

Providing Reading Instruction to Adolescents with Learning Disabilities

Jennifer Wickstrom

March 14, 2012

APPROVED BY: Derek L. Anderson, Ed. D.

DATE: March 16, 2012

Chapter 1: Introduction

Background

By the time a student reaches middle and high school, teachers expect that students already knows how to read. However, the 2005 National Assessment of Educational Progress (NAEP) found that over a quarter of eighth grade students read below the basic level in reading comprehension and cannot read material necessary for daily living such as road signs and newspapers (Roberts, Torgesen, Boardman, & Scammacca, 2008). If a secondary student cannot read at grade level, little to no interventions is in place in middle and high school. Rarely is direct instruction given in the resource room, and with the push for inclusion, pull-out for reading instruction is almost unheard of (Swanson, 2008).

The implementation of Michigan's tough new curriculum, the Michigan Merit Curriculum, has students with learning disabilities taking difficult classes with coursework that is hard to complete. All students are required to take four years of English and math, three years of science (including either Chemistry or Physics), and three years of social studies in addition to various other requirements. Students with learning disabilities struggle to read their texts, which are necessary to complete assignments. If one's learning disability is in an area of reading (basic reading or reading comprehension), the student may not have the fluency skills necessary to comprehend the texts. Students with learning disabilities may have deficits in different parts of reading process. Some struggle at the word level with decoding or fluency, while others struggle with reading comprehension (Roberts et al., 2008). The list of required courses seems to be growing each year, and students who do not pass all requisite elements will not receive a high school diploma. Strained budgets leave school districts without the means to buy expensive programs to improve students' reading. Resources are limited and school budgets are shrinking.

This study will focus on finding resourceful ways to incorporate strategies to improve students' reading abilities without spending large amounts of money.

Statement of the problem

During these tough financial times, schools struggle to cut costs while still providing a solid education for their students. Paraprofessionals and teaching positions are being cut, leaving special education programs to deal with fewer human resources. The high-stakes standards of the Michigan Merit Curriculum leave districts with a challenge: Leave no child behind. The Federal No Child Left Behind Law of 2001 holds all schools accountable for students' reading and math scores. Districts need to prove, through state testing, a certain percentage of students are meeting certain standards, or they lose funding. Federal money was not provided with this law to help ensure schools could achieve the standards outlined in this law. With this legislation, schools have no choice but to find cost-effective ways to increase the success of their students.

At a young age, students enter school and begin learning the components necessary to be good readers. In Kindergarten, students learn to recognize letters. The next step is to learn the phonological sounds that each letter makes and then to realize that words come from these individual sounds. Finally, much of elementary school is spent practicing reading, learning to recognize sight words, and increasing fluency and reading comprehension. For those students who fall behind their peers during these elementary years, Response to Intervention, or RTI, is implemented.

RTI is an intervention to help struggling students. Reading, a primary focus in elementary school, is progress monitored throughout elementary school using programs such as DIBELS (Dynamic Indicators of Basic Early Literacy Skills). DIBELS measures the basic literacy skills of phonemic awareness, fluency, vocabulary, and comprehension up to four times a year

(<https://dibels.uoregon.edu/>). Tiers of interventions are used to help struggling readers, giving them the added interventions they need to catch up to their peers. Programs such as *Read 180*, *Great Leaps*, and *Orton Gillingham* are commonplace in elementary schools. These programs focus on reading fluency, automaticity and comprehension rates of struggling readers (Whithear, 2009). The focus in middle and high school switches to core academics. Secondary teachers typically assume all students can read fluently and spend their time teaching the content not the skills necessary to read and understand the subject matter.

Special educators at the secondary level focus on accommodations and goals that will help their students earn a high school diploma. Little to no focus is given to improving the reading level of these students. Secondary teachers are typically not trained to teach reading remediation and assume basic reading skills are taught in the elementary years (Vallely & Shriver, 2003). Programs are nonexistent at the high school to help increase the reading levels of high school students. Most commercial reading programs are written for the elementary level since this is where reading skills are taught. Even if a reading program is found, they are generally expensive and are not readily purchased at the high school level. Plus with all of the required core academics, students do not have ample time during the school day to work on these programs.

Research questions:

With a limited budget, what ELA pull-out interventions can high school special education teachers use to improve the reading skills of secondary students with learning disabilities who read below grade level?

Key Terms

Pull out- Pull-out programs involve removing students from the general classroom for short sessions to address their individual needs

Reading Fluency- the ability to read text with speed and accuracy (Wexler et al., 2007).

Repeated Readings- Orally reading a passage several times (Roundy & Roundy, 2009).

Chapter 2: Literature Review

Older students, and specifically secondary students with learning disabilities, often did not receive the proper reading instruction in the elementary years. These students may struggle with one or more areas of the reading process. After elementary school, struggling readers have little opportunity for reading instruction. To improve the reading abilities of older students, the National Reading Panel recommends focus in five essential areas: word study, fluency, vocabulary, comprehension, and motivation (Roberts et al., 2008).

Word study

Word study or phonemic awareness is the ability to sound out individual words and syllables. The awareness that words are made up of letters and letters, either individually or in combination with others, make certain sounds or blends. Teaching word attack skills are crucial to help struggling secondary readers.

Manset-Williamson and Nelson (2005) conducted a six-week study using 21 participants, aged nine to fourteen, read below a 3.5 grade level. Their grade equivalent on reading fluency was also at least two grade levels below their peers. These students were given the Woodcock Johnson-III Word Attack subtest as a pre- and post- test. Students were given 20 one-hour sessions of tutoring during the six-week intervention and were taught strategic decoding skills via Phonemic Awareness/Analysis, Decoding, and Fluency Instruction (PDF). Using multisensory modes, such as visual and kinesthetic, the instructors taught new phonograms, a symbol or letter representing a sound in speech. A phonogram was taught at each lesson and the previous one was reviewed. Students were also taught five strategies to decode unknown words: peel off the prefix and/or suffix, identify familiar chunks, say each letter of the word out loud, and using content (the words around the unfamiliar word) to help identify it, and use analogy or key words. Significant gains were made on the WJ-3 Word Attack with a medium effect size of

.56. The group also made gains, with an effect size of .53, on the Letter-Word Identification subtest (Manset-Williamson & Nelson, 2005).

Phono-Graphix, an instructional reading intervention program that teaches phonemic awareness, blending, segmenting, and letter-sound correspondence was used in an eight-week study of students with learning disabilities aged six to 17 (McGuinness & McGuinness, 1998). *Phono-Graphix* first teaches the 17 consonant blends and five vowel sounds before moving on to the remaining alphabetic code. Forty lessons were divided into four levels: basic code, basic code with “sound pictures, advanced code with the remaining consonant digraphs and phonographs, and multi-syllabic words. The Woodcock Johnson-III tests of achievement were again used as pre- and post-test to measure outcomes. The elementary group showed a mean gain of 6.14 standard score points for the reading comprehension cluster of the WJ-III while the upper elementary/secondary group showed a mean gain of 8.83 standard score points (Endress, Weston, Marchand-Martella, & Martella, 2007).

Completing a study on phonological reading instruction, Bhatt, Griffin, and Sindelar (2003) applied the same instruction to two groups of forty eighth-grade students with learning disabilities. Group A began instruction after their pre-test while Group B began instruction after the mid-test. Three times a week for four weeks, instruction was given using the Great Leaps Reading program (Mercer & Campbell, 1998). The Great Leaps Reading program consists of phonemic awareness instruction as well as lessons on blending. All teaching and students’ answers were given verbally; students were told when they answered incorrectly, and the correct answers were given. Using the Woodcock Reading Mastery -Revised (WRM-R) as a pre-test, mid-test, and post-test both groups made significant gains from their pre-test (Group A 41.35 mean score, Group B 40.45 mean score) to their mid-tests (Group A 43.20 mean score, Group B

41.4 mean score) and post-tests (Group A 44.95 mean score, Group B 42.7 mean score). The effect size for Group B from pre- to mid-tests was .46, while the effect size from mid- to post-tests was 4.49. On the mid-test, Group A outscored Group B, but on the post-test, there was no significant difference between the two groups (Bhatt, Griffin, & Sindelar, 2003).

Reading fluency

Reading fluency is defined as the ability to read connected text rapidly, smoothly, effortlessly, and automatically with little attention to the mechanics of reading, such as decoding (Roundy & Roundy, 2009). Successful older readers typically read orally at a rate from 120 to 170 words correctly per minute (Roberts et al., 2008). Reading fluency is easy to measure and therefore simple to progress monitor. Words correct per minute are a rate and will show even small improvements in progress. Curriculum Based Measures (CBM) is the most common way to monitor reading fluency. CBM use the students' current textbook readings from the curriculum the students are being taught in class. Because of this, reading fluency is one of the most frequently progress-monitored data used to track reading progress (Freeland, Skinner, Jackson, McDaniel, & Smith, 2000).

Reading fluency, a critical component in reading, is lacking in a large number of adolescents' reading. Secondary students must read and understand complex passages at a rapid pace creating a challenge for struggling readers (Wexler, Vaughn, Edmonds, & Reutebuch, 2007). Reading fluency does not guarantee an increase in comprehension, but appropriate fluency rates are a necessary part of the reading process. When students read fluently, they can focus more cognitive energies on comprehending what is read rather decoding each individual word. High school and middle school students, who lack reading fluency, usually lack the motivation to read and therefore, read as little as possible. Independent reading is one way to

improve fluency, but students who lack appropriate fluency, find reading difficult and choose other activities when given the opportunity to read independently (Pikulski & Chard, 2005).

Repeated readings are one way to help improve fluency. When students read fluently, cognitive attention can focus on comprehending what is read rather than spend energy decoding text (Bashir & Hook, 2009; Hicks, 2009; Pikulski & Chard, 2005; Rasinski et al., 2005).

Evidence suggests a correlational relationship between the amount of material a student reads, their fluency rate, and comprehension (Pikulski & Chard, 2005).

Some students need continued instruction to read fluently on grade level text. Students need to practice reading to improve fluency skills. In many middle and high school English Language Art classes, teachers devote entire class periods to silent independent reading. Students who read fluently use this time to read while struggling readers with poor fluency avoid reading. Little to no evidence exist that shows independent reading increases fluency (Pikulski & Chard, 2005). Poor readers at the middle and high school level need instructional interventions to increase their reading fluency.

One intervention effective for increasing reading fluency is repeated readings (Bashir & Hook, 2009; Hicks, 2009; Roundy & Roundy, 2009; Rasinski et al, 2005; Strong, Wehby, Falk, & Lane, 2004). Repeated readings requires a student to read and re-read the same passage until a certain number of words per minute is achieved. When students read passages at their appropriate reading levels, results show immediate increases in reading rates (Pikulski & Chard, 2005). In an eleven-week study, Alber-Morgan, Ramp, Anderson and Martin (2007) used repeated readings to increase the fluency rate of four (three boys, one girl) special education middle school students. These students were chosen because their reading levels were below grade level. Two of the boys read at a fourth grade reading level, one read at a second-grade

reading level, and the female student read at a sixth-grade reading level. One hour of instruction, three days per week for the eleven weeks, was given. Baseline data of 38.8 to 91.6 correct words per minute were obtained using the Analytical Reading Inventory (ARI). The ARI is an informal reading assessment that evaluates the oral reading and reading comprehension skills of each student. Repeated readings were conducted by having the student: 1) read the passage 2) evaluate, correct, and review any errors 3) reread for one minute. Then the researchers told the student their score and retimed the students for one minute and encouraged them to beat their first score. After the daily repeated reading sessions were complete, the students improved their reading rates from 95.6 to 133.7 words correct per minute (Alber-Morgan, Ramp, Anderson, & Martin, 2007).

Similar results were achieved with 60 middle school students with severe reading delays when repeated readings were used two to four days a week for fifteen weeks. Pre- and post- tests of fluency were given using the Gray Oral Reading Test-III (GORT-III) to determine a baseline and to measure any possible growth. These students were again split into two groups. One group used the *Great Leaps* Reading program (Campbell, 2005) for ten minutes per day. In these sessions, the student was timed for one minute and was asked to read a page of 60 sounds or words. If the student had two or less errors, they moved on to a more difficult level the next day. They would repeat this process for a page of sight phrases and again for a connected text. The control group was given the Skills for School Success program, a program designed to improve students' abilities to use their texts. After fifteen weeks, post-test data on the GORT-III revealed moderate gains in the areas of rate (effect size = 0.59) and accuracy (effect size = .62) for the repeated readings group over the group that used the School for Success program. An effect size of .60 is considered moderate while .80 and above is considered large (Spencer & Manis, 2010).

Vallely and Shriver were able to increase the reading fluency of four high school students who read at least 30 to 50 words per minute below their peers with just ten hours of practice, three 20-minute sessions, three times per week for ten weeks. Passages were selected from the *Timed Readings Series* (Spargo, 1989). Each student read a passage until three consecutive fluency improvements were achieved. A fluency improvement was defined as one more word correct per minute. After ten weeks, three of the students read approximately 20 to 40 words per minute faster while a fourth, read the same to slightly faster, about 10 words per minute, than his baseline data (Vallely & Shriver, 2003).

Comprehension

Comprehension is the ability to understand what is being read. Regardless of reading rate, students must be able to draw conclusions and main ideas from their text. High-stakes testing requires students to incorporate higher-order reading skills to draw conclusions from reading passages. Many students learn to read fluently and comprehend simple text in elementary school but fail to understand more difficult text as they move into the upper grades. This phenomenon known as the “fourth-grade slump” puzzles educators because as the vocabulary increases in difficulty, the students’ comprehension decreases even though a student is a fluent reader (Kieffer & Lesaux, 2007).

Students with learning disabilities often enter seventh-grade with a fourth-grade reading level. Sometimes this reading level is even lower (Fritschmann, Deshler, & Schumaker, 2007). Research indicates students with learning disabilities struggle with expository text more than their peers. As students move into their secondary years, more of their instructional time is spent reading expository text. Poor comprehension rates are often caused by the inability to

strategically read for information (Berkeley, Mastropieri, & Scruggs, 2011). Direct instruction can increase the comprehension of struggling secondary readers.

Freeland et al. (2000) studied three male secondary education students with learning disabilities in reading to see if repeated readings would increase their silent reading comprehension in as little as seven sessions. Initial data for each student were found by giving each an oral reading fluency test. Initial data showed each student reached frustration level with a fourth-grade reading passage. Using a fourth-grade reading passage, students were asked to read the passage silently and answer some comprehension questions when they finished reading. After the student completed the questions, the experimenter then had them read the passage out loud two times. Errors were corrected after each reading. The next day, the student read the same passage silently and was asked to answer the same comprehension questions. The amount of factual comprehension questions doubled for all three students. Their silent reading rate also improved after repeated readings, an increase of anywhere from 20 words per minute to 85 words per minute (Freeland et.al, 2000).

Using an experimental design, Berkeley, Mastropieri, and Scruggs (2011) studied 59 middle and high school students identified as having mild learning disabilities. The participants were put into three different groups and were instructed for thirty-minute periods, three times a week for four weeks. One group was taught reading comprehension strategies (RCS) for increasing understanding. The six strategies were setting a purpose, previewing, activating prior knowledge, self-questioning, summarizing, and strategy monitoring. The second group was taught the same six strategies but was also given attribution reminders (RCS-AR) that they knew how to use strategies to increase their comprehension. The final group used *Read Naturally*, a program the district had already purchased which is designed to increase students'

comprehension without explicit teaching instruction (Inhot, 1992). Results indicate the RCS and RCS-AR groups scored significantly higher on comprehension tests at the end of four weeks than the *Read Naturally* group. The mean scores for the RCS and RCS-AR groups doubled from pretest of 3.80 to posttest of 7.50 for the RCS group and from a pretest of 3.61 to a posttest of 6.40 for the RCS-AR group. Significant effect sizes were found for both the RCS-AR group of 1.44 and the RCS group of .94 when compared to the Read Naturally group. The Read Naturally group only increased from a mean of 3.95 to 4.83 (Berkeley, Mastropieri, & Scruggs, 2011).

Utilizing the Inference Strategy, Fritschmann, Deshler, & Schumaker (2007) studied its effect on improving the comprehension of eight ninth-graders with learning disabilities who read at the fourth grade reading level. Sessions were 60 to 75 minutes in length each with total instructor time of 280 to 350 minutes. Students practiced the strategy anywhere from 770 minutes to 1040 minutes. The Inference Strategy is designed to teach students to draw conclusions from the text. Five steps are included in the Inference Strategy. First, interact with the passage. Pay attention to the title, length of the passage and the type of questions being asked at the end. Step two is to activate any prior knowledge the student might have about the topic. The third step involves reading the passage and underlining key words directly related to the questions. In step four, students look for additional clues that will help them answer the questions. The final step is to answer the question.

After students were given instructions on how to use this method, selected passages from the *Jamestown Readers-Timed Readings in Literature Series* (Spargo, 1989) were used as material to see if the Inference Strategy helped students with comprehension. Baseline data, before any instruction on using the Inference Strategy was found to be an average of 31.74% answers correct. During instruction, students were able to increase the number of answers correct

to an average of 77.39%. During posttest conditions, using the Inference Strategy, students were able to answer 82% of the answers correct (Fritschmann, Deshler, & Schumaker, 2007).

Using a similar comprehension strategy known as TELLs (Title, Examine, Look, Look, and Setting), Ridge & Skinner (2011) studied its effectiveness on three ninth grade students with reading skills deficits. This prereading strategy requires students to look at the *title* to form clues, *examine* the passage for further clues, *look* for important key words, *look* for difficult words, and determine the *setting* of the passage including places, areas, dates, and time periods. Again, Spargo's *Timed Reading Series* was used to select eighth grade passages. Ten to 30-minute sessions three days per week for four weeks were used to obtain baseline data, teach the TELLs method, and to practice and monitor progress in comprehension of the passages. Student one increased comprehension from a baseline of 56.6% answers correct to 78.75% correct. Student two averaged 60% for a baseline and 72.86% during the intervention phase, and student three averaged 53% correct for baseline data and increased it to 70% after the intervention (Ridge & Skinner, 2011).

Vocabulary

As students get older, their vocabulary is expected to increase in size. Textbooks get more difficult to read, and students encounter new terms as they take different classes in the curriculum. Vocabulary gets increasingly difficult and is more content specific as students move up through the grades. Students with learning disabilities must be taught specific strategies to comprehend content-area vocabulary (Bryant, Goodwin, Bryant, & Higgins, 2003). Struggling readers fall even further behind as they do not have the tools to identify and comprehend the new vocabulary they see.

Decoding is the process of using smaller parts of a word to figure out its meaning. As students get into middle and high school, their textbooks increase in difficulty. Multi-syllabic words occur more frequently. Older readers should be taught to take larger words and divide them into smaller decodable chunks based on patterns they are familiar with (Archer, Gleason, & Vachon, 2003).

Following 527 eighth-grade students, Barth, Catts, and Anthony (2008) show the importance decoding has on reading fluency. Each of these students previously failed the kindergarten language screening and diagnostic language battery when they entered elementary school. Half of these students had language and/or nonverbal cognitive impairments while the remaining 50% were normal developing students. This study did not provide any additional interventions, but merely looked to see if these students still struggled into their adolescent years. In their eighth grade year a battery of tests including the Woodcock Reading Mastery Test-Revised was given. Factor correlations show decoding is correlated to working memory (.68), comprehension (.70), and fluency (.80). In other words, decoding is an important component of reading (Barth, Catts, & Anthony, 2008).

Employing repeated readings and a word box technique, Devault & Joseph (2004) increased the reading rate and the comprehension of new vocabulary of three high school students with learning disabilities in reading. Interventions consisted of ten to fifteen minute sessions five days per week. Each student was found to have a reading level of first to second grade. Reading passages were given to each student above their reading level (third- and fourth-grade passages). Each student was given one minute to read the passage and the evaluator recorded any incorrect words. A word box technique was then used to teach the student any unfamiliar words. In the word box procedure, the word is placed in a rectangle on a dry erase

board. The rectangle is then divided by drawing lines after each syllable of the word. After each word was used in the word box method, the student was then given the same one minute passage to reread. Each student was able to significantly increase their words correct per minute (wcpm): from 36 to 74 wcpm, 52 to 81 wcpm, and 62 to 96 wcpm (Devault & Joseph, 2004).

Students identify more word parts correctly using morphemic analysis, a word mapping strategy, in a study with 230 students, including both general education and students with learning disabilities. Morphemic analysis, a generative approach, is useful because once learned, students can apply it to additional vocabulary they encounter in the future, not just immediate unidentifiable words. The word mapping strategy involves using four steps indicated in the mnemonic device MAPS. Step one involves breaking the word down into its *morphemic* parts such as prefixes, suffixes and root. Step two is to *attach* meaning to each part of the word. Step three is to make a *prediction* about the unknown parts of the word, and step four involves checking the meaning in the dictionary. The Morphological Analysis Test was administered twice, before and after instruction occurred. After ten 45-minute sessions, results show a significant increase in the number of words correctly defined, from a mean of 15.52 to a mean of 50.76. These results show students were able to identify more word parts and correctly identify the meaning after the intervention (Harris, Schumaker, & Deshler, 2011).

Motivation

Motivation can be difficult to measure. Determining factors that contribute to motivation can be challenging. We do know, however, that poor readers tend to avoid reading. When silent sustained reading time is given in secondary classrooms across the country, adolescents will often pretend to read or avoid it altogether. Students can be instructed how to be a better reader, but unless they have the self-efficacy to practice what they are taught, the instruction will be lost

if students fail to maintain what they learn through practice (Berkeley, Mastropieri, & Scruggs, 2011). Reading performance of adolescents with learning disabilities is on average 3.4 grades below their peers without disabilities. Self-awareness of their deficits leads to students with lower motivation and poor performance in reading activities. Increasing the motivation of these students can improve their reading achievement and increasing their reading achievement can increase motivation (Melekoglu, 2011). Reading motivation can be defined as the individual's personal goals, values and beliefs with regard to the topics, processes, and outcomes of reading (Retelsdorf, Koller, & Moller, 2010).

Repeated Readings not only increase the reading fluency of students, but has other benefits as well. The students felt more confident about reading, had increased motivation to read more, and felt they were better readers (Aber-Morgan et al, 2007; Pikulski & Chard, 2005; Roundy & Roundy, 2009; Whithear, 2009). Recreational reading habits are developed young. Students who enjoy reading are more likely to read in their spare time. Attitude also plays a role in reading engagement. If a student has a positive attitude about reading, they will be engaged in what they are reading. Engaged readers comprehend more of what is learned (Wilson & Casey, 2005). Motivated readers will read more therefore; we need to find ways to encourage them.

Two middle schools and one high school that used the READ 180 program were recruited to look at motivation and reading skills in an 18-week study. READ 180 uses 90 minutes of reading instruction and incorporates whole group, small group, and individualized computer instruction. Thirteen students with learning disabilities from all three schools participated in the study. All of these students had reading levels defined as basic (at reading level) or below basic (significantly less than current grade level). Students' motivation to read using the *Adolescent Motivation to Read Survey* (AMRS) was given during the first and third

quarters of the school year. Pre- and post- tests of reading skills using the SRI test, a standardized test of reading achievement, was also given during these times. Students with learning disabilities showed a growth of 169.92 in Lexile scores based on their SRI results. The AMRS showed these same students had an increase in self-concept of .46 points (Melekoglu, 2011).

Measuring four aspects of reading motivation, 1508 fifth to eighth-grade students completed a questionnaire to determine driving factors of reading for enjoyment. The four areas are reading enjoyment, reading for interest, competition (the desire to outperform others), and self-concept. Results showed positive correlations between reading performance and enjoyment, interest and self-concept. Competition was the only parameter to have a negative correlation to reading performance. Enjoyment and interest were predictors of reading performance (Retelsdorf, Koller, & Moller, 2011).

Nine readers and nine not readers in grades six through nine were surveyed in a study to determine why students chose to read or participate in some other recreational activity. Note “not readers” are defined as students who choose not to read but are able to read. A common theme found among the readers is that readers interact with other readers. Readers find discussing novels with friends and family a fun activity. Readers report their parents routinely read and discussed books with them as a child which carried into discussions of books the students read as they got older. In contrast, the not reading group did not interact with others, including family and friends, in regards to books and readings. Not readers also reported losing interest in childhood favorites and not finding anything of relevance to read (Strommen & Mates, 2004).

One school district incorporated the POWER (Providing Opportunities with Everyday Reading) program into their high school day. This program has two parts. The first part has

teachers incorporating 20 reading strategies into their daily instruction. A variety of ways to help students read and understand their text is incorporated into daily classroom lessons. The second part is Sustained Silent Reading (SSR) has been incorporated in to the school week. Two 25-minute weekly study halls are incorporated where students have time to read for pleasure. Teachers monitor during this time to ensure silence so students may read. During the four years the program was implemented, the school raised their standardized test scores in reading from the 34th percentile to the 57th percentile. Student interviews indicated a more positive attitude as well. 33% felt SSR improved their reading ability, and 39% said SSR allowed them the time to read a book they may not otherwise have read. More importantly, 38% said the focus on reading helped them in academic subjects (Weller & Weller, 1999).

Using the various techniques described above, reading skills of adolescents can be improved. Each aspect of reading: fluency, word study, vocabulary, comprehension, and motivation have interventions that can be taught to struggling readers with promising results. All of the studies mentioned have students working individually with an adult using the prescribed method to improve certain areas of reading skills. In as little as 20 weeks or less, researchers saw positive results.

Chapter 3: Synthesis

To be effective readers, middle and high school students with learning disabilities in the area of reading need instruction to improve their reading skills. Typically, high school students who struggle with reading did not learn the necessary reading skills in elementary school and thus lack the tools needed to read difficult text. Despite their lagging skills, high school students can learn skills such as decoding and comprehension strategies and increase fluency skills which will also improve their motivation for reading. The following recommendations are given for each of the five areas of reading.

Students need to read fluently and connect words together with meaning. It appears repeated readings not only succeed in increasing fluency, but also vocabulary and comprehension (Alber-Morgan, Ramp, Anderson & Martin, 2007; Freeland, et.al, 2000; Pikulski & Chard, 2005; Spencer & Manis, 2010; Vallely & Shriver, 2003). For this reason, repeated readings should be considered first when implementing a reading instruction program. Repeated readings can improve students' fluency rates in as little as ten weeks. An interesting note is that repeated readings give students self efficacy, increasing their motivation that they are better readers, thus making it more likely they will read independently when given the opportunity to do so.

Consistently in studies involving fluency, students were able to increase their words correct per minute when repeated reading instruction was used (Alber-Morgan, Ramp, Anderson, & Martin, 2007; Pikulski & Chard, 2005; Vallely & Shriver, 2003). One-on-one repeated reading interventions involving students with learning disabilities can help adolescents improve their reading skills. Various reading programs were used in the studies, such as *Great Leaps!* and the *Timed Reading Series*, but plenty of graded reading passages are available online for free such as

DIBELS. The reading material used for the repeated readings does not appear to be the important variable. Deliberately practicing reading is what provides the results.

Word study skills can be improved by using several different programs such as *Phono-Graphix* and Phonemic Awareness/Analysis, Decoding, and Fluency Instruction (PDF), and the *Great Leaps!* Reading program (Bhatt, Griffin, & Sindelar, 2003; Endress, Weston, Marchand-Martella, & Martella, 2007; Manset-Williamson & Nelson, 2005). All word study programs offer a common theme: a way for students to decipher and attack an unknown word. Each program has a similar approach to help students decode words by teaching the phonemes and blends used to sound out unknown words. In six to ten weeks, students were able to increase their decoding skills in each of these programs.

Similar success was found with reading comprehension programs. Reading Comprehension Strategies, Read Naturally, Inference Strategy, and TELLS are all successful strategies used to increase the comprehension of middle and high school students with learning disabilities (Freeland, et al., 2000; Fritschmann, Deshler, & Schumaker, 2007; Ridge & Skinner, 2011). Each of these programs also shares a common theme. These strategies give students a process to interact with the passage they are reading to help increase their comprehension.

Each method has students using particular pre-reading strategies including: thinking about prior knowledge, reading the title, thinking about what the passage might be about. Each program offers a different approach once the student starts reading the passage, but they have similar outcomes, to interact with the passage. Look for clues, summarize as you read, underline key words are ways to help increase comprehension. Most of the methods require students to reread the passage if necessary. In all of the studies, students were able to increase the number of comprehension questions they answered anywhere from 10% to 50% more correct.

The number of new vocabulary words students encounter dramatically increase as they move through middle and high school. Students must have the skills to identify new vocabulary to help maintain fluency and increase comprehension (Barth, Catts, & Anthony, 2008; Devault & Joseph, 2004; Harris, Schumaker, & Deshler, 2011). The studies involving vocabulary use word boxes and morphemic analysis as a technique students can apply to unknown words. Both of these techniques divide up unknown words into known parts: remove the prefix or suffix, find the root word, and chunk the parts the student knows. Word boxes have students literally draw a box around a word and then draw more boxes around the word parts. Morphemic analysis involves the same process without drawing boxes. Studies show students had significant success in identifying more words correctly when using these techniques in as little as ten weeks.

It may be difficult to pinpoint why students choose to read or to do some other activity. A common theme among students who do not like to read is they feel they aren't good readers (Retelsdorf, Koller, & Moller, 2010; Strommen & Mates, 2004; Wilson & Casey, 2005). Students with learning disabilities in reading often report they don't like to read. When students with learning disabilities improve in any of the four areas of reading mentioned above, their motivation to read also improves.

When given a survey on reading, students who choose to read said they have always spent time reading from a young age. Parental involvement is cited as important to get and keep children reading. Students whose parents read to them were more likely to read on their own when they were older. Students who were interested in what they were reading were more likely to continue reading. Because we are dealing with students in middle and high school, we cannot change parental involvement in the early years. We can, however, change the students' self-concept in the area of reading and increase their motivation in that way.

While many of the studies reviewed in this paper involve costly reading programs, the strategies used in each of these programs are similar and can be incorporated with little or no incurred costs to the district. Most struggling middle and high school students lack the strategies or the practice in reading to improve their skills and little to no instruction is provided at school. Recommendations are to teach the strategies outlined in this paper using online resources provided free of charge using pull-out one-on-one instruction.

Chapter Four: Recommendations and Further Research

The push for inclusion and federally mandated Least Restrictive Environment has changed the role of middle and high school special education teachers. Math and English are no longer taught in the resource room. NCLB requires teachers to use research-based teaching methods to instruct their students. Special education teachers write IEP's to accommodate or provide supports to students in the general education classroom rather than provide help to improve their math or reading skills. Special education teachers have become interventionists that advise or co-teach with general education teachers to help special education students be successful in the general education curriculum (Simonsen et al., 2010).

Using the methods described above, the following five areas of reading skills should be taught to freshman English students in a pull-out method. Schools should prioritize time for sustained silent reading during their ELA classes. Not only will this silent reading time benefit the fluent readers, but it will allow for individualized and small group instruction for students with learning disabilities in reading without losing valuable class instruction. During these blocks, students with learning disabilities who read below grade level can meet with the special education teacher and practice reading skills they are lacking. In schools where students have iPads, students should use Apps and websites as much as possible to improve their deficient areas. Many Apps are available that track individual strengths and weaknesses providing appropriate instruction in areas of need to each student. Students can work at their own pace and advance their skills by reviewing skills already taught and practicing new techniques to increase their reading levels.

Fluency

- Repeated readings using graded reading passages from DIBELS (<https://dibels.uoregon.edu/measures/orf.php>) will be used weekly throughout the year. Students should read at their independent reading level.
- Students will read and reread passage until desired words per minute are reached. Errors will be corrected by the teacher
- Students' fluency rate will be tracked using progress monitoring to show growth throughout the year.
- Fluency App, "Young Reader" can be used to improve fluency.
- Fluency App, K12 Timed Reading uses a built-in timer as the student reads.

Word attack/Vocabulary

- Prefixes and root words will be learned. List can be found at <http://www.virtualsalt.com/roots.htm>
(Additional lists can easily be located if need be)
- Suffixes and their meanings will be look at <http://www.learnthat.org/pages/view/suffix.html>
(Additional lists can easily be located if need be)
- 100 most common sight words should be practiced to read fluently
<http://grammar.about.com/od/words/a/100frequed07.htm>
- "Flashcard" App on the iPad has several preloaded sight word lists such as "Fry's most commonly used English words"
- Students should be taught the word box method and/or Phonemic Awareness Analysis and Decoding to take apart unknown words.

- Game found at <http://www.vocabulary.co.il/suffixes/> can be used to practice word box method
- Phonemes and blending can be practiced by reading nonsense words.
- Lists of nonsense words can be found at <http://www.speech-language-development.com/nonsense-words.html>
- Sight Word App “Sight Word Sizzle” self-paced to improve accuracy
- Sight Word App “Reading Remedies” teaches fluency, word attack, and blending.

Comprehension

- Using DIBELS graded reading passages, repeated readings can increase comprehension
- Inference Strategy (can be taught in a small group setting) can be used with graded reading passages or with ACT practice tests found at <http://www.actstudent.org/sampletest/index.html>
- TELLS (Title, Examine, Look, Look, and Setting) Strategy can be used with ACT practice tests (can be taught in a small group setting)
- Further practice with TELLS or the Inference Strategy using students’ textbooks should be done.
- “Reading Trainer” App individualizes help by identifying student’s strengths and weaknesses.

Motivation

- Students’ reading motivation should increase as their reading skills increase
- Reading interest survey can be given as a pre- and post-test to see if students’ interest increased after implementing instructional sessions.

- Reading survey can be found at

http://www.ala.org/ala//mgrps/divs/yalsa/teenreading/tipsenc/reading_interest_survey.pdf

Discussion

With limited budgets, school districts do not have the resources to purchase the expensive programs that promise to improve students' reading skills, and most commercial reading programs are geared toward elementary school. Little to no time in high school is spent teaching students to read because of lack of time and money; yet, we graduate students with reading levels well below their peers, and we expect them to be successful in the workplace and in college.

But with the seemingly unlimited number of websites devoted to improving reading skills, special education teachers can provide instruction similar to what the programs have to offer without the cost. The iPad apps listed can be loaded on the teacher's iPad, or on students' iPads as needed and are free or less than \$5.00 per App.

The interventions outlined above should be reviewed at the beginning of each new lesson so students can maintain skills taught previously. By devoting an entire year of weekly lessons, students should be able to remember and maintain the skills taught during these lessons. Repeated readings should be used during each lesson since it has been shown to improve students' skills in more than one area and it requires five minutes or less to complete. Comprehension and vocabulary strategies should be taught over several weeks and reviewed to ensure students remember how to use these skills. If possible, students should continue to receive reading instruction during silent reading time in tenth through twelfth grade English.

Future studies/Limitations

Future research should include longer studies with more participants. Most of the studies found were conducted for fifteen weeks or fewer and with as few as three students. Long term

benefits of continued practice of reading instruction are not known. Would the results be better if the interventions were for a longer period of time? If larger numbers of students participated in these studies, would the same results occur? Follow up studies should be conducted to see if the students retain strategies taught to them. It is unknown if students continue to use the strategies taught to them after the study was over. Most research conducted thus far has included mostly elementary students and few studies were done in the adolescent years. Future research could help answer these questions so we can close the gap between students with learning disabilities and the general education students.

References:

- Alber-Morgan, S. R., Ramp, E. L., Anderson, L. L., & Martin, C. M. (2007). Effects of repeated readings, error correction, and performance feedback on the fluency and comprehension of middle school students with behavior problems. *The Journal of Special Education, 41*(1), 17-30.
- Archer, A. L., Gleason, M. M., & Vachon, V. L. (2003). Decoding and fluency: foundation skills for struggling older readers. *Learning Disability Quarterly, 26*(2), 89-101.
- Barth, A.E., Catts, H. W., & Anthony, J. L. (2008). The component skills underlying reading fluency in adolescent readers: a latent variable analysis. *Reading and Writing, 22*, 567-590. Doi 10.1007/s11145-008-9125-y
- Bashir, A.S, & Pamela, E.H. (2009). Fluency: A key link between word identification and comprehension. *Language, Speech & Hearing Services in Schools, 40*(2), 196-200.
- Berkeley, S., Mastropieri, M.A., & Scruggs, T. E. (2011). Reading comprehension strategy instruction and attribution retraining for secondary students with learning and other mild disabilities. *Journal of Learning Disabilities, 44*(1), 18-32. Doi 10.1177/0022219410371677
- Bhatt, P., Griffin, C. C., & Sindelar, P. T. (2003). Phonological awareness instruction for middle schoolers with learning disabilities. *Learning Disabilities Quarterly, 26*(2), 73-87.
- Bryant, D. P., Goodwin, M., Bryant, B.R, & Higgins, K. (2003). Vocabulary instruction for students with learning disabilities: a review of the research. *Learning Disability Quarterly, 26*(2), 117-128.
- Calhoun, M. B. (2005). Effects of a peer-mediated phonological skill and reading comprehension program on reading skill acquisition for middle school students with reading disabilities. *Journal of Learning Disabilities, 38*(5), 424-433.

- Campbell, K. U. (2005). *Great leaps reading* (5th ed.). Gainesville, FL: Diarmuid, Inc.
- Devault R., & Joseph, J. M. (2004). Repeated readings combined with word boxes phonics techniques increases fluency levels of high school students with severe reading delays. *Preventing School Failure* 49(1), 22-27.
- Endress, S. A., Weston, H., Marchand-Martella, N. E., Martella, R. C. (2007). Examining the effects of *Phono-Graphix* on the remediation of reading skills of students with disabilities: a program evaluation. *Education & Treatment of Children*, 30(2), 1-20.
- Erin, J. N. (2009). The case of the reluctant reader: insights from three professionals. *Journal of Visual Impairment & Blindness*, 69-70.
- Freeland, J. T., Skinner, C. H., Jackson, B. J., McDaniel, C. E. & Smith, S. (2000). Measuring and increasing silent reading comprehension rates: empirically validating a repeated readings intervention. *Psychology in the Schools*, 37(5), 415-420.
- Fritschmann, N. S., Deshler, D. D., Schumaker, J. B. (2007). The effects of instruction in an inference strategy on the reading comprehension skills of adolescents with disabilities. *Learning Disability Quarterly*, 30(4), 245-262.
- Harris, M. L., Schumaker, J. B., Deshler, D. D. (2011). The effects of strategic morphological analysis instruction on the vocabulary performance of secondary students with and without disabilities. *Learning Disability Quarterly*, 34(1), 17-33.
- Hicks, C. P. (2010). A lesson on reading fluency learned from "The Tortoise and the Hare". *The Reading Teacher*, 63(4), 319-323. <http://www.jstor.org/stable/30249382>
- Hudson, R. F., Lane, H. B., & Pullen, P. C. (2005). Reading fluency assessment and instruction: what, why and how? *The Reading Teacher*, 58(8), 702-714.
<http://www.jstor.org/stable/20204298>
- Inhot, C. (1992). *Read naturally*. St. Paul, MN: Read Naturally.

- Keefer, M. J. & Lesaux, N. K. (2007). Breaking down words to build meaning: morphology, vocabulary, and reading comprehension in the urban classroom. *The Reading Teacher*, 61(2), 134-144.
- Kostewicz, D. E., & Kubina, R. M., Jr. (2010). A comparison of two reading fluency methods: repeated readings to a fluency criterion and interval sprinting. *Reading Improvement*, 47(1).
- Manset-Williamson, G., & Nelson, J. M. (2005). Balanced, strategic reading instruction for upper-elementary and middle school students with reading disabilities: a comparative study of two approaches. *Learning Disability Quarterly*, 28(1), 59-74.
<http://www.jstor.org/stable/4126973>
- McGuinness, C., & McGuinness, G. (1998). *Reading reflex: The foolproof Phono-Graphix method for teaching your child to read*. New York: Simon & Schuster.
- Melekoglu, M. A. (2011). Impact of motivation to read on reading gains for struggling readers with and without learning disabilities. *Learning Disability Quarterly*, 34(4), 248-261. Doi 10.1177/0731948711421761
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, 58(6), 510-519.
<http://www.jstor.org/stable/20205516>
- Rasinski, T. V., Padak, N. D., McKeon, C. A., Wilfong, L. G., Friedauer, J. A., & Heim, P. (2005). Is reading fluency a key for successful high school reading? *Journal of Adolescent & Adult Literacy*, 49(1), 22-27. <http://www.jstor.org/stable/4009266>
- Retelsdorf, J., Koller, O., & Moller, J. (2011). On the effects of motivation on reading performance growth in secondary school. *Learning and Instruction*, 21, 550-559.

- Ridge, A. D., & Skinner, C. H. (2011). Using the TELLS prereading procedure to enhance comprehension levels and rates in secondary students. *Psychology in the Schools, 48*(1), 46-58. Doi 10.1002/pits
- Roberts, G., Torgensen, J.K., Boardman, A., & Scammacca, N. (2008). Evidence-based strategies for reading instruction of older students with learning disabilities. *The Division for Learning Disabilities of the Council for Exceptional Children, 23*(2), 63-69.
- Roundy, R. A., & Roundy, P. T. (2009). The effect of repeated reading on student fluency: does practice always make perfect? *International Journal of Social Sciences, 4*(1).
- Simonsen, B., Shaw, S. F., Faggella-Luby, M., Sugai, G., Coyne, M. D., Rhein, B., Madaus, J. W., & Alfano, M. (2010). A schoolwide model for service delivery: redefining special educators as interventionists. *Remedial and Special Education, 31*(1), 17-23. Doi 10.1177/0741932508324396
- Spargo, E. (1989). *Timed Readings, third edition*. Lincolnwood, IL: Jamestown Publishers.
- Spencer, S.A. & Manis, F.R. (2010). The effects of a fluency intervention program on the fluency and comprehension outcomes of middle-school students with severe reading deficits. *Learning Disabilities Research & Practice, 25*(2), 76-86.
- Strommen, L. T. & Mates, B. F. (2004). Learning to love reading: interviews with older children and teens. *Journal of Adolescent & Adult Literacy, 48*(3), 188-200. Doi 10.1598/JML48.31
- Swanson, E. (2008). Observing reading instruction for students with learning disabilities: a synthesis. *Learning Disabilities Quarterly, 31*, 115-131.
- Strong, A. C., Wehby, J. H., Falk, K. B., & Lane, K. L. (2004). The impact of a structured reading curriculum and repeated reading on performance of junior high students with emotional and behavioral disorders. *School Psychology Review, 33*(4), 561-569.

- Vallely, R.J. & Shriver, M. D. (2003). An examination of the effects of repeated readings with secondary students. *Journal of Behavioral Education, 12*(1), 55-76. Doi: 10.1023/A:1022322422324
- Weller, D.W. & Weller, S. J. (1999). Secondary school reading: using the quality principle of continuous improvement to build an exemplary program. *National Association of Secondary School Principals, 83*, 59-68. Doi 10.1177/019263659908360709
- Wexler, J., Vaughn, S., Edmonds, M., & Reutebuch, C. K. (2007). A synthesis of fluency interventions for secondary struggling readers. *Reading & Writing, 21*, 317-347. DOI 10.1007/s11145-007-9085-7
- Whithear, J. L. (2009). Slipping through the cracks: Why too many adolescents still struggle to read. *Literacy Learning: the Middle Years, 17*(2), 30-45.
- Wilson, J. D. & Casey, L. H. (2007). Understanding the recreational reading patterns of secondary students. *Reading Improvement, 44*(1), 40-49.