBPs that have been proven to help students learn to improve their comprehension knowledge and skills. Those eight categories include the following: “comprehension monitoring,” “cooperative learning,” the use of “graphic and semantic organizers,” “story structure” instruction, “question generation,” “summarization,” and “multiple-strategy teaching” (p. 4-6). Table 3: Eight Comprehension EBP Categories, on the next three pages, lists the eight categories and offers examples of teaching strategies in each category.
### Eight comprehension instruction EBP categories

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Examples</th>
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<tr>
<td>Comprehension</td>
<td>Teachers use direct instruction to teach students how to think about texts. First, teachers explain how students can reread passages to ensure they are not missing key points. After defining and sharing the purpose of rereading to verify meaning, teacher share important features of rereading, including locating a point that is not clear for readers or that readers want to understand better, such as steps in a process. After sharing examples that demonstrate how to identify unclear points or points readers want to know more about, the teacher demonstrates how rereading can clarify such points. The teacher then models all of the above by reading a text that includes a process and asks students about the steps in the process. This modeling helps students understand how to identify comprehension gaps and how to reread to clarify such gaps. The teacher guides student rereading multiple times. Ultimately, the teacher helps students understand when rereading can be helpful and when and how to use it.</td>
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<tr>
<td>Monitoring</td>
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<tr>
<td>Cooperative</td>
<td>Teachers group students and assign each student a role that represents a comprehension strategy, such as Questioner, Clarifier, Illustrator, Wordsmith, Connector, and Summarizer. To ensure all students understand their roles, teachers explain the definition, purpose, and potential strategies for each role, having each student enact a different role in a group session as a way to model and reinforce the comprehension strategy concepts as well as the expected behaviors of each role. For example, the Questioner calls the teacher to the group when the group has a question and also asks other group member if they can answer any questions a group member has. Importantly, the Questioner is not the only person who can raise questions. The Clarifier is responsible for ensuring that all questions from all group members are clear. The Illustrator attempts to capture the group’s meaning in drawings that may include graphic and semantic organizers. The Illustrator need not be the best drawer in the group, and each student should take this and other roles at some point. The Wordsmith is responsible for vocabulary; that is, the person in this role tries to explain challenging words by using context clues. The Connector discusses connections between the text the group is reading and what the group members know from their lives (events, experiences, etc.) and between the group text and other texts (other texts the group has read, movies, etc.). The summarizer reports the groups’ thoughts to the teacher and/or class in a set number of words, often no more than 10 words. The use of cooperative reading role cards, illustrated by the teacher or students, helps the students keep all roles and strategies in mind as they work through a number of texts and texts types.</td>
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<td>Learning</td>
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<th>Strategies</th>
<th>Examples</th>
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<td>Use of Graphic &amp; Semantic Organizers</td>
<td>Teachers can help students practice comprehension and reading engagement by using a story map graphic organizer. The story map, a template with labeled blank squares, offers students an organized and systematic way to capture key information they need to make meaning from the story. Usually a one-page document, the story map may include blank squares for characters, which asks students to list who is in the story. Three or four other blanks may be labeled “Events” to help students capture the key events in the story. Two or three other blanks may be labeled “Problem 1,” “Problem 2,” and “Solution.” These boxes help students document problems characters face in a story and the solution/s to the problems, allowing students to understand the specific story at hand and to realize that many stories follow a problem—solution pattern, so they may look for that pattern with future readings. Story maps can help students apply many comprehension strategies, such as re-reading, comprehension monitoring, use of text structure clues, skimming for answers to questions, organizing ideas, etc.</td>
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<td>Story Structure Instruction</td>
<td>Teachers help students learn to summarize by focusing on the story structure through a “Somebody Wanted But So Then” (SWBST) activity. This graphic organizer activity frames a summary of a story, which helps students learn key elements of stories as well as review aspects of a specific story to create a summary. In the activity, students respond to questions such as the following: Who is/are the main character/s? (Somebody); What do/does the main character/s want? (Wanted); What is the main problem or conflict? (But); How does the main problem or conflict get solved? (So); What is the result of the outcome? (Then).</td>
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<tr>
<td>Generation</td>
<td>Teachers help students generate comprehension by teaching students how to engage with a text through questioning. Teachers find a compelling portion of a text and determine places to stop for review based on where students will likely need help better understanding the text. At a stopping point or two, teachers model ways to gain meaning from the text by questioning it. For example, they model asking and answering such questions as, “What is the author trying to say in paragraph 3?” “Why did the author have character X do action Y?” “What did the author used X phrase or word?” “Does part X make sense to you?” After modeling such questions, teacher have students read other passages of the text and generate comprehension by asking and answering the same questions. Teachers may also encourage students to create and answer their own open-ended questions as a way to further extend the activity.</td>
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<th>Strategies</th>
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<tr>
<td>Summarization</td>
<td>Teachers help students learn to use summarization as a comprehension strategy by demonstrating that they already summarize when relating events to others. Students watch a short cartoon and then decide in groups the five most important events or actions of the cartoon. The groups share the lists on a board, and the class discusses how many events were repeated in the lists, eventually deciding on the five key events. Teachers may also ask students to list the five key points of a family event, such as going shopping, getting a new animal, visiting a place, etc. Eventually teachers ask students to summarize a brief text.</td>
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<tr>
<td>Multiple Strategy Teaching</td>
<td>To help students increase their ability to simultaneously use multiple reading comprehension strategies with informational texts, teachers help students engage with more than one reading strategy at a time using the PLAN approach. Teachers begin the PLAN approach by asking students to skim an informational text looking at key parts of the text, such as bolded or italicized word; words that appear in a larger font than other text; headings, titles, and subheading; summaries; study questions; key people, events, or dates; etc. After skimming the text with such guidance, students draw maps predicting what will be the main ideas in the chapter. Next students locate the information on their map that they already knew and what information they need to locate more about in their book because they do not know or understand it. After placing a question mark or other notation by the aspects they need to know more about, students read the text and try to add information to their maps about the unknown parts. Students add the information with their books closed so that they will not simply write down information from the book. Instead, the students have to rely on remembering what they have read to add. In the next step of the lesson, students note how they might use the information in their maps. For example, they may have a quiz that asks particular questions, or they may want to create a poster that show what they have learned. At this stage, students may also realize they need to revise the map and should do so. The PLAN lesson requires students to use multiple comprehension strategies to complete the lesson activities, and many students learn to apply the multiple strategies to other reading situations.</td>
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Source: Categories are taken from the NRP Report (NICHD, 2000).
Class-Based Assessment of Reading Comprehension

Weaver (2019) explains that informal assessments focus on student performance and on class content, or curriculum, while formal assessments are focused on data that is standardized and can be used to compare student achievement. While both types of assessment provide helpful information about student learning, teachers, Ortlieb & Cheek (2012) note that teachers use informal assessment much more often than they use formal assessment. This assertion makes sense because teachers generate informal assessment based on their class curriculum to help them understand how their students are performing on a specific task, skill, or lesson; what their students need to learn; whether their students are learning; and how much of a specific topic or skill their students have learned. As noted in other sections in this study devoted to curriculum-based assessment of fluency and vocabulary, such assessment can be relatively unobtrusive, need not take much time, and plays a major role in helping teachers determine how to help students succeed. Teachers use a number of formal and informal reading comprehension assessment strategies; five of those informal strategies and three formal strategies will be discussed next.

Informal test

Retelling assessment

Often class-based assessment is perceived as being a multiple choice, matching, or true/false quiz; however, such quizzes may provide teachers little insight about a student’s reading comprehension, as students’ guesses at answers may be mistakenly understood as representing their abilities. Pacific Communities with High-performance In Literacy Development (2004) staff members suggest that retelling assessment has three elements: “performance, conversation, and observation” (p. 3). Teachers using this resource will have prepared students to perform the retelling task by teaching them story structure, important story
features (main character, problem, resolution), and vocabulary. Next twice a month or so teachers will ask each student to retell in their own words a story the student has read. The teacher will assess the student’s retelling performance through observation by considering the student’s vocabulary usage, inference ability, and knowledge of story structure to organize the retelling. The teacher will also observe whether the student’s information reflects the story. Finally, the teacher will talk with each student about their retelling, helping them consider ways to improve as needed.

**Observation**

While observation is one part of the re-telling assessment, teachers also use observation to take a snapshot of what the students are experiencing when they read. As the term implies, observation involves paying attention to or watching a student read. Considerations include whether the student exhibits engagement or frustration behaviors, whether the student stays on task, how long the student reads, what level the student seems to be most comfortable reading, and other observable behaviors. For example, Demitzaki, Andreou, and Paraskeva (2008) demonstrate how they used an observation form to document students’ problem-solving behaviors. By paying attention to students’ reading behaviors, teachers can add to their insights about their students’ ability to engage with reading.

**Running records**

Marie Clay devised the running record assessment that allows teachers to use a standardized notation to code each word a student reads or skips as well as the student’s accompanying behaviors, such as the student asking for help, mispronouncing a word, or self-correcting (Fried, 2013; Ross, 2004). This strategy involves the teacher and student sharing a text as the child reads aloud. As the student reads, the teacher observes and documents the reading
behavior, which the teacher can later analyze to make decisions. Often used for research, running records can help teachers assess their students’ reading abilities and needs, and the records can be shared with other educators so that team decisions can be based on evidence of the students’ actual reading.

**Cloze test**

While the running record assessment has students reading aloud, the cloze test as it was originally conceived required a teacher to read aloud a text and to stop every few sentences to allow a student or group to fill in a key content word that the teacher omitted. Harris and Smith (1986) explain the name of the test is associated with the acts of meaning closure that must occur for students to complete the gaps in words or, in some cases, images. The cloze text has been used as a vocabulary assessment, but teachers can also use the cloze test or the cloze test and other assessments to help them evaluate students’ comprehension ability and needs.

**Think-aloud**

Magliano and Millis (2003) explain that many standardized tests used by reading researchers, such as Woodcock-Johnson, do not capture students’ reading strategy abilities while they are reading. A think-aloud assessment, however, can attempt to do just that by having students explain orally what they are thinking as they are in the act of reading or are trying to deal with reading comprehension. Magliano and Millis describe such assessments as having the ability to “tap comprehension strategies as they happen” (p. 253). While think aloud assessments are very revealing, teachers must prepare students to engage with them. The Reading Rockets website translates this popular reading research method into a class-based assessment strategy. That website indicates that after teachers discuss the purpose of the Think-Aloud strategy, they should read to students and model their own thinking about sentences that have new vocabulary
words or other features that may confuse their students. Teachers should also develop or share questions that would encourage specific types of thinking. For example, the questions may include the following one that encourage students to think strategically: What do I already know about the topic? What do I think the reading will discuss about the topic? (prediction) Do I have a clear picture about what was in the sentence/sentences I just read? What did I just learn? Next, the students practice the think-aloud technique, and the teacher provides guidance to help them develop their use of the technique. In the next step, the teacher reads aloud a text while the students read silently. The teacher stops at potentially confusing points and asks the students to think aloud using the questions that the teacher had previously introduced. Finally, the teacher models effective self-monitoring strategies by rereading a passage, searching for and using context clues, skipping ahead to understand points, and so forth. Although think-aloud assessments can require a great deal of preparation and instruction, teachers can gain as-it-happens information about their students’ comprehension strategy use and abilities if they have the time to do so.

**Formal assessment**

For decades, formal assessments of students’ reading ability and reading comprehension ability have helped teachers make decisions from standardized data. Such assessments often occur in a classroom setting, many of these assessments are required for all students at various times in the students’ education, and many of the most respected ones are based on research and assessment conducted with millions of students in multiple countries.
Northwest Evaluation Association (NWEA) and Measures of Academic Progress (MAP)

The NWEA is a well-respected, non-profit, research-centered, education organization that has created Pre-K-12 standardized assessment for more than 40 years. Over the years, the organization has constantly updated its assessments and has incorporated new technology. As the NWEA Mission or whatever reports, NWEA assessments are used in all U.S. states and in at least 50 different countries. Specifically, the NWEA’s MAP tests are among the best known assessments in the U.S. and are known for their alignment with the Common Core standards that were promoted for years by the NCLB legislation before being reduced in prominence with the 2015 passage of ESSA. Although states have more curriculum and assessment options under ESSA, researchers and educators continue to respect and use MAP tests. These computerized, untimed tests measure students’ school progress in reading, language usage, science, and mathematics and can inform teachers about a student’s strengths and needs. In addition, students generally take MAP tests three times a year and about four months apart. MAP tests provide data about the average score of students in the same grade in a school district (called a “district average”); the average scores of students in the same grade who took the test during the same testing period (called a “norm group average”); a comparison of how well each student scored to the norm group (a “percentile range”) and a comparison of how each student’s scores rank with the norm group (a “percentile rank”). MAP reading and language usage scores allow educators and parents/guardians to track students’ literacy growth in terms of school district achievement and across school district achievement, while they offer important insights about students’ basic literacy needs.
Fountas and Pinnell Benchmark Assessment System (BAS)

Two reading researchers from The Ohio State University, Irene C. Fountas and Gay Su Pinnell, have won multiple awards for their contribution to reading and literacy studies during their careers. One of their most influential contribution is the Fountas & Pinnell Literacy organization, which the authors explain grew out of their 1990s’ efforts in the Reading Recovery movement (Fountas & Pinnell Literacy, 2018). Reading Recovery helps at risk students in the first grade through comprehensive, professional one-to-one tutoring (Fountas & Pinnell Literacy). Like Reading Recovery, Fountas & Pinnell Benchmark Assessment System (BAS) emphasizes and supports individual teacher expertise and well-researched reading success assessment and instruction. Specifically, as the Website indicates, the BAS guides teachers to work with their students one-to-one as the teachers assess each students’ reading behaviors during actual observation and engagement with those behaviors.

The BAS program includes high interest books written to engage students while also requiring the students to perform the reading comprehension behaviors that the teachers can observe and assess. The program includes three possible observation and assessment steps. First the student reads some of the BAS texts aloud as the teacher uses the observation forms included with the program to capture data about the student’s reading. In the second part of the assessment, the teacher engages the student in what the program calls a “Comprehensive Conversation” (Fountas & Pinnell Literacy, 2018). During this conversation, the teacher can understand in more detail the strategies each student uses to comprehend reading and the strategies each student needs to develop. A third assessment component, which is optional, asks the students to write about their reading, and those writings help teachers gain further insight about the students’ literacy abilities. Because teachers have structured opportunities to use the
BAS in formative and summative assessments of their own students, teachers are able to gather data for decisions about each student and to respond to each student’s needs. The BAS can also help teachers determine reading groups, instructional placement for students, monitor and capture students’ development, assess their own teaching outcomes, and identify students who are in need of additional instruction or help.

**Star Reading Assessment**

Meador (2019) reviewed the Star Reading Assessment, a standardized evaluation tool that includes cloze testing. Meador suggests that one advantage of the assessment includes that teachers can easily use it with other reading programs, such as Accelerated Reader. The Star Reading Assessment allows teachers to input each student’s zone of proximal development (ZPD) into Accelerated Reader. A well-known and major concept in educational theory, the ZPD was explained by Vygotsky (1978) as an ideal point for student development. The education philosopher explained the ZPD as, “the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers” (p. 86). In other words, the Star Reading Assessment relies on cloze testing as well as other comprehension assessment strategies to help teachers determine realistic goals for students and to use progress monitoring to help students achieve those goals (Meador).

**Summary**

In this chapter, the researcher first discussed how and why students must develop their reading abilities as an essential skill for their academic success. The researcher next detailed how students with LD struggle with reading and will fall further and further behind their peers who are successful readers. During the K-3 experience, students are learning to read, while promotion
to the fourth grade means that students will begin to be required to use reading to learn (Chall, et. al., 1990). The researchers also explored the connection between three U.S. legislative acts in the IDEA (2004), NCLD, and ESSA, and the use of EBPs, such as RTI, in reading instruction and the development of the What Works Clearinghouse. Finally, the researcher reviewed the literature about the reading stages of fluency, vocabulary, and comprehension by defining each stage, exploring difficulties students can experience with each stage, listing EBPs teachers can use to help students with each stage, and discussing effective class-based assessment strategies for each stage.
CHAPTER III

METHODOLOGY

The purpose of this study is to find out what strategies an instrumental sample of upper elementary special education teachers use to support students with LD in reading, how the teachers in the sample determine effectiveness for each strategy, and whether student outcomes correspond to the teachers’ perspectives of the students’ reading development.

Four overarching research questions that guide the study are:

1. What reading strategies do special education teachers perceive as most effective when working with students who have learning disabilities in reading? Does this vary by Tier II or III?
2. How do teachers determine the effectiveness of the strategies? Does this vary by Tier II or III?
3. Do student outcomes match the teachers’ perception of the students’ reading development?
4. From the teacher’s perspective, has the implementation of RTI framework improved and/or supported their knowledge and use of evidence-based strategies in teaching students with LD in reading?

Research Design and Rational

The research method applied to this qualitative study is a multiple case study. Creswell (2013) says that for a multiple case study, the researcher focuses on one concern, but does so by reviewing several cases to help shed light on the particular concern from “different perspectives on the issue” (p. 99). Creswell also notes that the critical steps of case studies are identifying the case, exploring the issues and intent, and developing an in-depth understanding. Additionally,
case study methodology attempts to clarify the decisions behind behaviors. Case study methodology allows researchers to understand choices of participants in terms of why the choices were made, how the choices were enacted, and what the results of the choices were (Schramm, 1971; Yin, 2014).

A case study method is particularly fitting for this study because, in order to answer the research questions, the pedagogical choices of the special education teacher participants must be considered in terms of why specific reading strategies were selected, how the participants decided that the strategies proved effective, and what impact the participants believe the strategies had on the students with LD whom the participants were trying to teach to read more effectively. In addition, the participants’ pedagogical choices must be identified to understand whether students’ outcomes match the participants’ perceptions of the students’ reading development. Finally, the findings relevant to the guiding research questions can best be explored through interviews and observations, two prominent case study tools. Marshall and Rossman (2016) stress the benefits of combining interviews and observations. They note that interviews allow researchers to quickly gather a considerable amount of data and to immediately clarify points or follow-up on them. Additionally, when interviews are “[c]ombined with observation (looking, hearing, smelling or touching), interviews allow the researcher to understand the meanings that everyday activities hold for people” (Marshall & Rossman, 2016, p. 150). Finally, it is important to note that by using multiple case studies, the researcher will attempt to capture Creswell’s (2013) “different perspectives on the issue” (p. 99) by locating the research in two rural schools, two urban schools, and two suburban schools.

Reflections on My Identity (Reflexivity)

Creswell (2013) argued that reflexivity is one of the important factors of qualitative
inquiry. The author explains that the term refers to the researcher’s own “subjectivity” in the research (p. 257); furthermore, reflexivity demands the researcher is self-aware of how their own background might influence their perceptions and that the researcher offers “self-exposure” (p. 257), or divulges how their background could “shape” their “interpretations of the phenomenon” being researched (p. 261).

Creswell (2013) asks for “self-exposure” of the researcher’s background. Pezalla, Pettigrew, and Miller-Day (2012) elaborate that the researcher is “the instrument” in interview-based research (p. 166), so revelations about the researcher’s background that may influence the questions asked in interviews and the interpretation of answers are important. Also, Wolcott (2010) agreed with the researcher's background when stated that “Our readers … want to know what prompts our interest in the topics we investigate, to whom we are reporting, and what we personally stand to gain from our study” (p. 36).

In this study, the researcher acknowledges he chose the topic because of his work experience as an elementary teacher and his experience as an adult has been learning English as he pursued his doctorate. As an elementary school teacher in Saudi Arabia who taught for ten years, the researcher worked for his country’s Ministry of Education. Over the years, the searcher saw few intervention strategies begin used to help students with LD, and he saw even fewer evidence-based strategies used to help such students. Thus, the searcher felt that more had to be known about the elements needed to improve the quality of reading strategies used in special education, especially in his country. Also, the researcher believed at the beginning of this project and still believes that it is important to look for many strategies that may fit the specific needs of each student with reading disabilities. The researcher read many articles that focused on what kind of implementation or adjusting intervention may help students with LD, and he
discovered that some reading strategies could help students with LD not only in academics, but also in behavioral skills and social interactions (Haddad, 2019). The researcher chose to pursue this line of research exploring effective reading strategies for upper elementary students so that he could support students who continue to have difficulties in reading in Saudi Arabia.

Another reason the researcher decided to focus on reading strategies is his experience in learning the English language as he studied for his doctoral degree. Through this experience, he has related to the difficulties and frustrations students with LD face when trying to master academic skills like reading.

On a professional and personal level, the researcher believes this study will support students with learning disabilities in reading. The recommendations from this research will be implemented in Saudi Arabia by working hand-in-hand with special education teachers to help them recognize and use multiple evidence-based strategies when teaching students with learning disabilities in reading.

**Setting, Sampling, Subjects, and Access**

**Setting**

The study was conducted in five elementary schools in southwest Michigan. Each of the schools had special education teachers who instructed students with LD associated with reading. The specific settings included three urban schools and two rural schools.

**Participant Criteria, Sampling, and Recruitment**

In order to participate in this study, teachers needed to meet the following criteria:

1. Have a minimum of three years of experience as a special education teacher in reading;
2. Have experience teaching 4th and/or 5th grade students diagnosed with a learning disability in reading;
3. Have been recommended for participation in the study by a principal or special education administrator or professional based on effective teaching of reader to students with reading disabilities.

4. Are providing direct instruction to students with LD in reading on a regular basis.

Teachers were excluded from participation in the study based on the following criteria:

1. No experience as a special education teacher in the area of reading;

2. No experience teaching 4<sup>th</sup> and/or 5<sup>th</sup> grade students diagnosed with a learning disability in reading;

3. No recommendation from a special education director or building principals for participation in the study based on teaching performance in utilizing reading strategies for students with reading disabilities daily interactions with students with learning disabilities in reading.

4. Does not provide direct instruction to students with LD in reading on a regular basis.

The sampling method used for this study was criterion or purposeful sampling, coupled with snowball or chain sampling. The snowball method is useful for locating individuals “who know people who know what cases are information rich” (Marshall & Rossman, 2016, p. 115).

In terms of participant recruitment, The researcher used the following steps:

1. To secure permission to communicate with potential special education teacher participants and to conduct this study at each location, a two-part letter was sent to directors of special education and building principals of prospective schools. Both parts of the letter explained the purpose of the study, emphasizing the necessity for more research on the use of strategies helping students with LD in reading, explained how participation in the research would help others working with students with LD in reading,
and detailed the criteria for participating in the research.

In addition, the first part of the letter, which was directed to special education directors and principals, asked those recipients to distribute the second part of the letter, which was written for potential participants, to special education teachers who serve students with LD in reading at the 4th and/or 5th grade level. (See Appendix C.) The first part of the letter clarified that by forwarding the second part of the recruitment email to specific teachers, the special education directors or building principals would be granting permission to locate part of this research in their schools. Furthermore, the researcher assumed that special education directors and principals would only forward the email to individuals they recommended as research participants.

2. Once special education directors or building principals agreed to include their schools in the study and to recommend teachers for the research by distributing the second part of the recruitment email, special education teachers who were interested in learning more about participating in the study were able to directly contact the researcher.

3. Two weeks after sending the first email to the directors of special education and building principals, the researcher sent a follow-up email to those individuals who had not responded to the first email as a way to remind them about the request.

4. The researcher responded to any individual teacher who contacted him about the study or who were interested in learning more about the study. The researcher emailed these potential participants an informed consent document that included an in-depth explanation of the study procedures, such as the duration of the interviews and observations, document review procedures, and duration of the observations. In addition, this second email to potential participant teachers also detailed the informed consent
procedures. Potential participants could also call the researcher to ask questions about the study or informed consent document or call the researcher’s advisor about the informed consent procedures. After potential participants felt comfortable with the study and determined that they were willing to participate in it, they signed and returned the informed consent document either via email or by hand delivering a printed version on the same day of the first interview.

5. The interviews were conducted at each teacher participant’s school in a room of the participant’s choice. Both the first and second interview with participants lasted approximately 45 minutes.

6. The researcher observed the teacher participants two times as they taught identified reading strategies to groups that included students with LD in reading,

7. The researcher also performed document review of two categories of documents:

   A. Documents that captured assessment of students’ outcomes, such as any form of progress monitoring tracking the deficit area in reading, teachers’ notes, etc.

   B. Instructional materials, such as lessons plans, objectives, and work sheets.

**Data Collection Methods, Procedures, and Instrumentation**

This study used a qualitative multiple case study method, and the researcher attempted to answer the research questions by working with five special education teacher participants. The researcher observed the teacher participants two times as they taught reading strategies to groups that included students with LD in reading, interviewed the teacher participants twice, and performed document analysis of reading work conducted by the students who were taught during the observations.
In that capacity, the researcher interviewed each participant twice. The first interview occurred prior to any observations. The second interview occurred after the observations to allow follow up with any questions that had arisen during the observations. The researcher chose to interview participants in person because interviews can quickly yield a large quantity of data and can allow “immediate follow-up and clarification.” (Marshall and Rossman, 2016, p. 150). With the permission of the participants, audio recordings were used to ensure that all information was collected accurately and analyzed. The interviews were transcribed by using Rev.com website to translate the audio interviews into transcripts in order to facilitate the identification of similar responses. The original audio recording will be stored in Google Drive through Western Michigan University for a period of three years.

During the initial interview, or before it, dates were arranged set with the teachers for the researcher to observe students while the teacher taught reading strategies. Following an observation protocol listed in Appendix F, the researcher observed each participant for the full time the participant spent focused on reading strategies. To minimize threats to anonymity, the reading strategies activities were not video-recorded; however, detailed notes were taken using an observation guide. The data was collected in the K-12 academic school year of 2018-2019 and the beginning of the 2019-20 school year for one school that has year-round school, which starts in July.

**WWC and Evidence for ESSA Websites**

To determine the level of evidence or proven programs used for successful students, the researcher also reviewed two websites, What Work Clearinghouse (WWC) and/or Evidence for ESSA (ESSA). These sites provide the new standard for the most up-to-date and reliable information on strategies that meet ESSA evidence standards. Thus, the researcher could
determine whether or not the program or strategy a participant discussed is reviewed in the WWC and/or Evidence for ESSA as evidence-based practice and the level of evidence at which the program or strategy is listed.

**Instrumentation**

Creswell (2013) argues that “the qualitative researchers [should] collect data themselves through examining documents, observing behavior, and interviewing participants” (p. 45). Therefore, the researcher was the instrument who collected data, interviewed participants, and observed participants’ action.

Audio recordings were used, with the permission of the participants, to ensure that all information was collected and analyzed. The interviews were transcribed by using Rev.com website to translate the audio interviews into transcripts in order to facilitate the identification of similar responses.

According to Marshall and Rossman (2016), gathering and analyzing documentation helps to provide context about the setting of the study and could allow a researcher to triangulate data analysis and learn the setting of the study. Therefore, the teacher participants were asked for any documentation they used to teach or engage students in reading strategies or to determine student success with reading. Thus, the student materials—worksheets, responses to assignments, etc.—connected to the reading lessons the researchers observed were provided and reviewed. None of the materials reviewed included information, such as names, that identified the students.

**Data Analysis**

Analyzing an interview is a crucial part of qualitative approaches in education. This study used thematic analysis to conduct that crucial aspect. Braun and Clarke (2006) suggested that thematic analysis is the most effective way to analyze transcribed interviews because of the
flexibility to implement such an analysis “across a range of epistemologies and research questions” (p. 97). Broadly speaking, the study looked at how five special education teachers implemented reading strategies for 4th and 5th grade students with LD. The researcher used inductive thematic analysis to understand how the teachers implemented the specific strategies observed. That is, the researcher had no pre-determined themes that he used to attempt to classify the data. Instead, he engaged with the data, repeatedly, and determined themes that were linked to and derived from the data.

Thematic analysis can provide holistic skills that beginner researchers need as they learn to do effective research (Lochmiller & Lester, 2017). To facilitate the analysis process, NVivo software was used in this study. The next section provides a list of the thematic analysis steps that were helpful for analyzing the transcribed interviews.

Analysis Steps

This study used thematic analysis, which Braun and Clark (2006) consider the most effective approach for analyzing transcribed interviews. The researcher followed the following six steps that Braun and Clark recommend:

1. **Learn data**—The researcher read and re-read the data, noting initial ideas and gathering first impressions to learn what data they have.

2. **Generate initial codes**—The researcher organized the data into specific features that become the codes, the most basic patterns that can be recognized in the data.

3. **Find themes**—After all data had been coded, the researcher began to merge the codes into larger themes; some of the codes become the final themes and some did not.

4. **Review and refine themes**—The researcher reviewed the data multiple times. First, the researcher reviewed data to ensure the data fit into clear, logical patterns that could
be captured in a “thematic map.” These patterns were the themes that the researcher used in the latter efforts to understand the data—refining. In refining the data, the researcher focused on whether the themes accurately reflected the data as a whole. Much coding and recoding went into this phase, but once the researcher had a good sense of the themes that best represented the whole data, how the themes fit together, and the story the data told, the researcher moved to the next step.

5. **Defining and naming themes**—In this step, the researcher thoroughly analyzed each theme and the data it supported and then wrote out the analysis to understand what the data was suggesting. Braun and Clarke (2006) explain that the goal of this step is to understand the “story” the themes tell (p. 87). By the end of this step, the researcher was able to explain the themes and the content of each theme in two or three sentences.

6. **Reporting**—The researcher in this step engaged in the final analysis of the data; he wrote a report that persuasively tells the complex story of the data. The report, which is the dissertation, includes evidence of the themes within a narrative that reveals answers to the research questions.

**Validity, Credibility, and Dependability**

Qualitative research cannot rely on statistical formulas to enhance the validity, credibility, and dependability of the findings. However, scholars have developed strategies, including additional research efforts, that can strengthen these factors (Li, 2004; Cresswell & Miller, 2000; and Creswell, 2013). To enhance the validity, credibility, and dependability of the research and findings in this study, the researcher engaged in such efforts.
As scholars have explained, credibility can be defined as confidence that the research findings are truthful (Holoway & Wheeler, 2002; Macnee & McCabe, 2008). To achieve credibility for this study, the researcher used two validation strategies, peer debriefing and member checking (Li, 2004). Throughout their research, qualitative researchers ask for advice and feedback from other professionals in their field as a way to improve the quality of their research and findings (Marshall & Rossman, 2006). In this study, the researcher asked one other researcher who has qualitative research experience to review the interview transcripts. In the transcripts, participants’ names were coded to ensure anonymity. The reviewer analyzed the transcripts and identified general themes and sub-themes. When comparing their findings, the researcher and reviewer achieved a high level of agreement. In compliance with Western Michigan University’s HSIRB requirements, the colleagues had the required HSIRB training.

Member checking is a way to develop validity and credibility (Guba & Lincoln, 1989; Shenton, 2004). For this study, the researcher used member checking by asking for participant feedback on transcripts of their interview sessions that were emailed to all participants. The participants emailed their verifications of the transcripts back to the researcher, agreeing that the transcripts were accurate and matched what they believed they had said during the interview.
CHAPTER IV

RESULTS

This chapter contains the results of the case methodology study conducted to explore special education teachers’ use of reading strategies to support students with LD in reading. The four research questions guiding the study were:

1. What reading strategies do special education teachers perceive as most effective when working with students who have learning disabilities in reading? Does this vary by Tier II or III?

2. How do teachers determine the effectiveness of the strategies? Does this vary by Tier II or III?

3. Do student outcomes match the teachers’ perception of the students’ reading development?

4. From the teacher’s perspective, has the implementation of RTI framework improved and/or supported their knowledge and use of evidence-based strategies in teaching students with LD in reading?

Profile of Participants and Schools

The study used a multiple case study methodology (Creswell, 2013; Yin, 2014). Creswell emphasized that a thick description of each setting is imperative for such research. Therefore, this section includes detailed information about each special education teacher who participated in the research as well each school where the case studies were conducted.

Five special education teachers from five different elementary schools were recruited for the study: four females and one male. The researcher used pseudonyms to represent each special education teacher and each school discussed in the study. Participants were designated as
“Special Education Teacher,” a term the researcher abbreviated to SET. The researcher then alphabetized the participants by first name and assigned the first participant the letter A, the next participant the letter B, and so forth for all five participants. The researcher then determined pseudonyms for each school based on the letter of the pseudonym of each participant. That is, SET A’s school is listed as School A, SET B’s school is identified as School B, and so forth for the remaining schools. The participant and schools pseudonyms are listed in Table 4 below and profile of participants and the schools are listed in Table 5.

Table 4

*Participant and school pseudonyms*

<table>
<thead>
<tr>
<th>Participants</th>
<th>SET A</th>
<th>SET B</th>
<th>SET C</th>
<th>SET D</th>
<th>SET E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>School A</td>
<td>School B</td>
<td>School C</td>
<td>School D</td>
<td>School E</td>
</tr>
</tbody>
</table>

Table 5

*Profile of participants and schools*

<table>
<thead>
<tr>
<th>Participants</th>
<th>Gender</th>
<th>Degree level</th>
<th>Years of experience as SET*</th>
<th>Years of experience teaching reading</th>
<th>School setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>SET A</td>
<td>Female</td>
<td>Master</td>
<td>14</td>
<td>14</td>
<td>Rural</td>
</tr>
<tr>
<td>SET B</td>
<td>Female</td>
<td>Bachelor</td>
<td>6</td>
<td>6</td>
<td>Rural</td>
</tr>
<tr>
<td>SET C</td>
<td>Female</td>
<td>Master</td>
<td>11</td>
<td>12</td>
<td>Urban</td>
</tr>
<tr>
<td>SET D</td>
<td>Female</td>
<td>Master</td>
<td>15</td>
<td>15</td>
<td>Urban</td>
</tr>
<tr>
<td>SET E</td>
<td>Male</td>
<td>Two Masters</td>
<td>15</td>
<td>20</td>
<td>Urban</td>
</tr>
</tbody>
</table>

*SET= Special Education Teacher*
special education teacher A is a female who holds a master’s degree, SET A has taught in special education for 14 years and has the same years of experience teaching reading. SET A works in a public elementary school located in rural southwest Michigan. School A has 517 students, with 46% female and 54% male students. The student population is comprised of 86.7% White, 8.1% Hispanic, 2.5% multiracial, 1.7% African American, 0.6% Asian, 0.2% Native American, and 0.2% Pacific Islander. The teacher to student ratio is one teacher to 18 students. Also, 48% of the students receive either free or reduced lunch (niche, 2019).

special education teacher B is a female who holds a bachelor’s degree. SET B has taught in special education for six years and has the same years of experience teaching reading. SET B works in a public elementary school located in rural southwest Michigan. School B has 314 students, with 41% female and 59% male students. The students’ population is comprised of 90.8% White, 4.1% Hispanic, 2.9% Multiracial, 1.3% African American, and 1% Asian. The teacher to student ratio is one teacher to 16 students. Also, 39% of the students receive either free or reduced lunch (niche, 2019).

special education teacher C is a female who holds a master’s degree. SET C has taught in special education for 11 years and has taught reading for 12 years. SET C works in a public elementary school located in urban southwest Michigan. School C has 339 students, with 49% female and 51% male students. The student population is comprised of 71.1% African American, 11.5% White, 8.8% Multiracial, 8% Hispanic, 0.3% Asian, and 0.3% Native American. The teacher to student ratio is one teacher to 14 students. Also, 91% of the students receive either
free or reduced lunch (niche, 2019).

**SET D and School D**

Special education teacher D is a female who holds a master’s degree. SET D taught in special education for 14 years and has the same years of experience teaching reading. SET D works in a public elementary school located in urban southwest Michigan. School D has 383 students, with 50% female and 50% male students. The student population is comprised of 64.5% African American, 15.1% Multiracial, 10.4% White, 9.9% and Hispanic. The teacher to student ratio is one to 14 students. Also, 96% of the students receive either free or reduced lunch (niche, 2019).

**SET E and School E**

Special education teacher E is a male who has two master’s degrees. SET E has taught in special education for 15 years and has taught reading for 20 years. SET E works in a public elementary school located in urban south-central Michigan. School E has 552 students, with 53% female and 47% male students. The student population is comprised of 43.8% White, 21.6% African American, 16.8% Asian, 8.7% Multiracial, 8.3% Hispanic, and 0.7% Native American. The teacher to student ratio is one to 15 students. Also, 84% of the students receive either free or reduced lunch (niche, 2019).

**Data Analysis Process**

The researcher followed all six steps of inductive thematic analysis described by Braun and Clark (2006), which are indicated in Figure 1 on page 69. In the first step of learning the data, the researcher manually read, re-read, and analyzed the interview transcripts multiple times to generate initial ideas and first impressions. In the second step of generating the initial codes (which are the most basic patterns that can be recognized), the researcher grouped and organized
the data into specific features. In the third step of finding the themes by merging the codes, the researcher manually reviewed the tables and codes created in previous steps of the analysis and added the use of the qualitative data analysis software NVivo. The software indicates the most commonly used words in the data as well as the number of times key words and phrases occur in the data. The NVivo results added a useful computerized quantification to the researcher’s manual efforts. Finally, the researcher completed the sixth step of inductive thematic analysis suggested by Braun and Clark (2006) by writing a final report of the data that offers persuasive evidence of the themes as a way to share the story of the data and to answers the research questions.

Following the fourth step of Braun and Clark’s (2006) inductive thematic analysis process, the researcher reviewed the data multiple times to organize the data into clear, logical patterns or themes. Next the researcher refined the themes by ensuring they accurately reflected the data as a whole. By the end of the fourth step, the researcher had developed a good sense of the themes that best represented the whole data, a good sense of how the themes fit together, and the story the data tells. By the end of the fifth step, the researcher had thoroughly analyzed each theme and supporting data as a way to comprehend fully the story the themes tell. Finally, as part of the credibility for the research, the researcher shared the data interpretation, analysis, and themes with a colleague to engage in peer debriefing that further ensured the analysis steps had been rigorously conducted. The agreement of main themes and sub-themes was 85%.
Questions and Supporting Data

After the researcher analyzed the data using inductive thematic analysis, the data supported two main themes that answered the main research questions. The researcher coded the first theme as ‘programs and strategies’ and the second theme as ‘assessment.’ Theme one, programs and strategies, appeared in the data for each of the three RTI tiers. Theme two, assessment, also appears in data for each of the three RTI tiers. Theme two includes two sub-themes: 1) informal assessment and 2) formal assessment.

Research Question 1

What reading strategies do special education teachers perceive as most effective when working with students who have learning disabilities in reading? Does this vary by Tier II or III?
The participants discussed specific reading programs they or other teachers in their schools use in the three RTI tiers. Some of the programs are mentioned for more than one tier. The participants also discussed specific reading strategies they or other teachers use in each tier, and some of the strategies are also used in more than one tier. For descriptions of the most common reading programs the participants discussed, see Table 6 through Table 12, beginning on the next page. The tables indicate some of the strategies used in each of the programs, the age or grade groups the programs have been developed for, and the tier that participants said the programs were used in.
Table 6

*Basal reader program*

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Include</th>
<th>Grade Level</th>
<th>Tier Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basal readers refer to a reading pedagogy that has been a staple of U.S.</td>
<td>• Direct instruction</td>
<td>K-6 (traditionally)</td>
<td>Tier I</td>
</tr>
<tr>
<td>education, especially 1—6 instruction, since the 19th century. Such readers</td>
<td>• Small group instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>have been based on the accepted pedagogy of the day. For example, <em>McGuffey</em></td>
<td>• Individual instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Readers</em>, published between 1936 and 1960, promoted a phonics strategy for</td>
<td>• Excerpt reading (parts of stories or books are included in the text but not the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>reading development and instruction and offered character lessons. The Dick</td>
<td>whole book)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Jane series dropped the phonics approach, used word and character</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repetition, and promoted whole word instruction and reading development. Basal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>readers have become less prominent in K-6 schools since the advent of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCLB and ESSA. However, some schools and teachers have tried to adapt the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>readers to the needs of students. Contemporary basal readers offer lessons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>based on sequence of skills students need to be successful readers. Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>often assess student skill development using pre- and post-reading activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tests.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romano-Arrabito (2017) suggests teacher can update Basal programs by doing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• add authentic reading by purchasing the books represented in basal excerpts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• engage students in genre study because basal readers offer multiple genres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Use Lucy Calkins workshop approach with basal readers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use basal readers to prepare students for texts used on standardized tests</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basal Reading Strategy (n.d.) and Romano-Arrabito (2017)
Table 7

*Edmark Level I and II*

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Grade Level</th>
<th>Tier Used</th>
</tr>
</thead>
</table>
| *Edmark* is a supplemental program that helps students who are reading way below grade level improve vocabulary and social skills, which also helps them with fluency and comprehension. The program employs positive reinforcement and helps students avoid incorrect answers. Because students avoid errors, they are encouraged to consider themselves readers who are capable of learning more about reading. The program also includes continuous progress monitoring based on teacher assessments. | • Direct instruction
• Small group instruction
• Individual instruction
• Errorless learning
• Positive reinforcement
• Controlled vocabulary stories
• Use of manipulatives to build meaning
• Oral vocabulary activities
• Vocabulary and social skill games
• Phrase Match Cards
• Sight word activities
• Social skills activities, including partner learning | Level 1 K-1
Level 2 1-3 | Tier III |

Table 8

**Journeys**

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Grade Level</th>
<th>Tier Used</th>
</tr>
</thead>
</table>
| *Journeys* is a whole class reading program that help students enhance their comprehension skills by engaging them in critical thinking, writing, speaking, listening, teamwork, and research activities. The program also includes a comprehensive assessment system that allows close monitoring of students’ progress through weekly tests, benchmark assessments, unit tests, and teacher-created assessments. | • Direct instruction  
• Small group instruction  
• Individualized instruction  
• Anchor books use (5-10 key books are used throughout the year to teach multiple reading strategies)  
• Vocabulary readers that introduce students to vocabulary of specific fields and content areas  
• Trade books used for some research projects  
• Project-based learning  
• Team projects and presentations that offer collaborative work and social awareness opportunities  
• Problem solving strategies  
• Prompts for writing and research that engages students with texts  
• Text analysis from multiple views  
• Digital text annotation  
• Computer based activities to prepare students for standardized test taking  
• Comprehensive assessment system | K – 6 | Tier I  
Tier II  
Tier III |

Houghton Mifflin Harcourt (2019)
Table 9
*Reading Street*

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Grade</th>
<th>Tier Used</th>
</tr>
</thead>
</table>
| *Reading Street* is a supplemental, differentiated reading program that helps readers at all levels enhance vocabulary and comprehension skills matched to their reading abilities, ranging from those who read below grade level to those who read above grade level. For all levels of readers, *Reading Street* focuses on the same major points and vocabulary in all four levels of readers, but students are met at their level of skill and need. The programs include assessments that help teachers determine each student’s beginning reading level, monitor students weekly development in skills, reevaluate students’ reading levels at different times in the year, and engage in summative assessment at the end of the year. | • Leveled readers (K-6)  
• Guided instruction/practice (K-6)  
• Read Aloud (K-6)  
• Graphic Organizers (K-6)  
• Story Structure (3-5)  
• Retelling (K-6)  
• Phonics blending (K-3)  
• Decoding with emphasis on phonics (K-3)  
• Spelling generalization (K-3)                                                                                                                   | Grades K-6, at four levels  
• *Concept Literacy Readers* for students reading from 2 levels below grade level  
• *Below-Level Readers* (for student reading from 1.5 levels below grade level)  
• *On-Level Readers* (for students reading from ½ level below grade level)  
• *Advanced Level Readers* (for students reading from 1 to 2 levels above grade level)                                                       | Tier I  
Tier II  
Tier III |
| My person training (2008)                                                                                     |                                                                                                             |                                                                                               |              |
Table 10
*Rewards Reading* by Anita Archer

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Grade</th>
<th>Tier Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rewards Reading</em> is a short-term, focused program for students who struggle to read, <em>Rewards Reading</em> focuses on</td>
<td>• Teacher-, paraprofessional-, or adult volunteer-led direct instruction</td>
<td>Intermediate 4 – 6</td>
<td>Tier I</td>
</tr>
<tr>
<td>• Boosting confidence</td>
<td>• Small group instruction</td>
<td></td>
<td>Tier II</td>
</tr>
<tr>
<td>• Developing academic vocabulary</td>
<td>• One-to-one instruction/tutoring</td>
<td></td>
<td>Tier III</td>
</tr>
<tr>
<td>• Enhancing reading fluency at the word and passage level</td>
<td>• Direct instruction of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expanding comprehension</td>
<td>• Morphological units (prefix, suffix, roots)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Improving decoding multisyllabic words</td>
<td>• Sentence structure (Chunking sentences into meaningful parts, not just parts of speech and grammatical categories)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recognizing and creating meaning from prefixes and suffixes</td>
<td>• Self-monitoring of decoding efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Word clarification from context clues, morphological clues, and prior knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recognition of words with multiple meaning</td>
<td>• Story coherence and text structure through graphic organizers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Writing about word, sentence, and passage level meaning of texts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Voyager Sopris Learning (2019)
Table 11

*The Fountas & Pinnell Leveled Literacy Intervention System (LLI)*

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Age/Grade Group</th>
<th>Tier Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLI is a supplemental program focused on</td>
<td>• Small Group Instruction</td>
<td>Primary Program</td>
<td>Tier II</td>
</tr>
<tr>
<td>• Increased literacy of students not on reading grade level</td>
<td>• Leveled Reading (Books match students’ ability)</td>
<td>Orange (Age 5/K)</td>
<td>Tier III</td>
</tr>
<tr>
<td>• Increased reading comprehension</td>
<td>• Direct Instruction of</td>
<td>Green (Grade 1)</td>
<td></td>
</tr>
<tr>
<td>• Increase in how often and how much students read</td>
<td>➢ Analyzing</td>
<td>Blue (Grade 2)</td>
<td></td>
</tr>
<tr>
<td>• Engagement of students with actual books, not prepared reading sections</td>
<td>➢ Critiquing</td>
<td>Intermediate Program</td>
<td></td>
</tr>
<tr>
<td>• Increased teacher understanding and use of reading strategies</td>
<td>➢ Inference Drawing</td>
<td>Red (Grade 3)</td>
<td></td>
</tr>
<tr>
<td>• Monitoring of student progress</td>
<td>➢ Connection Making</td>
<td>Gold (Grade 4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Prediction</td>
<td>Middle &amp; High School Program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Searching for meaning in text</td>
<td>Purple (Grade 5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Self-monitoring and self-correcting</td>
<td>Teal (Grade 6 – 12)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Summarizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Synthesizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ Using meaning from text</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fountas & Pinnell Literacy (2019)
Table 12

The Lucy Calkins Units of Study

<table>
<thead>
<tr>
<th>Description</th>
<th>Strategies Included</th>
<th>Grade Level</th>
<th>Tier Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Lucy Calkins Units of Study offers a five-part, daily reading workshop</td>
<td>• Direct instruction by teacher or class workshop leader</td>
<td>K-8</td>
<td>Tier I</td>
</tr>
<tr>
<td>that helps students practice and learn reading strategies; build fluency,</td>
<td>• Small group instruction</td>
<td></td>
<td>Tier II</td>
</tr>
<tr>
<td>vocabulary, and comprehension; own their reading responsibilities; and</td>
<td>• One-to-one instruction</td>
<td></td>
<td>Tier III</td>
</tr>
<tr>
<td>engage with and enjoy reading. The workshop parts include:</td>
<td>• Reading partners (peers in class)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mini-lesson highlighting the day’s learning goal is taught while students</td>
<td>• Independent reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>are paired with partners.</td>
<td>• Inference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Concept/Skill teaching that includes strategies for achieving the day’s</td>
<td>• Guided practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>goal.</td>
<td>• Connecting meaning to one’s own knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Independent work by students toward daily goal.</td>
<td>• Previewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Small group and individual time with teacher, who offers guidance based</td>
<td>• Predicting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on authentic assessment.</td>
<td>• Using text structure clues to help with meaning making</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mid-workshop teaching point, when teacher offers advice to help most</td>
<td>• Summarizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>students achieve the day’s goals.</td>
<td>• Using multiple points of information to help check meaning (picture, textboxes,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Share, the final stage of the workshop, allows a celebration of what</td>
<td>chapter content)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>students have learned. The share can occur between partners, with a whole</td>
<td>• Writing about reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group, or among members of a small group, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lucy Calkins and Colleagues from the Teachers College Reading and Writing Project (2019)
Tier I

The majority of participants indicated their schools use well established reading strategies and published reading programs during Tier I instruction. SET C, who does not teach Tier 1, reported “Because we assume kids can read by 4th and 5th grade, it’s [Tier 1 instruction] whole group instruction, where they’re looking at different ideas around reading, not specifically reading instruction.” This statement reflects what some researchers have indicated, which is, students before the 4th grade are taught to read while from 4th grade on they are expected to use reading to learn (Chall et al., 1990).

*Strategies* All participants suggested that Tier I instruction includes whole class instruction, making that strategy the most commonly used strategy identified by the participants. For example, SET C discussed what she called “whole group instruction.”

SET A mentioned some teachers at school A use a basal program with a common text for upper elementary grades, but SET A did not believe this approach was effective. SET A explained:

For Tier I, our district use to have a basal program where everybody used the same reading textbook and followed along with each lesson. We found that it was not very effective for a lot of kids. There are some teachers who still elect to use that, and they're allowed to do that mostly at the upper grades.

Small group instruction is the second most purposeful grouping the researcher identified as being identified by participants for Tier I instruction. Participants indicated this strategy is used in conjunction with whole class instruction at Tier I. Two participants, SET A and SET E, explicitly noted the small group strategy. SET E explained the following:

Tier I interventions are done in the classroom They are... the teachers will pull small
groups . . . for kids who are not reading at grade level, they pull small groups. That is something that they must do, and basically every child gets Tier I here.

SET A mentioned literacy rotations such as the Daily 5 literacy program that is used with “younger grades.” In this reading program, students practice five specific reading strategies. They include reading to oneself, writing about the reading, reading to someone else, listening to reading by someone else, and doing word work. Boushey and Moser (2006) suggest teachers can use Daily 5 activities with small groups or individual students. SET A explained:

The younger grades have switched to Daily 5 so they go through literacy rotations in small groups. So everyone has a chance to work with the teacher in a small group every day.

One participant, SET B, mentioned using the Lucy Calkins Units of Study program. According to Feinberg (2007), Calkins’ program encourages the use of small groups and a workshop approach to reading instruction. SET B explained:

Tier One, that's our core instruction, and they're using the Lucy Calkins [Units of Study] program. And then with that they have mini lessons, they have independent work, conferencing, sharing. So that's what they're doing at Tier One for reading.

SET A and SET B noted they use independent work at Tier I. In the above quotation, SET B, also mentions three other strategies (“mini lessons, . . . conferencing, sharing”) the Calkins program helps teachers at her school use.

While discussing strategies, all participants named specific reading programs, such as the Lucy Calkins Units of Study program, Fountas & Pinnell Leveled Literacy Intervention, Reading A-Z program, and Reading Street Literacy. For example, when asked to identify Tier I strategies, SET D answered, “Okay. So right now, our Tier I is called Reading Street.” In the second
interview, the researcher attempted to prompt discussion about “specific strategies” used in the reading programs. However, participant answers were still tied to reading programs. For example, SET E answered:

In Tier I they use the *Journeys* program in the regular classrooms. That is a research-based program from Houghton Mifflin, and it is a reading program that has vocabulary, spelling, and stories and text features, and that's where every student in the school learns out of that program.

Table 13 on page 81 indicates reading programs participants identified as being used in Tier I instruction, while Table 14, on page 81, indicates specific strategies participants indicated as being used in Tier 1 instruction. To determine the level of evidence or proven programs used for successful students, the researcher used two sites, What Work Clearinghouse (WWC) and/or Evidence for ESSA (ESSA). These sites provide the new standard for the most up-to-date and reliable information on strategies that meet ESSA evidence standards. Thus, both tables also indicate whether or not the program or strategy is reviewed in the WWC) and/or Evidence for ESSA (ESSA) as evidence-based practice and the level of evidence at which the program or strategy is listed. One of the reading programs, *Journeys*, is listed in an ESSA search as showing strong evidence as an EBP. The strategy of repeated reading was designated as “potentially positive” in the WWC, while the use of small groups was designated as having moderate evidence of its effectiveness.

Whole class instruction is not mentioned in WWC and/or ESSA as being an EBP. The fact that the reading programs and whole class instruction do not appear in WWC and/or ESSA does not mean that evidence-based strategies are not part of the programs or are not part of the whole class instruction; rather, they were not specifically identified by the participants or during
the observations conducted by the researcher. For the programs and strategies identified by participants that do not have any documented research, studies are needed to determine the level of evidence behind these programs and strategies.

Table 13
Tier I programs

<table>
<thead>
<tr>
<th>Programs</th>
<th>TIER I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Level of Evidence</td>
</tr>
<tr>
<td>The Daily 5 Literacy program</td>
<td>SET A</td>
</tr>
<tr>
<td>Basal Reading Program</td>
<td>SET A</td>
</tr>
<tr>
<td>Lucy Calkins Units of Study program</td>
<td>SET B</td>
</tr>
<tr>
<td>Reading Street Literacy</td>
<td>SET C, SET D</td>
</tr>
<tr>
<td>Journeys Reading program</td>
<td>SET E</td>
</tr>
</tbody>
</table>

Table 14
Tier I strategies

<table>
<thead>
<tr>
<th>Strategies</th>
<th>TIER I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Level of Evidence</td>
</tr>
<tr>
<td>Whole Class Instruction</td>
<td>SET A, SET C, SET D, &amp; SET E</td>
</tr>
<tr>
<td>Repeated Reading</td>
<td>SET B</td>
</tr>
<tr>
<td>Small Group Instruction</td>
<td>SET A &amp; SET E</td>
</tr>
</tbody>
</table>
In summary, participants often identified reading programs as strategies they or other teachers at their school used for Tier I instruction. Some participants described strategies used within the programs. Overall, the majority of participants identified well established reading strategies and published reading programs as being used during Tier I instruction.

**Tier II**

The most common strategy participants used or discussed being used at their school for Tier II was small group instruction. Four participants identified small groups as a Tier II strategy. SET A stated:

Tier II interventions are being done through small groups. So targeting specific needs. For example, if a student is struggling with prefixes, the teacher may find a prefix activity to do in addition to what they're doing with the whole class.

SET B said:

And then at Tier II, the kids get more intense instruction of Tier I strategies, and they work [in] smaller groups.

SET C pointed out that

When you look at Tier II instruction, we're talking about small group instruction, guided reading instruction.

SET E mentioned that tutors work with students at Tier II:

. . . and then we have three reading tutors and they pull small groups of the kids that are in Tier II.

The second most common strategy participants identified at Tier II was the use of programs. Three participants mentioned the use of programs. SET B noted the use of *Reading A-Z*, while SET C and SET D both mentioned the *Fountas & Pinnell Leveled Literacy Intervention*. 
SET C said

We use a program called *Fountas & Pinnell Leveled Literacy Intervention*, which is a direct instruction approach, . . .

SET D sometimes used the term “level” for “tier” while describing the three stages of Tier II instruction used at School D. She also emphasized that teachers value *Fountas & Pinnell Leveled Literacy Intervention* and noted the use of two additional programs:

Another level two is the [*Fountas & Pinnell Leveled Literacy Intervention*] intervention kit which a lot of our 4th and 5th grade teachers use. That's highly praised. A lot of teachers like our [*Fountas & Pinnell*] Leveled Literacy Intervention kit . . . And then our third level two is we have *Compass* reading. So that's kind of the three main level II’s that our building uses.

SET D also mentioned the *Fountas & Pinnell Leveled Literacy Intervention* program:

Tier II right now in 4th and 5th grade, what did they call it? Phonics, so we do guided reading for Tier II. We have a specific intervention time we call Busy Bee. So every, at least three days out of every seven total days are reading intervention and math intervention. So it's a 30-minute block set aside outside of the reading block, which is our Tier II. And most of them are doing guided reading which is through *Fountas & Pinnell* [Leveled Literacy Intervention], where they're grouped by their ability level and they're reading books at their ability level with focused skills. So some of them are working on vowel teams and structures, whether it's magic E, what is it, vowel consonant E, different things like that. Some are working on comprehension, but their individualized reading groups and guided reading based on *Fountas & Pinnell* [Leveled Literacy Intervention], is one of our level II’s.
In addition to SET D’s mention of guided reading, SET C noted the use of that strategy:

When you look at Tier II instruction, we're talking about small group instruction, guided reading instruction.

Two participants mentioned tutoring as another strategy used in Tier II. SET C explained

We have [Name of] College tutors come in and work with kids who have bigger deficits, so they get one-on-one instruction on reading. I don't know how beneficial it always is, because those tutors don't always have a big relationship with the kid, but that is something else we use in the building.

SET E mentioned two different types of tutoring:

we have a special reading tutor in every classroom. So there are two adults in every classroom, so that... the children that need Tier II would then get an additional... they'd get to read with the teacher and then they would also read with their reading tutors.

. . . and then we have three reading tutors . . .

One participant mentioned strategies that no other participant mentioned. SET B offered a list of such strategies:

And then at Tier II, the kids get more intense instruction of Tier I strategies, and they work [in] smaller groups; they do some re-reading. Some of the strategies along with the interventions they use are prior knowledge, context clues, inferring, think alouds, summarizing, making predictions, visualizing, graphic organizers. And those are all things that they use at Tier I as well, but they use them more intensely at Tier II in reviewing them and going over them.

Table 15 below notes all of the programs the participants mentioned as being used in Tier II instruction, indicates whether or not the program is mentioned in the What Work
Clearinghouse (WWC) and/or ESSA as evidence-based practice, and offers the level of evidence at which the program or strategy is listed. Similarly, Table 16, on page, 86, offers the strategies participants mentioned as being used in Tier II instruction, indicates whether or not the strategy is mentioned in the What Work Clearinghouse (WWC) and/or ESSA as evidence-based practice, and offers the level of evidence at which the program or strategy is listed.

Table 15
*Tier II programs*

<table>
<thead>
<tr>
<th>Programs</th>
<th>TIER II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Participants</td>
</tr>
<tr>
<td>Edmark Reading</td>
<td>SET A</td>
</tr>
<tr>
<td>Fountas &amp; Pinnell Leveled Literacy Intervention</td>
<td>SET B, SET C, &amp; SET D</td>
</tr>
<tr>
<td>Reading A-Z program</td>
<td>SET B</td>
</tr>
<tr>
<td>Reading Street Literacy</td>
<td>SET C</td>
</tr>
<tr>
<td>Compass Reading Program</td>
<td>SET D</td>
</tr>
</tbody>
</table>
Table 16

*Tier II strategies*

<table>
<thead>
<tr>
<th>Strategies</th>
<th>TIER II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants</strong></td>
<td><strong>Level of Evidence</strong></td>
</tr>
<tr>
<td>Small Group Instruction</td>
<td>SET A, SET B, &amp; SET C</td>
</tr>
<tr>
<td>Prior Knowledge Activities</td>
<td>SET B</td>
</tr>
<tr>
<td>Context Clues Activities</td>
<td>SET B</td>
</tr>
<tr>
<td>Guided reading instruction</td>
<td>SET C</td>
</tr>
<tr>
<td>Phonics-based, decoding, and comprehension</td>
<td>SET C</td>
</tr>
<tr>
<td>instruction</td>
<td></td>
</tr>
<tr>
<td>Repeated Reading</td>
<td>SET E</td>
</tr>
</tbody>
</table>

In summary, after the first round of interviews, it became evident to the researcher that participants were not clear on the difference between a research-based program and an evidence-based strategy. Therefore, during the second interview the researcher was more specific in questioning what was used when and what was most effective with students. The majority of the participants continued to refer to programs being implemented and not to specific evidence-based strategies.

**Tier III**

The participants mentioned using direct instruction more often in Tier III than in the other tiers. Three participants mentioned direct instruction using specific programs as a common strategy in Tier III. SET A stated

We have Edmark, which is whole word direct instruction for the most intensive needs.
That's what we're using. So those are the kids we would do a reward direct instruction program, which teaches syllable, syllable chunks, so that they learn how to decode the larger words that they see at the higher level.

SET C also uses direct instruction at Tier III and explained that below:

Tier III instruction, we're really looking at Special Ed services, for the most part, at that point. We don't have another Tier III instruction within our school, and so then I teach direct instruction, guided reading, a lot of phonics-based intervention, . . . .

SET D mentioned *Rewards Reading*, when talking about direct instruction use:

The other thing we do is direct instruction. I base a lot of what I do on Anita Archer and her direct instruction method, and again those foundational phonics, being able to stretch out the sounds and put it together as a word, being able to isolate the individual sounds they're segmenting, and then blending them back together, and writing with reading.

That's Anita Archer's biggest thing is you don't, they're not in isolation. You read it, you write it. You write it, you read it. And that makes it whole. So that's a lot of what I do with anybody that's below a second grade reading level. It doesn't matter how old you are.

SET A, SET B, and SET D all talked about using Fountas & Pinnell Leveled Literacy Intervention. SET A said,

And then Tier III, right now we're using *Fountas & Pinnell Leveled Literacy Interventions* for guided reading groups. Most of our Tier III groups are using that intervention.

SET B offers,

. . . at Tier III we use [*Fountas & Pinnell Leveled Literacy Intervention*], which is a
leveled literacy intervention.

SET D explains,

[Fountas & Pinnell Leveled Literacy Intervention] can be Tier 3 depending on what they're getting at Tier 2. So those are some of the things we do, but really if they're [students] a Tier 3 here, it's because they don't have letters, sounds, and that ability to decode, recode.

SET E mentioned two strategies that no other participant specifically mentioned for Tier III, summarization and retelling:

I would say summarizing is what the lesson you saw me teach cause I'm summarizing and the summarizing helps them with the retell of the comprehension because if they're just word readers they don't get to pass to a new level of reading until they pass what we call the conversation, or they have to tell me what they read and what they got out of reading.

Once again like in Tier II, participants referred to specific programs, rather than to specific reading strategies, when discussing Tier III instruction. For example, each participant mentioned at least one program. SET A mentioned Edmark, Phonics for Reading, and Rewards Reading. SET A commented:

And then Tier III, right now we’re using Fountas & Pinnell Leveled Literacy Interventions

... [W]e also are using things like Phonics for Reading program, Rewards Reading program. We have Edmark, which is whole word direct instruction for the most intensive needs. That’s what we’re using.

SET B mentioned using Fountas & Pinnell Leveled Literacy Intervention, while SET C and SET
D mentioned System 44. SET C said:

. . . I also use an online program, System 44, which is a very phonics-based approach, and sight words, to help those kids who definitely have big reading deficits, reading disabilities.

SET D explained,

The other one we use is System 44. So that's what our upper L (upper level) Special Ed teacher uses, and actually a lot of our upper L Special Ed teachers use is System 44, which is based off the 44 sounds of the English language . . . so when you're going into a lesson it still goes back to that foundational phonics.

SET E commented,

So they [students] have to have some type of . . . comprehension to able to pass to a new level. They can't talk about the book, they don't get to pass. I do a little bit of this [re-telling] but mostly I use the Fountas & Pinnell intervention kits, and that's all the books in the different colors and there's teacher guides.

Finally, SET D clarified how advice from reading researcher Robert Marzano supports students struggling with reading:

We look at a lot of Marzano for level one interventions on increasing vocabulary for fourth and fifth graders. So that Tier III lines up perfectly when they're using that. When they're not, it's trying to, they get the Tier I, they're still exposed, they're still listening so that they can understand. What we're finding, we need to drop back to that phonetic with them, and that doesn't necessarily align to the topics that are in the Tier I. I think that makes sense.

Table 17 below lists the Tier III programs used by the participants, indicates whether or
not the program is mentioned in the What Work Clearinghouse (WWC) and/or ESSA as evidence-based practice, and offers the level of evidence at which the program is listed. Similarly, Table 18 identifies the Tier III strategies used by the participants, indicates whether or not the strategy is mentioned in the What Work Clearinghouse (WWC) and/or ESSA as evidence-based practice, and offers the level of evidence at which the strategy is listed.

Table 17

*Tier III programs*

<table>
<thead>
<tr>
<th>Programs</th>
<th>TIER III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Participants</td>
</tr>
<tr>
<td>Fountas &amp; Pinnell Leveled Literacy Intervention</td>
<td>SET A, SET B, SET C, &amp; SET E</td>
</tr>
<tr>
<td>Reading</td>
<td>SET B, SET C</td>
</tr>
<tr>
<td>Edmark Reading</td>
<td>SET A</td>
</tr>
<tr>
<td>System 44</td>
<td>SET C</td>
</tr>
<tr>
<td>Reading Street Literacy</td>
<td>SET D</td>
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</tbody>
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Table 18

*Tier III strategies*

<table>
<thead>
<tr>
<th>Strategies</th>
<th>TIER III</th>
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<tbody>
<tr>
<td></td>
<td>Participants</td>
</tr>
<tr>
<td>Phonics for Reading</td>
<td>SET A</td>
</tr>
<tr>
<td>Direct instruction</td>
<td>SET B</td>
</tr>
<tr>
<td>Guided reading</td>
<td>SET C</td>
</tr>
</tbody>
</table>
In summary, the researcher discerned that participants continued to name research-based programs as evidence-based strategies they use to help students who are at Tier III instruction. The participants identified more programs as being used at this tier than at Tier I or Tier II.

**Research Question 2**

How do teachers determine the effectiveness of the strategies? Does this vary by Tier II or III?

Theme two, assessment, appears in each of the three RTI tiers. The teachers illustrate a wide range of assessments and stress the importance of making data-based choices related to the progress and instruction of each student. Theme two includes two sub-themes 1) informal, and 2) formal.

Across all tiers, participants discussed or used running records (RR) to capture evidence of student responses to instruction. Participants reported using RR data or used RR data to determine the effectiveness of strategies for students or the need for students to be taught differently. RR was the most commonly mentioned assessment strategy.

**Running Record**

While answering three different questions, SET A explained how the teachers at School A use RR. In response to interview question 2 that asked about how the participants determined when students needed intervention, SET A stated:

We also sit down as a grade level with the reading specialist and we look at running records of students. So through the *Fountas & Pinnell Leveled Literacy Intervention* we do running records every week or every two weeks on all the students. So if students are not showing progress as a certain level, at that point we'd look at the group and say do they need to move to a different group or do they need a different intervention. So that's
how we would decide there.

Then in response to question 4 about how teachers determine when to return students at Tier II to Tier I or to move them to Tier III, SET A explained:

And then I guess everything is based on data. So the whole school is doing the running record. Again, the kids that are on grade level or above grade level, they're only doing the benchmark assessment. So fall, winter, spring. The kids that are below grade level are the ones that are every week or every other week to make sure that they're making progress. So if they're not making progress, we move them back. And if they are, we move them forward. And every month we revisit.

Finally, in response to interview question 6, which is about progress monitoring and helping students with learning disabilities, SET A offered another insight about implementing running records and the richness of data collected with that tool:

The running records are the main things that we use to look at levels, because we get an accuracy score. We can do a self-correction rate, how much they're correcting their own reading without us prompting them. There's a fluency rubric and there's also a retell score. The comprehension, then, has questions that are within the text. So like literal questions they can find. We have beyond the text, so those would be inference questions. Can they put the pieces together to figure out something. And then about the text is the genre, and the text features, and the text structure, and those elements. So there are a lot of pieces. We look at all of those scores on a rubric to see if they're making progress.

SET B provided another discussion of how RR is used, adding progress monitoring.

At Tier I we determine the effectiveness of reading strategies using our progress monitoring with running records, because that assesses their [students’] accuracy, their
comprehension, their fluency. It can really help you decide if things are working.

SET C indicated that she may create their own running records which are not benchmarked.

Just so I know where they're at in their mastery of the story, the spelling pattern that we're working on is within that story, as well as the sight words that we're working on this week, they're . . . incorporated in that story, and then I'll do a quick running record. It's not a benchmark assessment, but it's a running record to know that they're mastering those sounds and those spelling patterns, and that we can then move on.

SET D discussed the use of RR with a Professional Learning Community (PLC) at School D.

Again, we go back to that PLC process. So the teachers are constantly taking data. They're doing running records with their kids, and when they come back to that PLC they're looking. Okay, whose moved? And this actually kind of goes to the next one too. If the kiddo is showing that they've met this and they're moving above, you put them back into Tier 1. If they're not meeting it, they're not meeting this intervention, then they go into something more intensive. The PLC process is huge in how we determine where kiddos are moving and how they're doing. And it all goes back to looking at that data.

SET E also discussed using running records in response to two interview questions. Set E first discussed how to determine different strategies for a particular student:

If a student is not reading at grade level, they need an intervention. Or, if a running record says they're not comprehending what they're reading because we have a lot of children who are really good at word reading, they can read any word, but they have no idea what they read. So, they would need some intervention in the comprehension.

SET E also discussed using running records when asked about determining the effectiveness of reading strategies:
They actually will do running records monthly, and I know the Title tutors make copious notes as far as what the interventions are doing. If an intervention is not working at Tier II, they have to do six weeks of data, and if that doesn't work then they come to the school psychologist for testing.

So, yeah it is a... yeah this is a... but this is how I monitor. So every student has a folder, and every student should have... here's a student that has made no progress this year. He went to an F to a G, but he's supposed to be at 95% accuracy. So he's not even a G, I'm being kind about this. He's really more at a D or an E. He's great at math. He does not want to learn how to read. I mean he's also a horrible behavior problem. He's a child of trauma, but we do the best we can.

In summary, the participants identified a range of assessments they use to stay informed of students’ progress and needs. The participants also stated their belief in using assessment data to help each student develop reading abilities. All of the participants employed a version of running records as they tracked the progress and needs of their students.

**Reading Program Assessment**

Just as many of the participants mentioned the value of specific reading programs in helping students learn reading strategies, the participants also often discussed using assessment associated with reading programs. Running records, in fact, are most mentioned in association with the program from reading researchers Fountas and Pinnell.

SET A and SET B, for example, discuss the use of running records that accompany the *Fountas & Pinnell Leveled Literacy Intervention* program. SET A explains how often these assessments are used with students at Tier II and Tier III:

So through the *Fountas & Pinnell Leveled Literacy Intervention* we do running
records every week or every two weeks on all the students.

SET B offers more insight into what the *Fountas & Pinnell Leveled Literacy Intervention* assessments measure:

We also do the *Fountas & Pinnell [Leveled Literacy Intervention]* assessment where you do the running record, comprehension, fluency, all of that. And then it determines what level they're at.

SET C and SET D also mention the *Fountas and Pinnell Leveled Literacy Intervention* assessments. SET C explained:

We do something called *Fountas & Pinnell Benchmark Reading Assessment* at the beginning of each school year, at kind of the mid-winter break, and then towards the end of the school year, more often, the more higher-needs they might be, but we can determine a reading level.

SET D talks about the *Fountas and Pinnell Leveled Literacy Intervention* along with two formal assessments, MAP and NWEA:

So our initial data at the beginning of the year is our MAP. . . . Our NWEA assessment, and then we do *Fountas & Pinnell [Leveled Literacy Intervention]*. And based off that data we create groups. . . . And then from the initial start of the year data, we look and see, okay, who’s below grade level. So for example, we have a chart A through Z, *Fountas & Pinnell [Leveled Literacy Intervention]*.

SET B mentions the STAR assessment programs:

And we use the STAR literacy assessment. And there’s a *STAR Early Literacy Assessment* that the kids take three times a year on the computer, and that can help determine if they need intervention at Tier II.
Participants mentioned the assessment strategies and record keeping offered in the *Fountas & Pinnell Leveled Literacy Intervention* program as the most common program-based assessment they used. One participant also included the computerized *STAR Early Literacy Assessment* as an assessment her school purchases for teachers to use to gather standardized evaluation data that can inform their choices of strategies.

**Standardized Test Assessments**

Four participants also mention five standardized test assessments used at their schools. SET B talks about two tests from the STAR assessments as mentioned above. Three participants, SET C, SET D, and SET E reference the NWEA MAP standardized assessments. SET D also mentions the use of *Compass*, as an assessment for early literacy skills. Only one participant, SET E, referenced the Michigan state assessment, M-STEP. For example, SET C says,

[w]e look at the NWEA MAP Assessment, which is an online assessment that kids take three times a year, and we look at those, as well, to see who might really be lagging behind and not making the same growth as other peers in their grade.

SET C explains,

[we] look, again, at the MAP assessment, the next MAP assessment, but really looking at the *Fountas & Pinnell [Leveled Literacy Intervention]*.

A list of these formal assessments are included in Table 19 on page 100.

In summary, the participants identified that they believe standardized testing has a role in their ability to determine the progress of their students. Three participants mentioned NWEA MAP assessment, while Michigan’s state assessment, M-STEP, was referenced by only one participant.
**Teacher-Based Assessment**

All participants offered insights about teachers and other team members making assessments based on the curriculum they teach. This category includes teacher-generated assessments, which may be simple, quick, at the moment tests based on the content the student is engaged with and the teacher’s ability to evaluate the student’s progress in a specific skill. These assessments may also be more carefully planned teacher-created curriculum-based assessments (CBA).

In this category, all participant mentioned progress monitoring. SET A, for example, says [I]t's just progress monitoring and making sure that we have information to prove that what we're doing is working.

SET B explains how she use the assessment:

I progress monitor using running records, and assessments measuring the alphabet, the phonological awareness, the phonics, sight words, and fluency.

SET C comments,

But as well as the sight words, we're always progress monitoring for what they recall for sight words, and working on those as well in different ways. I have a lot of different games we play with them.

SET E offered his personal approach to progress monitoring:

I'm not the best at my progress monitoring every day, but... because I know some teachers make copious notes every day. I am not the best in paperwork as you can see. I do data folders.

SET A discussed four other teacher-based approaches, including comparing students’ abilities to others, looking for improvement or progress, making informed judgments, and placing students
in different groups or with different interventions on a trial basis. SET A explained how teacher judgment worked:

A lot of tier two is just teacher judgment, which again we need to get a better system for recording what the intervention was and if it got better. A lot of it is just teachers doing a little bit of extra and looking, "Oh I guess they have it now," and moving on. It's not documented well.

SET B mentioned two other types of teacher-based assessment, including observation and teacher created assessment or curriculum based measurement (CBM). SET B noted the value of teacher observation:

And then teacher observation, that could lead to conversations about their assessments.

In addition, SET B indicated a wide range of CBMs:

since we're also working on different skills we have assessments that measure their alphabet, their phonological awareness, phonics, sight words, and fluency. And those are teacher created assessments or curriculum-based measurements, something like that.

SET D also mentioned the use of observation as a teacher assessment that could also include a change in curriculum and explained that one way to assess student learning is to consider the speed at which students learn. In terms of observation, SET D said:

So based off our observations, we have realized that we need to improve our phonics and our foundational reading skills.

SET E added an additional teacher-based assessment by indicating the importance of teachers looking at the data for growth.
Table 19 on the next page lists the five categories of assessments and offers examples from the participants. When possible, the table also lists the RTI tier in which the assessment was used.

**Subthemes**

Based on analysis of the data, the researcher determined participants discussed two kinds of assessments, 1) informal, and 2) formal. Those types of assessments represent sub-themes in the data. In the section above, the researcher discussed the assessment approaches and provided quotation clips from participants about the approaches. The informal and formal assessments are presented in Table 19 on the next page.

In summary, all participants mentioned their use of CBA. In other words, one strategy the participants use to determine whether or not their students are making progress is the participants' own judgment. The participants used CBM to determine what strategies will help students to read.
Table 19
Informal and Formal Assessments

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Examples</th>
<th>Participants</th>
<th>Tier Used</th>
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<tbody>
<tr>
<td><strong>Informal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Running Records</td>
<td>Fountas &amp; Pinnell Leveled Literacy Intervention</td>
<td>SET A</td>
<td>Tiers II &amp; III</td>
</tr>
<tr>
<td></td>
<td>Running Records</td>
<td>SET B</td>
<td>Tier II</td>
</tr>
<tr>
<td></td>
<td>Progress Monitoring with Running Records</td>
<td>SET B</td>
<td>Tier I, II, &amp; II</td>
</tr>
<tr>
<td></td>
<td>Running Records</td>
<td>SET C</td>
<td>Tier III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SET D</td>
<td>Tier II</td>
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<td></td>
<td></td>
<td>SET E</td>
<td>Tier II</td>
</tr>
<tr>
<td>Reading Program Assessment</td>
<td>Fountas &amp; Pinnell Leveled Literacy Intervention</td>
<td>SET A</td>
<td>Tiers II &amp; III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SET B</td>
<td>Tier III</td>
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<td></td>
<td></td>
<td>SET C</td>
<td>Tier II</td>
</tr>
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<td></td>
<td></td>
<td>SET D</td>
<td>Tiers II &amp; III</td>
</tr>
<tr>
<td>Teacher-Based Assessments</td>
<td>Comparison to other students</td>
<td>SET A</td>
<td>Tier I, II, &amp; II</td>
</tr>
<tr>
<td></td>
<td>Improvement/Progress</td>
<td>SET A</td>
<td>Tier I, II, &amp; II</td>
</tr>
<tr>
<td></td>
<td>Teacher Judgment</td>
<td>SET A</td>
<td>Tier II</td>
</tr>
<tr>
<td></td>
<td>Trial Placement</td>
<td>SET A</td>
<td>Tier III</td>
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<tr>
<td></td>
<td>Observation</td>
<td>SET B</td>
<td>Tier II</td>
</tr>
<tr>
<td></td>
<td>Teacher Created Assessment or CBM</td>
<td>SET B</td>
<td>Tier III</td>
</tr>
<tr>
<td></td>
<td>Look at data to see if student meets minimal</td>
<td>SET D</td>
<td>Tier II &amp; III</td>
</tr>
<tr>
<td></td>
<td>requirements</td>
<td></td>
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<tr>
<td></td>
<td>Speed of student learning</td>
<td>SET D</td>
<td>Tier II &amp; III</td>
</tr>
<tr>
<td></td>
<td>Look at data for growth</td>
<td>SET E</td>
<td>Tier III</td>
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<tr>
<td></td>
<td>Progress Monitoring</td>
<td>SET A</td>
<td>Tier I, II, &amp; II</td>
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<td>SET B</td>
<td>Tier I, II, &amp; II</td>
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<td></td>
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<td>SET C</td>
<td>Tier I, II, &amp; II</td>
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<td><strong>Formal</strong></td>
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<td>Standardized Test Assessment</td>
<td>STAR Early Literacy Assessment</td>
<td>SET B</td>
<td>Tier II</td>
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<td></td>
<td>STAR Literacy Assessment</td>
<td>SET B</td>
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<tr>
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<td>NWEA MAP</td>
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<td>Tier II &amp; III</td>
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<td>SET E</td>
<td>Tier III</td>
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<td></td>
<td>M-STEP</td>
<td>SET E</td>
<td>Tier III</td>
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<tr>
<td></td>
<td>Compass</td>
<td>SET D</td>
<td>Tier III</td>
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</table>
Research Question 3

Do student outcomes match the teachers’ perception of the students’ reading development?

All participants discussed how they use student assessment outcomes to make choices about how to help students. Some participants also explained how they verify that the strategies are helping the students develop as readers.

SET A, for example, used growth in student outcomes as a sign that the interventions selected were matching the students’ needs. SET A explained:

When the strategies are working, we do see growth in those areas. Again, the ones that are not ready for that yet, we look for growth in their specific intervention. So like letter ID, are they getting better? So they know more every time we test? And then once they master that one skill we go to the next. And I guess we just change our intervention depending on the outcome.

So if we spend four to six weeks using an intervention and the progress monitoring is not showing growth, at that point we say it would be silly to keep doing that intervention because it's not making them better. So we would just do something different and see if we can get growth that way. So we don't spend more than a couple of weeks, four, four to six weeks. We wouldn't spend more than four to six weeks on an intervention that is not working without changing something.

We have some kids that are showing progress when we work with the one on one, but in a group of four they're not really paying attention. So it's just based on the need of the student. But everything I guess we do is based on, yeah, some of the progress monitoring. And then based on those results we change our reading strategy.
SET B, for example, explained the reading strategies used to help struggling readers are based on student assessment results or outcomes and that she constantly assesses students during selected activities to make sure students are learning. SET B stated:

Based on students' outcomes, I choose which reading strategies to use, depending on what their assessment shows they're struggling with. We use that to decide what strategy to use. And then while we're teaching that strategy, and using that strategy we observe their progress and review their progress monitoring data.

To ensure the strategies are successful, I am always observing and seeing how the students are doing with the strategies, and looking at the assessment data. And then planning from that how to better implement the strategy, or use another strategy to help them master the concept they're on.

As SET B indicates, she constantly assesses students during their activities to ensure that her students are learning and uses the assessment data to decide what strategies she should use with students.

SET C shared another example of how the assessment outcomes determine the instruction strategy chosen. The participant pointed out:

That progress monitoring helps me to know that they're making growth and gains, and what level of differentiation they might need, but it also helps me in providing what interventions I'm teaching, and to know what their skillset is, at any given time.

The same type of thing, I mean, the strategies that I implement. Also, it helps me group my students based on skills and where they're at in their progress. I try to base my grouping on ... If I have a group of students that's somewhere in the same range, then I'll group them together.
SET D also detailed how she implemented a specific reading strategy based on the use of student outcomes and shared how her perceptions reflect the reality of student outcomes:

[I]f you're using that direct instruction through that process with Anita Archer where you're decoding, recoding, breaking it apart, being able to identify chunks in reading. When they're taught that, and that becomes strong, their reading level comes up. I don't know if that makes sense. We use a lot of chunking words, not necessarily word families, but with that foundational, when they get that foundational and that is mastered, then they're able to go up higher with the comprehensions. So as we're going through these running records, which re-looking at data we're able to move them and there's all the reading strategies, but really it's looking at the data and seeing, are they moving? Yes. Okay, we move them. Are they not? Let's really look at it and see why. Okay, what in the foundational are they not getting? Are they not getting blends? Are they not getting digress? Are they not getting diphthongs? What it's really pulling out, what hole they're missing. And that's, when you can find that hole, that's when they're able to move. And between myself and Ms. [Name] that's been a huge focus in on us is really using our assessments and our data, but not only testing three times a year. We're constantly looking at them. When I'm doing my running records, I'm paying attention to every error. We're analyzing those errors. Where are they making the mistakes? This kid is not getting vowels. I need to focus in on vowels. So it's constantly being reactive and looking at the strategy you're teaching, are they getting it? Yes or no, and what are you doing if they are, what are you doing if they're not, which kind of goes back to that PLC process.

SET E illustrated the thought he puts into the assessment of struggling students. For this teacher, the success of a particular reading strategy used with a student can depend on
accommodations. SET E explained:

Well 90% of the time it's great. 90% of the times I do this, and they do very well. I have poor little [J]... I'm wondering now if he could be dyslexic or if he just... I don't know want to learn how to read I'm not going to do it. I don't know, but he's reading at a kindergarten level but yet during the MAP nest. … It's a nationwide test where the school systems can buy into it and they test the kids and they say how well they're doing and you hope their scores go up. He can't read, but there's something called text to speech where it reads everything to you. I though, I'm going to press that button and have it read. He went up 40 points because it was all oral. So, it's not that he can't understand. He just can't read, and he doesn't want to really learn how to read. So I'll probably do that... last year he ran around and was so horrible to everybody. He's got some bad behavior. Knocked out some windows earlier this week.

All of the participants confirmed that they assess students’ learning while the students are engaged in reading activities. Whether the students use progress monitoring or a quick check of student comprehension or another skill, all of the participants assess student learning to ensure the strategies they use are supporting the individual students. Finally, all of the teachers based their choices of reading instruction strategies on the results of student outcomes.

**Research Question 4**

From the teacher’s perspective, has the implementation of RTI framework improved and/or supported his/her knowledge and use of EBPs in teaching students with LD in reading?

All five participants agreed that RTI and EBPs have improved their knowledge and their teaching. SET B answered the interview question about whether the RTI framework benefitted
her teaching by answering, “yes” and did not elaborate. The four other participants offered more
detail about how RTI had helped them to ensure their students make progress. SET A indicated
her belief in RTI, while also indicating her need to continue to work with EBPs:

I believe the implementation of the RTI framework has improved and supported my
knowledge and use of EBPs in teaching students with learning disabilities in reading.
Specifically, I need to find evidence-based interventions to match the specific needs of
my students and by staying current on available evidence-based interventions and
practices, I build my repertoire of resources to address very specific needs within reading.

SET C also praised the RTI framework for how it supports teaching:

The response to intervention framework supports my teaching in that I understand the
importance of frequent checks of learning and implementation of interventions to
improve learning outcomes for individual students. It is vital to be flexible and ready to
adjust teaching and intervention

SET D connected the RTI framework to School D’s PLC process and to a belief in the value of
continued assessment:

I do like the response to intervention framework. It is imperative to keep constant watch
of your students to see where they are and how they are progressing in the intervention
process. this framework also allows children to progress through needed interventions
and not stay at 1 for a long time. We use the PLC process for RTI. This model requires
monitoring and progress checks every 4 weeks. This allows constant monitoring to
inform instruction.

SET E offered another positive review of RTI and of EBPs:

The implementation of the response to intervention framework has improved and
supported my knowledge and use of evidence-based practices in teaching students with learning disabilities in reading. This increased focus on reading success helps teachers in the general education classrooms target students that may need more help. Using Tier II and Tier III interventions, it helps students grow as readers. The process also helps the child study process to identify students for special education to meet student needs, responding to their academic progress.

In summary, all of the participants offer support for RTI and the use of EBP’s. Four of the five participants stated that the RTI framework has helped them confirm their student’s progression in reading development.

**Triangulation**

To increase the validity of the study, the researcher used three different sources to support the study’s findings: the teachers’ perspective (interviews), the researcher’s observation of teachers teaching, and the students’ outcomes. The teachers’ perspective, overall, indicated that reading strategies implemented using the *Fountas & Pinnell Leveled Literacy Intervention* program were effective. The participants can see student growth in data from running records. Through observing two lessons for each participant, the researcher saw that each participant used direct instruction, summarization, or retelling to help students. During the two observations, the researcher found that four out of five participants used the same strategies that they mentioned in the interview. For example, SET B used direct instruction to help the student. She was teaching understand how to use prior knowledge for reading comprehension. SET E also taught the student she was working with how to develop inferences while also teaching how to summarize the key points in a story. For the last source of triangulation, the researcher reviewed anonymous outcomes for students of the participants. The researcher discussed in detail with the participants:
1) student growth, 2) running records for each student and 3) student outcomes on the M-Step and NWEA MAP assessments. The participants explained to the researcher that some students fluctuated in their performance during the school year, but the participants did not believe that fluctuation was always related to the use of a specific teaching strategy or intervention. Rather, the teachers often connected the fluctuations in student progress to a range of different factors such as social, medical, or attendance issues.

**Summary**

This chapter presented the data for the four research questions that guided the study. It also provided detailed information regarding the data collected on the five participants and their schools. The chapter also included the process of how the researcher analyzed the data according to thematic inductive analysis method and the supporting data themes that emerged from the data transcripts. The themes included two main themes: 1) programs and strategies and 2) assessment. Underneath each main theme, two sub-themes emerged. For the second theme, the sub-themes were formal and informal assessment. When viable, supporting data about the main themes were categorized by RTI levels, Tier I, Tier II, and Tier II.
CHAPTER V
DISCUSSION

This study had five purposes. The first purpose of the study was to first determine the effective reading programs and strategies special education (SpEd) teachers use to teach students with learning disabilities (LD) in reading. Second, the purpose was to verify the programs and strategies teachers use in Tier II and III and if they varied between tiers. A third purpose was to verify how SpEd teachers determined the effectiveness of the programs and strategies they use and the fourth purpose was to determine whether the assessments for effectiveness differed between Tier II and III. The final purpose was to determine whether SpEd teachers’ believe RTI makes a positive difference in using evidence-base practices (EBP) to teach students with LD reading strategies.

In this study, the researcher conducted a qualitative multiple case study approach to explore four overarching research questions. The researcher interviewed five SpEd teachers two times, observed the teachers teach small groups of students, and analyzed student outcomes through either NWEA MAP scores or M-STEP scores. The first interview occurred prior to the teaching observation, and the second interview took place after the second teaching observation. To triangulate the data, the researcher used three approaches, interviews, observations, and document analysis of outcomes and lesson plans. The researcher used inductive thematic analysis to analyze the data. This chapter includes the interpretation of findings, the limitations, recommendations for further related research, and a summary of the study.
Interpretation of Findings

Research Question 1

What reading strategies do special education teachers perceive as most effective when working with students who have learning disabilities in reading? Does this vary by Tier II or III?

Based on the teaching observations and interview answers of the five participants, the researcher determined that during Tier II instruction, the participants started using more intensive instruction to target the specific needs of students. To help students learn, the teachers relied on three main teaching strategies (whole class instruction, direct instruction, and small group instruction) they found to be effective, and those strategies allowed the teachers to employ a host of additional strategies. All of the participants employed small group instruction at Tier II, although the individual leading the groups differed. The small groups were instructed by either the teachers themselves, para professionals, Title I tutors, reading specialists, adult tutors, or tutors from a local college. The participants also placed their trust in a majority of the tutors. One participant, however, was not confident about the effectiveness of the college tutors because the college tutors did not have time to develop in depth knowledge of the students.

In Tier II, teachers also found that using well-established reading programs purchased from a publisher or an organization founded by reading researchers is very effective. Programs mentioned include Reading A-Z, Compass Reading, and the Fountas and Pinnell Level Literacy Program. In addition, the programs allowed teachers to use direct instruction on a variety of skills and guided reading instruction to help students learn to use prior knowledge and context clues.

At Tier III, the instruction became much more intense for students who are not at grade level. The participants trusted the value of direct instruction for a variety of skills their students
at Tier III needed. Participants indicated the importance of their students who had not yet learned phonic-based foundations getting those skills at this stage. The participants also valued summarization to help students advance in their re-telling ability and comprehension skills. At this tier, participants again used programs bought from publishers or organizations founded by reading researchers to break down reading skills and help students learn to apply them. Once again products from *Fountas & Pinnell Leveled Literacy Intervention, Edmark, and Rewards Reading*, are again used extensively; other programs valued at this level include foundational phonics included *System 44* and *My Sidewalks*. Small group work is also considered an effective strategy at Tier III, and teachers value the opportunity to work individually with the students to meet their reading needs. The small group tutoring and instruction in Tier III are also led by a variety of individuals, ranging from the special education teacher and paraprofessionals to other tutors. Interestingly, Tier III volunteer tutors are considered valuable and effective. At this point, one participant illustrated a group of volunteers who are known as “the grannies.” These women are grandmothers who provide students more opportunities to develop their reading abilities by allowing the students to read to them. The “grannies” help students with “foundational skills,” like phonics, which relate to fluency; furthermore, the “grannies” also help students with comprehension by engaging in repeated reading.

The strategies teachers found effective for use at Tier II and the strategies teachers found effective for Tier III are similar in some ways and different in other ways. The teachers at both tiers use small group and direct instruction and rely on established programs to help them teach multiple reading skills to students who are struggling with reading. However, the instruction at this level is much more intense, and different programs are used or the programs are used differently at Tier II and III. Teachers also took full advantage of established structures and times
for collaboration with other educators to consider Tier III interventions, assessments, and data. These structured opportunities for discussion and problem solving includes one of the following teams: student success teams, grade-level teams, and/or professional learning community teams.

**Research Question 2**

How do teachers determine the effectiveness of the strategies? Does this vary by Tier II or III?

SpEd teachers use five types of assessment with Tier II and Tier III instruction, and the assessment types include both informal and formal assessment. Overall, SpEd teachers rely more on informal assessments than they do formal assessment to support their daily instruction. This finding is based on the fact that teachers and students have more opportunities for informal assessment than they do for formal assessments. At both levels, teachers value running records and progress monitoring. SpEd teachers also trust assessments that are part of reading programs purchased from publishers or teacher made assessments such as curriculum based assessments. Most teacher-based assessments are quick, context-based, and curriculum-based. SpEd teachers also rely on materials from other publishers, such as Compass and STAR literacy assessments for formal assessment in both tiers. However, the NWEA MAP and M-STEP standardized assessments are also valued formal assessments that teachers use. Along with the value of tests, SpEd teachers also look at how the students’ life and testing experiences have influenced their performance, especially when the performance fluctuates over time. In other words, the teachers add their own judgment or insights about a student when they consider the results of standardized tests, especially if the scores fluctuate. At such times, the teachers are engaging in the fourth type of assessment that is listed in Table 19: Informal and Formal Assessment. Teacher judgment is a form of assessment that participants in this research trusted for Tier I, Tier
II, and Tier III decisions. Thus, SpEd teachers are relying on their own observations of assessment as well as their experiences with and knowledge of the students. Based on the participants’ interview answers, teachers tend to document such assessments more at Tier III than at Tier II. SpEd teachers also value trial placement as an assessment strategy. To accomplish trial placements, teachers place a student in a particular group or try a particular intervention. If the student learns from the trial placement, then the teachers continue with that placement. However, if the student has difficulties, teachers can easily place the student in another group or teach the student with another intervention.

Finally, teachers truly value the opportunity to discuss Tier II and Tier III assessment data whether from running records or NWEA MAP as a way to determine group placement or interventions for students. At Tier III, though, such collaboration is especially important as teachers try to help students who are struggling the most with reading and, in many cases, are obligated to document their efforts in IEPs.

**Research Question 3**

Do student outcomes match the teachers’ perception of the students’ reading development?

The data shows that teachers match student placement and Tier II and Tier III interventions to the outcomes of formal and informal assessment. Many of the students the researcher observed and those the teachers discussed anonymously responded positively to the strategies used by the teachers. Some of the students who did not appear to respond positively to the observed interventions were dealing with other factors, such as not taking daily medication or dealing with family problems. For example, one student’s assessments dropped when his mother’s boyfriend moved in with the family for a few months and increased when the boyfriend
moved out. Thus, the teacher believed that this factor affected the student's performance outcomes in the specific period because of something out of the school environment. It is not possible to check the validity of this assumption by the teacher, but by noting it, the researcher again indicates that teacher judgment can add important context to standardized scores.

**Research Question 4**

From the teacher’s perspective, has the implementation of RTI framework improved and/or supported their knowledge and use of EBPs in teaching students with LD in reading?

SpEd teachers value how RTI and EBPs have helped them be more effective at teaching reading to students with LD. SpEd teachers value their own assessment abilities, their own ability to match interventions to students’ needs, and they are eager to continue to learn new strategies. In general, RTI and EBPs serve both SpEd teachers and students with LD well. RTI and EBPs allow teachers to determine how to help students who have difficulties to read and help the students learn what they need to know. RTI is also especially useful because it helps teachers ensure that their students are learning and empowers the teachers with valuable data.

**Implications for Practice**

The researcher found implications for practice in the data and answers to the four research questions. First, considering the importance special education teachers place on group work, direct instruction, and the use of programs purchased from publishers or reading research organizations, students majoring in elementary education and/or Special Education or earning advanced degrees in those areas should first, consider the evidence behind each of these strategies and/or programs. If the evidence supports the implementation of such programs and strategies for the intended deficit area in reading, then these strategies and programs should
taught. Students who want to teach should be taught to investigate the evidence supporting a strategy or program considered for implementation. The teachers in this study all agree that the implementation of RTI has contributed to their ability to help students who are struggling with reading. Specifically, the participants acknowledged that the RTI framework helped them better understand EBPs and how to use them as well as the need for on-going assessment, especially their own observations and in-class evaluation of students’ learning, which helps the teachers connect specific strategies to students’ needs. Teacher education classes should include RTI instruction based on the recommendations of their more experienced peers in the field.

Students preparing for Special Education or Elementary Education careers also need to be taught the value of informal and formal assessment strategies that fit into the five different categories of assessment, including Running Records and Progress Monitoring, Reading Program Assessment, Standardized Test Assessment, Teacher-Based Assessments, and Team Meetings. Specifically, students should be taught about how assessments in these categories can support and inform interventions that meet students’ needs. It is important for new teachers to understand the assessment materials of the programs they are using as well as the state level assessments.

In addition, all school administrators and teachers should begin to value the role that professional collaboration can play in helping teachers determine what interventions are needed by students based on various types of assessment data. Given the value teachers place on opportunities to talk to other professionals about assessment data, students’ needs, and potential interventions, all schools should provide time and opportunity for such collaboration among teachers and other professionals.

Finally, on a personal note, the researcher plans to take many of the practices discussed in
this dissertation to Saudi Arabia. The researcher hopes to hold workshops and training sessions about RTI, EBPs, group work, one-to-one instruction and assessment, direct instruction, and informal and formal assessments that are listed in Table 19. The researcher would like to transplant such efforts into elementary schools in Saudi Arabia. Many, if not all, Saudi Arabian school staff already support the idea of helping students who struggle with reading by focusing on the students’ needs. The practical and proven strategies for instruction, assessment, and checking for effectiveness will continue to enhance that current Saudi Arabian educational approach.

Limitations

The research reported in this study has several limitations: the study focused only on the teacher perspective of the reading strategies and assessments. It did not look at the student view. Also, the researcher has discovered points in the interviews when he could have prompted the participants for longer, more informative answers. In addition, the study was conducted at the end of the school year and, with one participant, at the beginning of a year-round program that began in July. The picture available from the data collected at that time may not represent what happens at other times of the school year. In addition, the sample size was small, which also reflected how in-depth this study could be. Finally, the study location was in southwest Michigan, so the findings represent a specific group of the U.S. population.

Recommendations for Research

The study revealed answers to the four research questions and allowed the researcher to better understand much course content in the doctoral program in Special Education at Western Michigan University. Therefore, the researcher realizes that the study should be done at different times, such as a few weeks after school has started or in the middle of the school year. The study
could be improved if the researcher could follow students for a longer period of time. Another improvement would be to replicate the study in suburban school districts, instead of just the rural and urban districts the researcher could cover. To simplify logistics, the researcher collected lesson plans on the same days as observations. Obtaining the lesson plans in advance and using them to develop an efficient checklist would improve the study. Such a checklist would allow the researcher to note key observation actions and insights, review the data during analysis, and find patterns in the observation data.

The researcher would also like to see EBPs developed or modified for K-5 in Arabic reading instruction, which would allow similar research to be conducted in Saudi Arabia. The RTI framework appears to be transferable to K-5 settings in other countries and language; however, more research such as this study are needed to capture how RTI’s and EPBs can be implemented in such settings.

**Summary**

This chapter reviewed the purpose of the study, listed the four research questions, and responded to the questions based on the data and a careful analysis of the data. For the first questions about what strategies teachers use for supporting students with LD, six strategies to be trusted and used by the teachers. At Tier II, teachers offer students more intense instruction using the strategies. All participants in the study value small group work for Tier II and make accommodations to how lessons are taught or modify the content for students based on their needs. Teachers also supplement curriculum with materials that can help students learn skills they are missing. In some cases, the supplemental materials may come from well-established reading programs purchased from publishers or from organizations founded by reading researchers. These programs allow the teachers to engage students through direct instruction and
guided reading among other EBP strategies. Finally, at Tier II, teachers value opportunities to collaborate about their students’ needs with other educators and professionals.

At Tier III, SpEd teachers offer even more intense instruction and employ the same strategies as they use in Tier II. In this tier, Teachers value and trust direct instruction for small groups or individuals. While teachers use the same strategies for Tier II and Tier III instruction, they tend to use more established reading programs and engage in more collaboration about how to help students in Tier III succeed.

To determine the effectiveness of the strategies they use at Tier II and Tier III, SpEd teachers use five different types of assessment, including formal and informal approaches. Running records is a highly valued form of assessment used for monitoring their students’ progress and needs. Teachers use a variety of programs from publishers and reading researchers for Tier II and Tier III instruction, with more programs being used in Tier III than in Tier II. Teachers also respect the data from standardized tests, especially the NWEA MAP and STAR assessment series. Teachers also value M-Step, but to a lesser extent than they do NWEA MAP and STAR. Teachers also add their own judgment to their students’ results on standardized test, taking into consideration whether a student’s scores fluctuate because the student failed to take medication or is dealing with a family issue.

As SpEd teachers interpret students’ scores on standardized tests based on their own insights about students, teachers value their own assessment ability. Teacher-based assessment are simple and curriculum-based; include strategies like trial placements, teacher created assessments or CBM, and observations. SpEd Teachers tend to not document these assessments as well for Tier II instruction; for Tier III instruction, the documentation is more important to teachers because they often must use it for IEP reports. Finally, teachers at Tier II and III take
advantage of opportunities to discuss students’ need and assessments with other educators and professionals.

SpEd teachers rely on student outcomes to determine interventions and placements. Students tend to succeed with the interventions and placements unless they have unusual circumstances, such as being absent for long periods. Finally, SpEd teachers are very appreciative of the RTI framework and EPBs. They believe that RTI has helped them do a better job of helping students with LD learn to read.

The researcher recognizes limitations of the study. The research took place in southwest Michigan, so it may not provide an accurate picture of other areas of the United States. The study focused only on the teacher perspectives, and it was conducted near the end of the school year. In addition, the sample size was small.
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Appendix A

Human Subjects Institutional Review Board Approval
Date: April 18, 2019

To: Elizabeth Whitten, Principal Investigator
   Ali Alhamdan, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: IRB Project Number 19-04-14

This letter will serve as confirmation that your research project titled "Special Education Teachers' Use of Reading Strategies to Support Students with Learning Disabilities in Reading" has been approved under the exempt category of review by the Western Michigan University Institutional Review Board (IRB). The conditions and duration of this approval are specified in the policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes to this project (e.g., add an investigator, increase number of subjects beyond the number stated in your application, etc.). Failure to obtain approval for changes will result in a protocol deviation.

In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the IRB for consultation.

The Board wishes you success in the pursuit of your research goals.

A status report is required on or prior to (no more than 30 days) April 17, 2020 and each year thereafter until closing of the study. The IRB will send a request.

When this study closes, submit the required Final Report found at https://wmich.edu/research/forms.

Note: All research data must be kept in a secure location on the WMU campus for at least three (3) years after the study closes.
Appendix B

Informed Consent Form
Western Michigan University
Department of Special Education and Literacy Studies

Principal Investigator: Dr. Elizabeth Whitten
Student Investigator: Ali Alhamdan
Title of Study: Special Education Teachers Use of Reading Strategies to Support Students with Learning Disabilities in Reading

STUDY SUMMARY: You have been invited to participate in a research project titled "Special Education Teachers Use of Reading Strategies to Support Students with Learning Disabilities in Reading." This project will serve as Ali Alhamdan’s dissertation for the requirements of the degree of Doctor of Education. The purpose of the research is to explore how teachers use reading strategies to help students with learning disabilities in reading, what teachers’ perceptions of success with those strategies looks like, and how student outcomes align with teachers’ perceptions of success.

Participants will commit to two interviews, lasting approximately 45 minutes each, several observation of their efforts to teach reading to a group of students with learning disabilities, sharing their lesson plans and materials used during the observed lessons, and preparing and sharing student documents that researchers can review without having access to the students’ names or identifying information. The interviews will be audio-recorded with each participant’s permission. During the observations, I will take notes, but I will not engage with the students or activities. I request that teachers share students’ work related to the lessons the teachers cover during my observations, but I also request that I am not be made aware of students’ names or identifying information. No known risks exist for participating in the study. Participants will choose the place and time of their participation, which will minimize their inconvenience. The only cost to participants is their time, and they will always have the right to stop participating in the study at any time. No tangible compensation will be provided for participating in the study. Benefits may include that participants gain insights about their teaching work by sharing and reflecting on their answers during the interview. Individual participants may also gain professional or personal satisfaction from being part of a study that contributes to professional literature in their discipline. The alternative to participating in this study is to not participate in this study.

Only the researcher and academic advisor will have access to the data gathered in this research, which will be collected via audio-taped interviews, observation field notes, and document review. Participants’ identities will be protected because interview audio tapes and transcripts will be labeled with pseudonyms. Field notes will be also labeled with pseudonyms, and document review will also involve pseudonyms. In addition, pseudonyms will be used during the data analysis and writing of the research. Interview audio recordings will be encrypted for storage on an external hard drive during the transcription process, and will be destroyed after transcription.
This consent inform document further explains the purpose of this research project and details other essential study information as summarized above, including the time commitments, the procedures used in the study, and the risks and benefits of participating in this research project. Please read this consent form carefully and completely and please ask any questions if you need more clarification.

What are we trying to find out in this study?
The purpose of this study is to find out how an instrumental sample of upper elementary special education teachers use reading strategies as part of an intervention plan for students with learning disabilities in reading. We will explore what reading strategies these teachers perceive as most effective when working with students who have learning disabilities in reading, what strategies they use, how they determine the effectiveness of strategies, and how student outcomes on documents related to the lessons match the teachers’ perceptions of the students’ reading development.

Who can participate in this study?
The participation teachers should be taught and who meet the following criteria:
1. Have a minimum of three years of experience as a special education teacher in reading;
2. Have experience teaching 4th and/or 5th grade students diagnosed with a learning disability in reading;
3. Have been recommended by a participation in the study based on teaching performance in utilizing reading strategies for students with reading disabilities.
4. Are providing direct instruction to students with learning disabilities on a regular basis.

Where will this study take place?
The interviews will be conducted at each teacher’s school in a room of each teacher’s choosing or in a comfortable room I can arrange to use by contacting school administrators.

What is the time commitment for participating in this study?
Each participant will need to agree to the following time commitments:
1) First interview (approximately 45 minutes),
2) Allowing two to three observations of reading strategy instruction (observations will last the time length of the specific lessons),
3) Final interview (approximately 45), and
4) Sharing of materials (possibly copying time or 15 to 20 minutes ensuring that student names and identifying information is not available to the researcher).

What will you be asked to do if you choose to participate in this study?
The participants will be asked to do the following: (1) answer the questions below and clarifying questions related to the questions below during an interview before lesson observations, which will be audio-recorded, and answer clarifying questions in a second interview after the observations, which will also be audio-recorded;
(2) allow the researcher to observe participants teaching two to three reading strategy lessons to groups of students that include students with learning disabilities in reading, during which the observer will record notes but not engage with the activities or audio-record any of the lessons; (3) share lesson plans, objectives, and materials so that the researcher may confirm lesson objectives; and (4) allow the researcher to review student documents, which have had names and identifying information removed, related to the observed lessons.

**Interview One Questions Prior to Observation**

1) What reading strategies are used in your school at
   A. Tier 1?
   B. Tier 2?
   C. Tier 3?

2) Please explain how you determine when students need intervention in reading and provide examples if you can:
   A. At Tier 2?
   B. At Tier 3?

3) How do you determine the effectiveness of the reading strategies used in
   A. Tier 2?
   B. Tier 3?

4) How do you make the decision to move a student back to Tier 1 or on to Tier 3?

5) How are the reading strategies used in Tier 2 and 3 aligned with Tier 1?
   A. Tier 2 alignment with Tier 1
   B. Tier 3 alignment with Tier 1

6) How do you use progress monitoring while implementing strategies to help students who have learning disabilities in reading?

7) How do students’ outcomes match your choice of reading strategies?

8) How do you ensure the reading strategies you use are successful?

**What information is being measured during the study?**

After collecting interview, observation, and document analysis data, the interview transcripts will be analyzed for major thematic similarities that will be noted as major codes. The major codes determined by the initial researchers will be checked by another researcher, although all identifying information will be removed or altered to ensure participant anonymity. I will also consider environmental information as I analyzed the qualitative data.

**What are the risks of participating in this study and how will these risks be minimized?**

There are no known risks for participating in this study. Observation of reading strategies by researcher will be nonverbal and passive. Inconvenience to the school system and instructors will be minimized by giving participants the choice of place and time for observations and interviews.
The only cost to participants is the time required for the interview, observation, and preparation of anonymous documents that may be shared. The participants have the right to stop the interview any time if they need to do so.

**What are the benefits of participating in this study?**
While no tangible benefits are related to participating in this study, participation in the study may offer other benefits, including that participants may gain insights about their teaching work by sharing and reflecting on their answers during the interview. Individual participants may also gain professional or personal satisfaction from being part of a study that contributes to professional literature in their discipline.

**Are there any costs associated with participating in this study?**
There will be no financial cost for participation.

**Is there any compensation for participating in this study?**
There will be no compensation for this study.

**Who will have access to the information collected during this study?**
The researcher and the academic advisor are the only people who will have access to the collected information. All information will be collected via audio-taped interviews, field notes taken by the researcher during the interviews and observation, and document review. The audio-tapes and field notes will be labeled with pseudonyms for participants to protect their identity. Documents that are reviewed will also be labeled with pseudonyms; in the case of student documents, teacher participants will ensure that student documents do not include students’ actual names or identifying information. Additionally, pseudonyms will be assigned to transcripts of the interview recordings, which will be encrypted for storage on an external hard drive. All data, field notes, transcripts, and data analysis working papers will identify participants only by their pseudonyms, and all data will be kept in a locked file in a secure location at the principal investigator’s office WMU when the researcher is not working with it. To further insure the privacy of subjects and confidentiality of information, all audio recordings will be destroyed after transcription.

**What will happen to my information or biospecimens collected for this research after the study is over?**
The information collected about you for this research will not be used by or distributed to investigators for other research.

**What if you want to stop participating in this study?**
You can choose to stop participating in the study at any time for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience NO consequences either academically or personally if you choose to withdraw from this study. The investigator can also decide to stop your participation in the study without your consent.
Should you have any questions prior to or during the study, you can contact the primary investigator, Ali Alhamdan at cell phone (313) 687-0187 or ali.alhamdan@wmich.edu. You may also contact the principal investigator, Dr. Elizabeth Whitten at cell phone (269) 760-6801 or elizabeth.whitten@wmich.edu. And you may also contact the Chair, Human Subjects Institutional Review Board at (269) 387-8293 or the Vice President for Research at (269) 387-8298 if questions arise during the course of the study.

This consent document has been approved for use for one year by the Western Michigan University Institutional Review Board (WMU IRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

I have read this informed consent document. The risks and benefits have been explained to me. I agree to take part in this study.

Please Print Your Name

Participant’s signature Date
Appendix C

Special Education Director and Principal’s Email
Dear Special Education Director/ Principal:

My name is Ali Alhamdan, and I am a doctoral candidate at Western Michigan University working on my dissertation in Special Education under the supervision of Dr. Elizabeth Whitten. I would like to invite your qualifying teachers to participate in a research project that will hopefully benefit students who have a learning disability in the area of reading.

The purpose of this study is to examine how teachers in special and elementary education use reading strategies intervention for students with learning disabilities in reading in order to improve the students reading levels. Through a semi-structured, face-to-face interview, teachers will be invited to share their personal experience with reading strategies intervention used to support students with learning disabilities in reading.

Teachers who have a minimum of three years’ experience as a special education and/or general education teacher in reading and some experience using peer tutors to assist in improving reading performance for 4th and/or 5th grade students who are identified to have a learning disability in reading are invited to participate in this study. Participants will be asked to participate in two 4- to 45-minute semi-structured interviews. As well as, I will observe students during reading strategies session in the general education classrooms or resource rooms.

Should you need more information about the study, please contact me via email at ali.alhamdan@wmich.edu or by cell phone at (313) 687-0187 or Dr. Elizabeth Whitten via email at elizabeth.whitten@wmich.edu or by cell phone at (269) 760-6801. We will answer any questions and ensure you have all the information you need to decide if you will forward this email to the appropriate teachers.

Thank you for your time and consideration.

Sincerely,

Ali Alhamdan

Please remove everything above the dotted line and forward this email to any teacher that meets the criteria.
Appendix D

Teachers’ Email
Dear Colleague

My name is Ali Alhamdan, and I am a doctoral candidate at Western Michigan University working on my dissertation in Special Education under the supervision of Dr. Elizabeth Whitten. I would like to invite you to learn more about participating in a research project that has the potential to benefit students who have learning disabilities in the area of reading.

The purpose of this study is to examine how teachers utilize reading strategies intervention for students with or without learning disabilities in reading in order to improve the students’ reading levels. Through a semi-structured, face-to-face interview, you will be invited to share your personal experience with reading strategies you use to support students with learning disabilities in reading.

To participate in this study, you must have a minimum of three years’ experience as a special education and/or general education teacher in reading and some experience using peer tutoring to assist in improving reading performance for 4th and/or 5th grade students who have a learning disability in reading. You will be asked to participate in two 40 to 45-minute semi-structured interviews. I will also observe students during reading strategies session in the general education classrooms or resource rooms.

Should you need more information about the study, please contact me via email at ali.alhamdan@wmich.edu or by cell phone at (313) 687-0187 or Dr. Elizabeth Whitten via email at elizabeth.whitten@wmich.edu or by cell phone at (269) 760-6801. We will answer any questions you may have to ensure you have all the information you need to decide if you will participate in this study.

Thank you for your time and consideration.

I am looking forward to hearing from you.

Sincerely,

Ali Alhamdan
Appendix E

Interview Protocol
Project: Special Education Teachers Use of Reading Strategies to Support Students with Learning Disabilities in Reading

Interview Protocol: Interview with special education teacher

Time of interview: _______________

Date: ________________

Place: ________________

Interviewer: ________________

Interviewee: ________________

Thank you for the opportunity to interview you. Your response is very important to the study. The interview is approximately 45 minutes, and I will record the interview. The information that I will collect during the interview will be confidential and at no time will your responses be connected to your name or school.

Questions:

1) What reading strategies are used in your school at
   A. Tier 1?
   B. Tier 2?
   C. Tier 3?

2) Please explain how you determine when students need intervention in reading and provide examples if you can:
   A. At Tier 2?
   B. At Tier 3?

3) How do you determine the effectiveness of the reading strategies used in
   A. Tier 2?
   B. Tier 3?

4) How do you make the decision to move a student back to Tier 1 or on to Tier 3?

5) How are the reading strategies used in Tier 2 and 3 aligned with Tier 1?
   A. Tier 2 alignment with Tier 1
   B. Tier 3 alignment with Tier 1

6) How do you use progress monitoring while implementing strategies to help students who have learning disabilities in reading?

7) How do students’ outcomes match your choice of reading strategies?

8) How do you ensure the reading strategies you use are successful?

Thanks so much for your time and consideration. I know how busy you are, and I truly appreciate your time. Have a great rest of your day!
Project: Special Education Teachers Use of Reading Strategies to Support Students with Learning Disabilities in Reading

Interview II Protocol: Interview with special education teacher

Time of interview: __________________

Date: __________________

Place: __________________

Interviewer: __________________

Interviewee: __________________

1. Based on the program/strategies you have identified; do you see the students increasing their achievement/scores? If so, do you attribute the growth to the program (Fountas & Pinnell) or to consistency of instruction/repetition?

2. How often do you monitor students’ progress? Is there a specific number of weeks?

3. If students aren’t progressing, what are you going to do? For example, is it possible to switch program/strategies to different strategies? What is your typical back-up plan for a student who is not showing progress?

4. Is it possible to share with me examples (with students’ names removed) of progress monitoring where a student(s) has shown growth and a student(s) who have not demonstrated growth?

5. From your perspective, has the implementation of the response to intervention framework improved and/or supported your knowledge and use of evidence-based practices in teaching students with learning disabilities in reading?

Again, thanks so much for your time and consideration. I know how busy you are, and I truly appreciate your time. Have a great rest of your day!
Appendix F

Observation Protocol
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