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Short-Term Direct Reading Instruction for 2nd Grade Students Using Horizons Fast Track A-B

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Short-Term Direct Reading Instruction for 2nd Grade Students
Using Horizons Fast Track A-B

A Project Presented
to
The Graduate Faculty of
Minnesota State University Moorhead

By

Emily Danielle Dempster

In Partial Fulfillment of the
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Abstract

Children who read proficiently by third grade are four times more likely to graduate from high school (Hernandez, 2011). This school-based project explored the effects of Horizons Fast Track A-B phonics intervention on oral reading fluency (ORF) progress of three second grade students. Students received 40-minute lessons, twice a week for three weeks. Lesson activities ranged from identifying letter sounds to story comprehension. Students were progress monitored weekly at the second-grade level using one-minute ORF probes. It appeared that the intervention was not beneficial for these students. Discussion includes possible changes that could have been made to make the intervention effective for the students.

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CHAPTER I

INTRODUCTION

Learning to read is a critical experience for children in primary grades. Children that are reading at grade level by third grade are more likely to graduate high school than children who are reading below grade level (Hernandez, 2011). However, reading is a complex process with several components that have to be mastered. The key components of reading are phonological awareness, phonics, vocabulary, comprehension and fluency (National Institute of Child Health and Human Development, 2000). There are several methods that can be used to teach children to read. The most successful approach for all readers is a phonics-based approach emphasizing the relationship between letter and sound, giving children the tools they need to properly decode unfamiliar words. Direct Instruction, a phonics-based teaching method has been shown to be effective in the acquisition, proficiency and generalization of the five critical components of reading, with an emphasis on phonics (National Institute of Child Health and Human Development, 2000). Horizons Fast-Track A-B is a Direct Instruction program used for struggling readers to increase students oral reading fluency (Tobin, 2003).

Horizons Fast-Track was used with a group of second graders selected by the special education teacher at my practicum site. Horizons is comprised of scripted lessons with nine to eleven mini exercises each lesson. Lessons started

with introducing letter sounds and then moved to having students decode words in sentences. The intervention was done for 40 minutes, twice a week for three weeks. Students were progressed monitored once a week using AIMSweb Plus measures of oral reading fluency at the second-grade level.

This paper will explore the components of reading, methods of reading instruction and the use of a Direct Instruction program to increase oral reading fluency. The results observed for each of the students will be discussed as well as limitations and implications of the given project.

CHAPTER II

LITERATURE REVIEW

Reading is a skill of great importance that cannot be underestimated in today's education. Reading ability is often a strong predictor for academic achievement. Reading is also an essential task that will prepare children for skills needed in adult life. Skills and tasks such as reading road signs, applying for a job and voting require basic reading proficiency. Children need to be reading at grade level to succeed academically (Vaughn et al., 2015). If students do not reach reading proficiency levels by third grade, they are four times more likely to drop out of high school before receiving their diploma (Hernandez, 2011). How can schools provide instruction so that all children gain the ability to read in school? First, we need to look at the progression of reading development.

Phases in Reading Development

Like the acquisition of many skills, learning to read occurs in stages. Linnea Ehri (1995) developed five stages children pass through in order to become automatic readers. The phases of reading include: pre-alphabetic, partial alphabetic, full alphabetic, consolidated alphabetic and the automatic phase. The pre-alphabetic phase occurs in children before any sort of formal phonics instruction. Children rely on visual and contextual cues to identify words (Lane, 2020). For example, it may appear that young children can "read" the logos of popular stores and restaurants but they are relying on the relationship between

the logo or commercial and the name of the product. For example, it may appear that children can read the label on a Coca-Cola can, but they have only learned the relationship between the logo and the name of the product. The phonological relationship between letters and sound are not yet used to determine words (Ehri, 1995). Children in this phase of reading should be given instruction in phonological awareness and grapheme-phoneme correspondences (Lane, 2020).

Readers in the partial alphabetic phase are starting to make some connections between letters and sounds. Children will often use the first or last sound of the word in order to ‘read’ it. This is called phonetic cue reading (Ehri, 1995). For example, children will see the word ‘snake’ and know there is a ‘S’ at the beginning of a word and an ‘E’ at the end. They may determine that the word is ‘sake’ and disregard the letters in the middle of the word. At this stage children do not have any strategies to use when decoding new words (Lane, 2020). Learning and instruction in this phase should focus on phonemic awareness, vowel sounds and assigning a sound to all the letters in a given word (Ehri, 1995; Lane, 2020).

The full alphabetic phase is marked by the reader having the correct sound for every letter in the word (Ehri, 1995). Children in this phase have enough phonemic awareness to decode unfamiliar words (Lane, 2020). At this point, readers will have also memorized some sight words. Sight words are instantly recognized by the reader regardless if they are spelled regularly or irregularly (Moats & Tolman, 2019). While children in this phase have knowledge of some sight words, they should be working on the segmenting

and blending of phonemes (Lane, 2020).

In the consolidated alphabetic phase, children are beginning to recognize prefixes and suffixes and chunk them together when decoding words (Ehri, 1995). For example, they will recognize “-ing” endings or “ight” as a chunk when reading. It is around second grade when students start to consolidate reoccurring letter patterns (Ehri, 1995).

The final phase in Ehri’s theory of reading is the automatic phase. In this stage, reading is effortless (Lane, 2020). If the reader encounters a new word, they are able to decode quickly. Reading at the automatic phase allows the reader to focus on the content of the text (Lane, 2020). Through mastery of the skills taught in the prerequisite phases the student can now put their efforts into comprehending complex text. Yet, there are several components of reading that need to come together in order to develop reading proficiency.

Components of Reading

Reading is a complex process that involves several skills. There are five critical components of reading as identified by the National Reading Panel (2000). Each component was examined to determine if instruction on that component improved reading and how instruction could be best provided. These components include phonemic awareness, phonics, fluency, comprehension and vocabulary. Phonemic awareness is the ability to distinguish between different sounds. To understand a student’s level of phonemic awareness, a teacher or interventionist may ask them to blend sounds together or replace a sound in a word with a new one. Phonics or alphabets is matching printed letters or words

to sounds. At the beginning stage of learning phonics, students are in Ehri's (1995) partial alphabetic stage of reading. Once students have mastered phonics, they move into the full alphabetic stage of reading. To do this efficiently, students need to know the sounds of each individual letter. Fluency is defined as a student reading with an appropriate rate, accuracy and prosody. Once a student becomes a fluent reader, they move into the consolidated alphabetic phase of reading (Ehri, 1995). This phase is marked by fluent decoding and the recognition of common letter patterns. Vocabulary is understanding the meaning of individual words. Vocabulary is often seen as the "middle ground" of the reading process, as it leads to comprehension. The last component of reading is comprehension, is the ability to create and draw meaningful understanding from a text and it is critical to academic success (National Reading Panel, 2000). Students that have the necessary fluency and comprehension skills are now in the automatic phase of reading (Ehri, 1995).

As children move through elementary education there is an elemental shift in reading between the third and fourth grades. From kindergarten until 3rd grade, there is a heavy focus on early literacy and teaching children the sound-symbol relationships necessary to read. This is known as the learning to read stage. In fourth grade children are expected to have mastered these basic reading skills allowing children to read and learn from a variety of texts (Hernandez, 2011). At this point in their education, the next step in reading is much more focused on increasing vocabulary and comprehending progressively complex ideas, solving problems and thinking critically. Children that are not fluent

readers struggle with this stage and experience greater academic problems. If students cannot read efficiently by the time they reach higher grades, they struggle to learn material from their textbooks, and therefore struggle academically (Vaughn et al., 2015). Research has shown there to be several ways to teach children to read.

Methods of Reading Instruction

Whole Word Reading Instruction

There are several schools of thought when it comes to the proper way to teach children to read. Students can be taught through whole word, phonics or a balanced literacy approach. In the 1990's the whole word approach was accepted into many schools (Schieffer et al., 2002). The main idea behind whole word instruction is that children are taught skills that focus on figuring out the meaning of words in text. Students are encouraged to use contextual clues to determine the unknown word (Bowers, 2020). Students are taught to look at the picture or read the next sentence to try and figure out the novel word. The whole word approach does include some phonics instruction. However, phonics is not explicitly taught, and decoding is not used as a strategy to figure out an unfamiliar word. Students are left to guess at unfamiliar words by using contextual information. This strategy is not too different than that of Ehri's (1995) pre- alphabetic phase of reading. In this initial phase of reading and in strategies taught in whole word instruction, children are relying on their contextual knowledge to make connections regarding new words. Based on Ehri's theory, children must develop knowledge of phonics in order to become efficient readers.

Phonics Instruction

On the opposite end of the spectrum, is the phonics-based approach to reading. Recommended by the National Reading Panel (2000), teaching children reading through phonics promotes greater grapheme-phoneme correspondence. Giving children the strategies of a strong phonetic base reinforces the importance of recognizing each letter within a word and provides the basis for decoding. Ehri's (1995), partial alphabetic and full alphabetic phase of reading are both heavily rooted in phonics. By the end of the full alphabetic phase readers have mastered phonics and are working towards fluent decoding and effortless reading.

As a compromise between the polarized worlds of whole word and phonics instruction, balanced literacy was developed. Balanced literacy is based on the idea that reading instruction can encompass both whole word and phonetic principles (Lombardi, 2020). Within the concept of balanced literacy is the use of the three-cueing system. The three-cueing system encourages children to look at the semantic, syntactic and graphophonic clues surrounding an unfamiliar word. Students are asked to determine what word would make sense based on the meaning of the rest of the sentence, the structure of the sentence and the spelling pattern of the unfamiliar word. For example, students are asked: Does the word make sense? Does it look right? Does it sound right? Originally, the three cueing system was developed to help students comprehend a complex sentence (Meltzer, 2019). Now the system is used to help children decode novel words. Balanced literacy boasts the integration of both whole word and phonetic

instruction. Yet, the three cueing system is at odds with traditional phonetic reading strategies, such as decoding. Struggling readers use contextual clues because they lack the decoding skills (Hempenstall et al., 2002). Instead of using phonics-based strategies to decode regular words, students and teachers are favouring a much more whole word approach through the lens of balanced literacy. A balanced literacy approach is seen in the Leveled Literacy Intervention (LLI), a small-group, short term reading intervention to help readers achieve grade level standards (WWC report). LLI uses fast-paced, explicit instruction lessons that focus on phonemic awareness, phonics, comprehension, fluency, vocabulary and writing about reading (WWC). Students are given new books to read every day, either at their independent or instructional level (WWC). The student's independent level is a book they can read without difficulty. The student's instructional level provides a more challenging book. A benchmark assessment is used to determine their independent or instructional levels. Studies examining the effectiveness of LLI have shown mixed results (Anderson, 2013; What Works Clearinghouse, 2017). LLI increases the reading fluency of struggling readers (Anderson, 2013). What Works Clearinghouse (WWC) (2017) found positive effects on reading achievement and some positive effects on reading fluency. No significant effects were found for alphabetic in beginning readers despite LLI promoting a phonics component (WWC, 2017). Balanced literacy is often an inadequate form of instruction for struggling readers due to the lack of emphasis on decoding. In order to be proficient at decoding children need to have a strong phonics base.

For the K-3 learning to read phase, extensive phonemic awareness and phonics instruction has been shown to be most effective for all readers, but especially struggling readers. This study worked on skills within the K-3 learning to read phase and more specifically focused on phonics. One of the best methods for teaching phonics is through Direct Instruction. Direct Instruction is an evidence-based method of teaching a variety of skills and concepts. Direct Instruction is used in several reading programs, is rooted in phonics, and aims to improve the quality of reading instruction students receive. One of the best methods for teaching phonics is through Direct Instruction.

Direct Instruction

Educational research has seen several studies citing the importance of direct and explicit instruction. Direct Instruction was first introduced to education literature by Engelmann and Carnine in their paper, *Theory of Instruction: Principles and Applications* (1982). For the purpose of this paper, Direct Instruction (DI) will be defined as a model of teaching that is centered around scripted instruction and slowly introducing new information. It should be noted, that in the literature there is also research on direct instruction (lower case) which is used when discussing instruction that envelopes a larger set of instructional principles such as explicit instruction (Stockyard, 2018). DI is based on the assumption that all students can learn with appropriate instruction. It also places a high importance on the examples given to children in order to help them learn (Stockyard et al., 2018). DI is successful for a wide age and range of students, including students with disabilities (Cooke et al., 2003; Watkins & Slocum,

2004). Direct Instruction has three main components: identification of concepts, rules and strategies to be taught through structured programs; examining instruction through scripted lessons, appropriate instructional groupings and progress monitoring; and high student engagement to ensure mastery of lesson objectives (Watkins & Slocum, 2004).

Identification of Concepts

The first component of DI focuses on identifying concepts and strategies to be taught through highly structured programming. DI teaches new concepts through ensuring the necessary pre-requisite skills exist before introducing new information. Additionally, concepts that are likely to be confused, such as the letters b and d are taught with several lessons of separation between them to decrease the likelihood of children mixing up letters based on orthography or what the letters look like (Watkins & Slocum, 2004). DI is scaffolded in such a way that approximately 10% of lesson content is new while the remaining content focuses on reviewing and applying concepts learned in previous lessons (Stockyard & Engelmann, 2010).

Examining Instruction

DI is careful to examine and ensure appropriate instruction is being given through scripted lessons, progress monitoring and appropriate instructional groupings. Highly scripted lessons ensure that all students have access to instructions (Watkins & Slocum, 2004). The use of specific wording for examples and corrections have already been tested for their effectiveness within the lesson (Engelmann, Becker, Carnine, Gersten, 1988). Watkins & Slocum

(2004) noted a limit of such scripted lessons is that teachers have to find ways to motivate students and sustain student engagement. However, with the establishment of a scripted lesson more of the teacher's resources can be allocated to adjusting instruction to the unique needs of the student and solving unexpected problems. Having students in appropriate instructional groups is a central component in any intervention, and DI is no exception. Students should be placed at a level where they have the necessary prerequisite skills to master a concept but have not mastered that concept yet (Watkins & Slocum, 2004). This view is in line with Vygotsky's Zone of Proximal Development. Vygotsky's Zone of Proximal Development (ZPD) is based on the idea that people learn best when placed in an environment that is designed appropriately for learning and expansion of their skills (Vygotsky, 1978). ZPD takes into account the current skill level of the student and looks to extend those skills by provided assistance on tasks that are slightly beyond the child's current competence (Shabani, Khatib & Ebodi, 2010). Motivation begins with an appropriate placement. The goal is for students to feel successful and challenged at the end of each lesson (Watkins & Slocum, 2004). Students should be placed at a point in the program where they have already mastered the prerequisite skills (Stockard & Engelmann, 2010). Many DI reading interventions have a placement test that suggests an appropriate starting lesson for each student. Continual assessment of students in DI programs should take place to measure mastery skills. Progress monitoring data is used to identify students that are moving at a faster pace as well as students that are not reaching a sufficient rate of improvement. Careful interpretation of progress

monitoring data allows teachers to determine what skills need to be practiced further and how instruction can be adapted to the individual. All decisions regarding a student's group placement and accelerated instruction are based on their assessment performance (Watkins & Slocum, 2004).

High Student Engagement

Keeping student engagement high through the duration of a DI scripted lesson is paramount to student success. Teacher-student interactions can be facilitated through active student participation, teaching to mastery, and motivation. The more students actively engage with the lesson the more they learn. Teachers increase engagement through eliciting a high number of group unison and individual student responses. Teachers can also control engagement through the pacing of the lesson. A quick rate of delivery allows students less time to be distracted and less time between presenting related concepts. A lack of high student engagement can result in a display of interfering behaviors. Student engagement and motivation can be increased by a variety of positive reinforcement techniques such as verbal praise, timed breaks, and star student recognition (Tompson et al., 2019; Rafferty et al., 2012). Positive reinforcement is when something is added to the student's environment when a desired behavior is displayed. A positive reinforcer could be verbal praise from an adult or giving the student a sticker for their work. Self-monitoring has also been used to increase on-task behaviors in students with emotional and behavioral disorders during reading interventions (Rafferty et al., 2012). In a study by Tompson et al., (2019), students with interfering behaviors were taught to respond in unison

during DI lessons. Although the study did not provide a measure to determine if there was a gain in reading skills, the students increased their group unison responses and showed mastery to consistently move on to the next lesson (Tompson et al., 2019). Given the appropriate supports and reinforcements all students can experience success and mastery in the given lesson.

Mastery

As previously mentioned, mastery of lesson objectives is essential to DI programs. According to Engelmann (1999), students show mastery when they are at least 90% accurate on previously taught material and 70% accurate on newly presented concepts. Within DI program instruction, the goal is for each student to reach a mastery level of each lesson. Skills taught in previous lessons are then used in subsequent lessons. If a student fails to master a skill the first time it is introduced the skill will be reviewed in subsequent lessons. Ensuring that students are brought to mastery creates a scaffolding model throughout the intervention. Engelmann (1999), compares mastery and the scaffolded nature of DI to going up a staircase. Students standing firmly on the fourth step will be able to reach the fifth step with ease. However, if students are behind in steps (lessons), reaching steps above their current ability will be much more difficult. Research has shown high quality teacher-student interactions during the lesson are essential to an appropriate rate of scaffolding (Shabani, Khatib & Ebodi, 2010). Not attending to high student engagement and positive reinforcement can result in an increase of interfering behaviors and a decrease in motivation to read. Lack of positive reinforcement is one of several criticisms regarding Direct Instruction.

DI Criticisms

Research by Eppley and Dudley-Marling (2019), argues that DI places too great of a focus on narrow, low-level reading skills. Therefore, this restricts struggling readers to simple practices. It is argued that DI threatens to expand the reading achievement gap as higher level readers consistently have greater access to more engaging activities (Eppley & Dudley-Marling, 2019). In the studies examined, students that received DI only had a small temporary gain in reading skills. It is important to keep in mind that gains in low-level reading skills is exactly what DI is designed to do. The DI programs studied were for K-3 students, higher level engagement beyond basic reading skills was not a focus of the given intervention. The authors also pointed out that the measures of reading used in DI research, such as DIBELS, oral reading fluency (ORF), and nonsense word fluency (NWF) do not measure comprehension. Additionally, DI does not include any elements that help to motivate or positively reinforce students while completing the lesson. While it is clear that high student engagement is essential to the success of student while in the program, teachers and interventionists are expected to include additional ways to motivate and engage students. (Watkins & Slocum, 2004). Despite its criticisms, DI has several reading instruction programs, two of which are Reading Mastery and Horizons.

Reading Mastery

Reading Mastery is an instructional reading program developed based on DI principles. A distinguishing factor of Reading Mastery is its non-traditional

letter orthography. Reading Mastery uses connected text to show the reader that the connected letters make one sound. For example, the letters, sh, wh, qu, and th are connected in Reading Mastery text. Reading Mastery also uses lines over vowels to denote a long vowel sound. The letters that are smaller in size are not heard as strongly as the larger letters (Schieffer et al., 2002). For example, near would look like this: n^ea^r, based on reading mastery orthography. This orthography fades out as students master skills and move into higher numbered lessons (Tobin, 2003). Unlike many other reading programs Reading Mastery does not begin by teaching students letter names. Instead, it teaches students letter sounds. Many of the words and passages used in Reading Mastery are decodable using strategies that have been explicitly taught (Tobin, 2003). Based on a 2002 meta-analysis by Schieffer et al., Reading Mastery was the favoured instructional method in six of eight studies with students in general education. In studies with students with disabilities, Reading Mastery showed to be the better program in four of nine studies compared (Schieffer et al., 2002). An alternative program based on Reading Mastery, but with improvements from previous criticisms is Horizons.

Horizons Fast Track A-B

The reading intervention used in this study is the Horizons Fast-Track A-B program developed by Siegfried Engelmann at the National Institute for Direct Instruction. Horizons is a 150-lesson scripted reading intervention that is designed to provide two years of reading instruction in a single school year. In concordance with DI principles, Horizons teaches phonics systematically,

introducing five new skills per lesson. Each lesson includes five parts: letter and sound instruction, work attack skills, oral reading of a story, independent workbook activities based on the story, and letter, sentence writing and spelling. (Tobin, 2003). Horizons was developed due to criticisms of Reading Mastery (Cooke et al., 2003). The main difference between Reading Mastery and Horizons lie in Horizons use of letter names to help students learn letter sounds. Horizons uses a standard letter orthography and teaches letter names first. Unlike Reading Mastery, Horizons includes the use of capital letters in lessons that have sentences. (Cooke et al., 2003).

Students that received Horizons Fast Track showed significantly stronger scores in nonsense word fluency and oral reading fluency measures compared to student who received a non-scripted reading intervention (Tobin, 2003). First grade students who were in Horizons had less than two errors on oral reading fluency measures while reading between 60-90 words per minute (wpm). Cooke et al., (2003) conducted a study on reading achievement of students with mild disabilities and compared Reading Mastery Fast Cycle and Horizons Fast Track. Students that received either intervention made significant reading gains on reading subtest scores on the Woodcock-Johnson Revised Achievement (WJ-R) (Cooke et al., 2003). From examining teacher interviews, it was also determined that teachers preferred Horizons Fast Track A-B over Reading Mastery Fast Cycle (Cooke et al., 2003). The Horizons intervention was selected by the special education teacher at my practicum site. It was chosen due to its evidence-base and scripted nature. Horizons was also selected for this given group of

students because it has a multitude of short-single step directions. The special education teacher felt that the reading group would benefit from the opportunity to practice following short instructions.

The purpose of this study was to determine if a short-term Direct Instruction reading intervention could increase ORF scores in a group of second grade students. Reading is an exceptionally important aspect of any child's education. The ability to read at grade level by third grade is a significant predictor for high school graduation rates (Hernandez, 2011). From kindergarten to third grade there is a greater focus on early literacy skills. By fourth grade there is a fundamental switch from learning to read to reading to learn (Hernandez, 2011).

CHAPTER III

METHODS

Participants

The intervention was conducted in a small Midwest suburban school serving students kindergarten to second grade. Five second grade student participated in the intervention; however, progress monitoring data was only available for three students. The students that participated in this intervention will be discussed as Nate, Trevor and Charlie. All students have English as their first language.

Nate

Nate was identified for a reading intervention based on his fall benchmarking results. His data placed him at reading level I using the Fountas and Pinnel literacy leveling system and in the moderate risk range. However, at the time of intervention the special education teacher was considering exiting Nate from his current services because of his progress in reading as shown by current reading data. Nate began receiving services in early childhood for speech and language delays. Nate also worked with an occupational therapist once a week on fine motor skills, mostly writing. Nate was consistently excited to come to the intervention group and share his weekend and love of superheroes.

Trevor

Trevor had been attending his current school since kindergarten. He received services from the special education teacher for math and reading. Benchmarking data was not available for Trevor. Trevor was compliant to attend the reading group; however, he became off-task and distracted easily. Trevor often rushed through the worksheets at the end of the session.

Charlie

Charlie was new to the school from a neighbouring school district in the fall of the year the intervention was done. Charlie received services in math and reading from the special education teacher. As Charlie became more comfortable in his new environment, interfering behaviors increased. Charlie missed three intervention sessions due to behavior. Charlie would gladly comply with progress monitoring if he could do a preferred activity afterwards. During one lesson, Charlie only agreed to participate if he could hand out necessary materials to the other students.

Materials and Procedure

Horizons Fast-Track A-B

Horizons Fast-Track A-B lessons were used with Nate, Trevor and Charlie. The lessons focused on phonics and story comprehension. At the request of the special education teacher, the students started at lesson one in the program. Students received the intervention for 40 minutes, twice a week for three weeks for a total of six sessions. Student only received a total of nine lessons because my practicum time was coming to an end. Early lessons focused on the sounds of

individual letters and the reading of single words. The lessons included a comprehension element by having the interventionist read a small passage from a story and asking students comprehension questions immediately following the passage. At the conclusion of the scripted lesson there was a worksheet for students to complete. Each lesson was comprised of nine to eleven mini exercises using a question-answer type of response. Based on a cueing system, students would respond individually or in unison. The lessons started with letter sounds and then moved to decoding words in sentences and stories. Each lesson had a handout for each student that was used for a variety of group and individual activities. For example, students would be required to point to specific sounds in printed words or complete a colour-by-letter to reveal an illustration of the story read in the lesson.

AIMSweb Plus

In order to monitor the effectiveness of this intervention, second grade level AIMSweb Plus oral reading fluency passages were used. The student read the passage from a paper copy and errors were marked on a laptop. After one minute the student's end point was marked. AIMSweb then provided the students' results which included the number of words read correct, the number of errors and the students' trend rate of improvement (ROI). AIMSweb boasts a predictive criterion validity of .83 (Efficiency Research Report, 2018). Predictive validity determines how well a measure can predict an outcome, in this case, reading achievement.

AIMSweb also has a high alternate form reliability coefficient at .96

(Efficiency Research Report, 2018). Alternate form reliability refers to how passages of the same level relate to each other and can be used interchangeably. The students' progress was measured weekly through AIMSweb plus test of Oral Reading Fluency at the second-grade level. Weekly progress monitoring was started in September by the special education teacher. Baseline data was collected prior to the intervention. Reversal data was also available for two weeks following the conclusion of the intervention. The dependent variable was the number of words read correctly in one minute.

CHAPTER IV

RESULTS

The data collected were words per minute on ORF measures for each student across eight weeks. Three baseline data points were collected over three weeks for each student. Each student had an individual rate of improvement (ROI) line that was calculated by AIMSweb Plus. If the students ORF progress followed the trajectory of the goal ROI they would be on track to their target goal.

As seen in Figure 1, Nate's baseline data is variable, with an average of 69 words per minute (wpm). According to national benchmark guidelines, second graders in the 50th percentile read at 50 wpm (Hasbrouck & Tindal, 2007). Nate's fall reading benchmark was 60 wpm. The first day of the intervention, Nate obtained a score of 88 wpm with two errors. The remainder of Nate's scores were between 78-100 wpm. During the intervention Nate's score on ORF was an average of 88 wpm. Nate had an average of 5.0 errors during baseline and an average of 4.0 errors during the intervention phase. Nate's average errors increased to an average of 9 during the reversal phase. Nate's goal ROI was 1.69 correct new responses each week. His ROI was highest during the intervention phase with an average of 6.34. During reversal, Nate's ROI dropped to 3.4.

As seen in Figure 2, Trevor’s baseline data was fairly consistent with an average of 62 wpm and 4.6 errors. During the intervention Trevor increased his score to an average of 67 wpm. When the intervention was removed, Trevor’s score decreased to an average of 60 wpm with an average of 3.5 errors. Trevor’s goal ROI was 1.67 as calculated by AIMSweb Plus. During the intervention, Trevor had an average ROI of 0.26. During reversal Trevor’s average ROI was 0.42.

Figure 1
Nate’s Weekly 2nd Grade ORF Progress

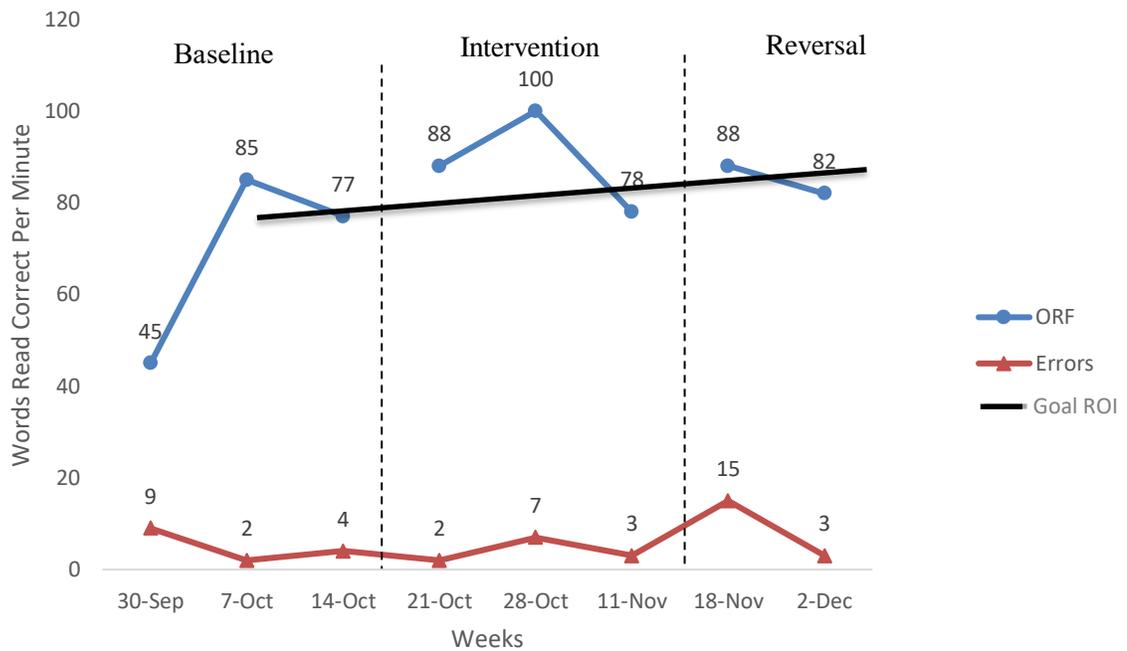
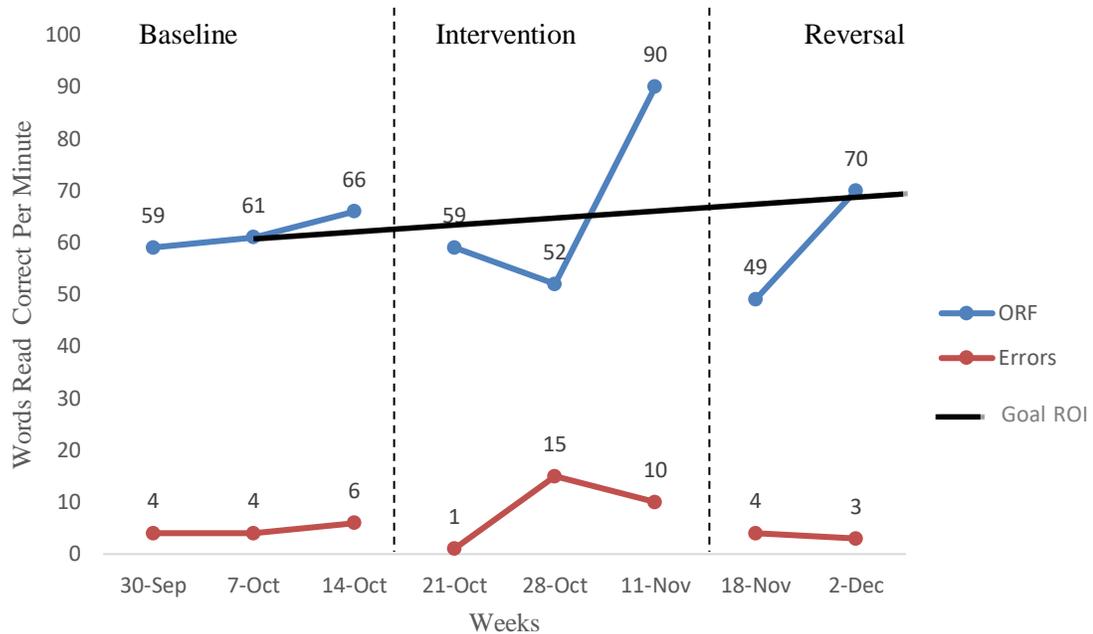
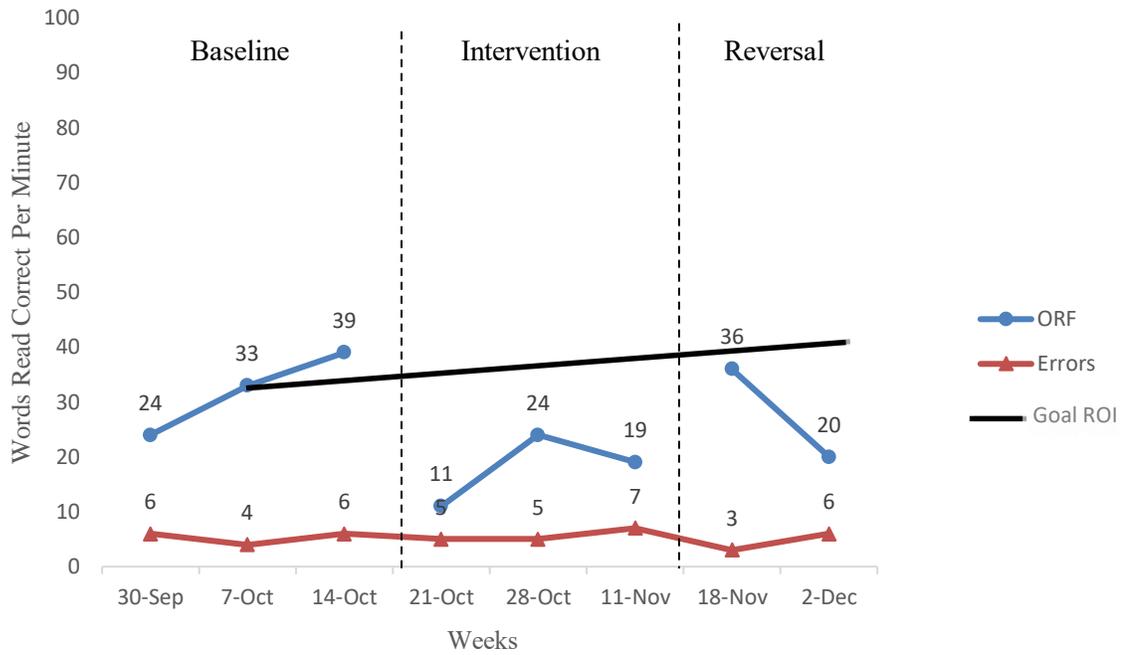


Figure 2
Trevor's Weekly 2nd Grade Level ORF Progress



As seen in Figure 3, Charlie's baseline data has an upwards trend, with an average of 32 wpm and 4 errors. According to baseline data Charlie is reading slightly below the 25th percentile for second graders (Hasbrouck & Tindal, 2017). At the onset of the intervention, Charlie's ORF decreased dramatically. Charlie had an average of 18 wpm and 5.6 errors during the intervention. Relative to Charlie's wpm his errors are high, accounting for between 20-81% of the words read during a ORF probe. Reversal data showed an average of 28 wpm with an average of 4.5 errors. Charlie's goal ROI was 1.74 as determined by AIMSweb Plus, based on the reading goal that was set for him by the special education teacher. During the intervention Charlie's average ROI was -0.47. During the reversal phase his ROI increased to 0.18.

Figure 3
 Charlie's Weekly 2nd Grade Level ORF Progress



CHAPTER V

DISCUSSION

This study aimed at determining if a short-term Direct Instruction reading intervention could increase ORF scores in a group of second grade students. Horizons Fast Track A-B was used for 40 minutes, twice a week for four and a half weeks. Progress monitoring was done with the AIMSweb ORF probes at the second-grade level.

Nate increased his wpm from regular classroom instruction previous to this intervention starting. It is likely that this intervention was not challenging for Nate and went at too slow of a pace. Nate was already above the 50th percentile compared to peers before the intervention started. Additionally, Nate's scores were likely an underestimation of his ability considering he skipped lines of text during progress monitoring. This played a factor for Nate on 11/18 which accounts for an usually high number of errors. Although the recommendation for scoring ORF probes is to not count skipped lines as errors (Hosp et al., 2016) the special education teacher counted them as errors when progress monitoring for all of her students. Despite having a highly skewed number of errors, Nate's average trend ROI (6.34) was much higher than his goal ROI (1.69). This shows that Nate is exceeding the reading goal that was set for him. Overall, this intervention was not beneficial for Nate. His reading scores increased previous to the intervention starting and he would have benefitted from a

more challenging starting lesson.

Trevor's average ORF increased during the intervention to 67 wpm. Trevor also had a high number of errors during the intervention phase that was a result of skipping lines of text during progress monitoring. Trevor's average trend ROI during the intervention was 0.26 and did not approach his goal ROI. The results obtained for Trevor are likely an underestimation of his ability due to many of his errors coming from skipped lines. I believe that Trevor would have been more successful if the level of the intervention was started at a higher lesson and therefore a better fit for his instructional level. At times, Trevor appeared bored by the intervention. He showed frustration at being asked letter sounds through exhaling heavily and refusal to complete the worksheet that corresponded with the lesson.

Charlie was a new student to the school this year, transferring from a neighbouring school district. Charlie missed three intervention sessions due to interfering behavior. From my observations, Charlie enjoyed positive adult attention and rewards in the form of time for preferred activities or tangible objects. Charlie's average trend ROI during the intervention phase -0.47. This was a result of Charlie reading at a low rate with a high number of errors. Throughout the baseline, intervention and reversal phase, Charlie had a high percentage of errors relative to his scores on ORF. As the intervention progressed, Charlie's errors did not decrease. It is likely that Charlie would have benefitted from a different starting point within the intervention and with lots of opportunities for positive reinforcement. Along with intensive phonics Charlie would have gained more if the intervention focused on more advanced decoding skills that are introduced later in the series.

Limitations and Implications

At the request of the special education teacher, the intervention started at lesson one of the Horizons Fast-Track A-B program. This was done so that students could get used to the pace of the intervention as well as get some practice with following short directions. Based on the reading skills that the students displayed, I felt they would have benefitted from a much higher placement within the intervention. Early lessons introduced letters and their sounds, this seemed rather redundant for the students I was working with. Placing students in appropriate instructional groups is essential to the success of Direct Instruction intervention (Watkins & Slocum, 2004). Starting the students at a lower level was done so they got a feel for the intervention before the lessons got more challenging. However, this idea goes against the theory behind Vygotsky's zone of proximal development (Vygotsky, 1978). Vygotsky's theory of ZPD states that learning is done best when students are given assistance on tasks that are slightly beyond their given skill set (Shabani, Khatib & Edodi, 2010). I doubt that the students who participated in this intervention ever felt a lesson was within their individual ZPD, considering only the first nine lessons were completed. This low-level placement also appeared to affect the level of student engagement needed when using a DI intervention. While Nate was engaged in the intervention, Trevor and Charlie struggled to stay on task. During one of the sessions, I could only get Charlie to come sit at the table with the rest of the students if he could be my helper. For this session, Charlie was pleased to hand out materials to the other students, but he would not

participate in answering questions or completing the worksheet. The lack of engagement observed from Trevor and Charlie's behavior highlights one of the common criticisms of DI interventions.

High student engagement is a key component of DI (Watkins & Slocum, 2004). It is up to the interventionist to find a way to keep students actively engaged and there are no positive reinforcements built into DI programs. Studies have shown that student engagement techniques such as positive reinforcement and self-monitoring can decrease interfering behavior and increase engagement with the lesson (Tompson et al., 2019, Rafferty et al., 2012). I believe use of these techniques would have resulted in higher engagement during the intervention and therefore higher ORF scores. Another important component of high student engagement is appropriate pacing and signaling by the interventionist to elicit frequent student responses. DI recommends that students respond 12 times per minute in order to sustain on-task behavior (Watkins & Slocum, 2004). Being able to prompt such rapid responses from students requires effective signaling by the interventionist. Teachers can use a variety of signals such as snapping, clapping or pointing to get student's attention. Clear and efficient signaling is required so that students know how and when to respond. Students responding quickly allows for more engagement throughout the lesson. My supervisor gave me some tips on how she paces and signals in her lessons, yet I never felt my pacing and signaling skills were proficient enough to properly hold the student's attention and request enough responses.

Oral reading fluency was the current form of progress monitoring being used at my practicum site. If students skipped reading a line of text, I was instructed by my supervisor to count all those words as incorrect. However, skipped lines are not to be counted as errors (Hosp et al., 2016). Unfortunately, progress monitoring was done using a computer so I was not able to reference a hard copy and determine what the correct number of errors should have been. Nate and Trevor's scores were negatively affected by this with 15 or more errors due to skipping lines. While I should not have counted Nate and Trevor's high number of errors, it does signal they may have a tracking issue as they read. Students can use their finger or follow along with the text or use a sheet of paper to cover up lines of text. I believe that if Nate and Trevor had been encouraged to try some of these techniques, it would have greatly reduced the number of errors they had. If my practicum experience lasted longer, I could have suggested for Nate and Trevor to use some of these tracking strategies.

This intervention was conducted in a short-time frame. Studies that report successful results for DI programs are done over several weeks and intervention sessions (Stockyard, 2011; Tobin, 2009). The students that participated received a total of nine intervention lessons, Charlie only participated in six lessons. All of the students examined saw an upward trend of ORF during the baseline phase. This could have been due to the reading instruction they were receiving in their general education classroom or to the increased amount of reading students were doing as part of being back at school after the summer. If given more of an opportunity, I would have enjoyed seeing

how the students continued to perform while receiving a higher level of lessons from the intervention. If more time was available, I could have made the necessary adjustments that would have allowed each student to succeed.

Reflection

From this project, I have learned how difficult it is to implement an appropriate intervention for a group of students. Using the appropriate curriculum is only one component of a successful intervention. For the students I was working with, it was essential that a phonics-based intervention was used rather than whole word instruction. Especially because the students' errors were based on decoding. Phonics instruction allows for students to decode unfamiliar words. Effortless decoding allows for students to focus on the comprehension of the text which becomes increasingly important as students move to higher grades. After determining the appropriate curriculum and placement, I also learned how implementation of that curriculum effects the outcomes experience by students.

Direct Instruction programs are highly scripted to ensure that students are being introduced to new concepts at appropriate rates. Through research on DI principles, I now understand that giving a DI lesson requires the interventionist to employ correct pacing and high levels of student engagement. Personally, I found that keeping student engagement high was the most challenging aspect of this intervention. If I were to improve on how I conducted this project, I would have included some positive reinforcement to increase student engagement. If I would have done this, I feel that Trevor and Charlie would have benefitted more

from their time in this intervention. For some students, like Nate, the feeling of accomplishment they gain from reading improvement is a strong enough motivator to continue in the intervention. An added way to increase motivation is to have students appropriately placed at a lesson where they feel challenged yet successful. In order for all of my students to feel this way, I would have used the placement test provided with the program to suggest a more appropriate start point.

Finally, I am exceptionally grateful to have had the opportunity to be a part of this project. Previous to this, I only understood the complexity of reading on a surface level. Having the opportunity to become immersed in reading research and the process of implementing a reading intervention opened my eyes to the difficulty of providing effective reading instruction. Reading has a variety of components that need to be taught for children to become successful readers. The way reading instruction is delivered also has an impact on the outcome. Helping children read at grade level is one of the best aids in setting children up for academic success. Overall, this intervention was not successful for this group of students. More acceptable pacing, instructional fit of lessons and higher student engagement would have made this intervention much more beneficial for these students. All children can read if instructed properly. Using appropriate instructional methods such as phonics-based programs and lessons within the students' zone of proximal development allow for a mastery of reading skills to be in reach for all students.

REFERENCES

- AIMSweb Plus (2018). *Efficacy research report*. Retrieved from <https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/efficacy-and-research/reports/efficacy-assessment-reports/aimsweb-Plus-research-report.pdf>.
- Anderson, E. A. (2013). *The impact of leveled literacy intervention system's daily books on student fluency growth*. [Unpublished master's thesis]. Minnesota State University Moorhead.
- Bowers J, S. (2020). Reconsidering the evidence that systematic phonics is more effective than alternative methods of reading instruction. *Educational Psychology Review*, 32, 681-705.
- Cooke, N. L., Gibbs, S., Campbell, M. L., Shalvis, S. (2003). A comparison of reading mastery fast cycle and horizons fast track A-B on the reading achievement of students with mild disabilities. *Journal of Direct Instruction*, 4(2), 139-151.
- Ehri, L. C., (1995). Phases of development to read words by sight. *Journal of Research in Reading*, 18(2), 116-125.
- Engelmann, S. (1999). Student-program alignment and teaching to mastery. *Journal of Direct Instruction*, 7(1), 44-66.
- Engelmann, S, Becker, W. C., Carnine, D., & Gersten, R. (1988). The direct instruction follow through model: Design and outcomes. *Education and Treatment of Children*, 11(4), pp. 303-317.
- Engelmann S, & Carnine D. (1982). *Theory of direct instruction: Principles and applications*. Irvington Publishers.
- Eppley K., Dudley-Marling, C. (2019). Does direct instruction work? A critical assessment of direct instruction research and its theoretical perspective. *Journal of Curriculum and Pedagogy*, 16(1), 25-54. <https://doi.org/10.1080/15505170.2018.1438321>

- Hasbrouck J., & Tindal, G. (2017). An update to compiled ORF norms. (Report. No 1702). *Behavioral Research and Teaching*. https://www.brtprojects.org/wp-content/uploads/2017/10/TechRpt_1702ORFNorms_Fini.pdf
- Hempenstall, K. (2002). The three-cueing system: Help or hindrance? *Direct Instruction News: Effective School Practices*, 2(1), 60-69.
- Hernandez, D. J., (2011). *Double jeopardy: How third grade reading skills and poverty influence high school graduation*. The Annie E. Casey Foundation.
- Hosp, M. K., Hosp., J. L., Howell, K.W. (2016). *The ABCs of CBM: A practical guide to curriculum-based measurement* (2nd ed). The Guilford Press.
- Lane, H. B. (2020). *How children learn to read words: Ehri's phases*. University of Florida Literacy Institute. <https://education.ufl.edu/ufl/files/2020/03/EhriPhases.pdf>
- Lombardi, D. & Behrman, E.H., (2016) Balanced literacy and the underperforming English learner in high school. *Reading Improvement*, 53(4), 265-174.
- Meltzer, E. (2019, June 23). *The three-cueing system and its misuses (or: The biggest problem in reading instruction you've never heard of)*. Breaking the Code: Phonics & Reading. <https://www.breakingthecode.com/the-three-cueing-system-and-its-misuses/>
- Moats, L. C., & Tolman, C. A., (2019). *LETRS* (3rd ed. Vol. 1). Voyager Sopris Learning.
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of scientific research literature on reading and its implications for reading instruction*. (NIH Publication No. 00-4754). U. S. Government Printing Office.
- Tobin, K. (2003) The effects of the horizons reading program and prior phonological awareness training on the reading skills of first graders. *Journal of Direct Instruction*, 3(1), 1-16.
- Tompson, J, L., Wood, C.L., Preston, A. & Stevenson, B. (2019). Teaching unison responding during small-group direct instruction to students with autism spectrum disorder who exhibit interfering behaviors. *Education and Treatment of Children*, 42(1), 1-24.

- Rafferty, L. A. (2012). Self-monitoring during whole group reading instruction: Effects among students with emotional and behavioral disabilities during summer school intervention sessions. *Emotional and Behavioral Difficulties*, 17(2), 157-173.
- Schieffer, C., Marchand-Martella, N. E., Martella, R. C., Simonsen, F. L., & Waldron-Soler, K. M. (2002). An analysis of the *Reading Mastery* program: Effective components and research review. *Journal of Direct Instruction*, 2(2), 87–119.
- Stockard J., & Engelmann, K. (2010). Development of early academic success: The impact of direct instruction's reading mastery. *Journal of Behavioral Assessment and Intervention in Children*, 1(1), 2-24.
- Stockard, J., Wood, T.W., Coughlin, C., Khoury, C.R. (2018). The effectiveness of direction instruction curricula: a meta-analysis of half century of research. *Review of educational research*, 88(4), 1-26. <https://doi.org/10.3102/0034654317751919>
- Vaughn, S., Roberts, G., Wexler, J., Vaughn, M.G., Fall, A.-M. & Schnakenberg, J.B. (2015). High school students with reading comprehension difficulties: Results of a randomized control trial of a two-year reading intervention. *Journal of Learning Disabilities*, 48(5), 546-558. Retrieved from, <https://doi.org/10.1177/0022219413515511>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. & Trans.). Harvard University Press.
- Watkins & Slocum. (2004). The components of direct instruction. *Journal of Direct Instruction*, 3(2), 75-110.
- What Works Clearinghouse. (2017). *Intervention report: Leveled literacy intervention*. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_levelledliteracy_091917.pdf