Effects of Read 180® on Oral Reading Fluency Among Special Education Students

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Effects of Read 180® on Oral Reading Fluency Among Special Education Students

Marisol Briones

Action Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Education

California State University Monterey Bay

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Effects of Read 180® on Oral Reading Fluency Among Special Education Students

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Abstract

Despite the extensive use of Read 180® among upper elementary through high school students, there is little empirical evidence demonstrating the program’s effectiveness for improving reading achievement among students with low reading proficiency levels. This study evaluates the effectiveness of Read 180® Enterprise intervention program on oral reading fluency among secondary students with special needs. A multiple baseline across four participants design was used to evaluate the impact of the program’s impact on students’ reading. While a functional relation was not demonstrated, the program was most effective for students at the basic and lower reading proficiency levels and at a more moderate risk level, which coincides with results from previous research conducted. Study outcomes indicate a greater need to improve external validity and to assess the validity of Scholastic Inc.’s claims that it is an effective intervention for special education students due to its multisensory approach.

Keywords: reading intervention, adolescent literacy, reading fluency, DIBELS, special education
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Effects of Read 180® on Oral Reading Fluency Among Special Education Students

Literature Review

Literacy instruction and reading skills are crucial in order for students to maintain adequate skills necessary to be successful within the educational system (Heller & Greenleaf, 2007). That is, reading is a foundational skill that is needed for all other content areas. The importance of reading is recognized by many; therefore, there are vast amounts of research regarding various components of reading (Cirino et. al, 2012; National Reading Panel, 2000).

In 2000, the National Reading Panel (NRP) reviewed studies on reading development and evidence-based reading interventions. The NRP identified five target areas for instruction that correlate to proficiency in reading: phonemic awareness, phonics (decoding), comprehension, fluency, and vocabulary. Each of these five components presents a unique construct that is required for efficient reading, yet there is overlap in acquisition of each component. For example, phonemic awareness and phonics are correlated to the successful development of word recognition skills (Cirino et al., 2012). Furthermore, vocabulary development is tied to comprehension, and fluency has been identified as playing various roles to increase comprehension (Pinnell et al., 1995). Learning to read is a highly integrated process and the precise relationship between each of these five components is continually being examined to broaden the current understanding of what is involved in learning to read.

Reading skills and effective literacy instruction assist students with accessing curriculum. Accessing the curriculum is important for all students and requires fluency and comprehension. Reading fluency is necessary in order for students to keep up with the intensive
pacing at the secondary level. Reading fluency entails reading text with accuracy, speed, and proper expression. Not only must print be recognized and translated into oral knowledge, but the recognition needs to be automatic through continuous practice (Durkin, 1993). Reading fluency is an important skill because it has been attributed to having a close relationship to comprehension (Kim, Wagner, & Foster, 2011). According to research conducted by the NRP (2000), comprehension is imperative, as it is critical to developing adolescent’s reading skills and is connected to their ability to obtain a sufficient education. Comprehension is a skill that is not only necessary for academic learning, but life-long learning as well (Durkin, 2003). Thus, students who have low reading proficiencies are likely to have difficulty in understanding the meaning of what they are reading in both academic and real-world contexts.

Although numerous reading studies have been conducted, proficient literacy skills among adolescents continues to be a prominent problem, as around six million adolescents are reading below grade level (Joftus & Maddox-Dillon, 2003). There are increasing concerns that adolescents are not achieving fluency in reading. In a study conducted by the National Assessment of Educational Progress (NAEP) in 1992, which used a nationally representative sample of fourth grade students, 44% of students were found to be disfluent with grade-level stories in conjunction with a finding that strong fluency skills were directly linked to increased comprehension (Pinnell et al., 1995). Most strikingly, other research indicates a lack of reading proficiency by the end of the third grade makes a student four times more likely to drop out of high school (Balfanz, Bridgeland, Bruce, & Fox, 2012).

The problem of illiteracy is even more significant at the secondary level. If students reach the secondary level and are already behind in their reading skills, it becomes increasingly
more difficult for students to catch up to their representative academic level. Students can lose confidence, and become at-risk for dropping out (Balfanz et. al, 2012; Lloyd, 1978). Moreover, students from a lower socioeconomic background who are not proficient early on in their education are 13 times more likely not to finish high school than proficient readers who are not in poverty (Hernandez, 2011).

Despite efforts aimed at prevention of adolescent illiteracy, secondary scores have remained stagnant (Heller & Greenleaf, 2007). Specifically, according to the NAEP’s Reading Report at grades 4 and 8 in 2009, more than two thirds of all eighth and twelfth graders read at less than a proficient reading level. Of those students, half drop off the reading level scale used by NAEP entirely. Additionally, remediation of reading difficulties with older adolescents may necessitate intensity and differentiation of instruction, which can prove difficult because it is expensive to recruit highly skilled teachers and implement intensive, small group instruction (Bentum & Aaron, 2003; Torgesen et. al, 2001; Wanzek, Vaughn, Roberts, & Fletcher, 2011).

Students with learning disabilities experience even greater difficulty accessing and being successful with curriculum due to even lower reading achievement rates. Notably, special education students have even lower reading proficiency rates than their general education peers, and have demonstrated limited improvements. Students with learning disabilities are significantly behind, as only 11% of students with disabilities reached proficient reading levels in 2011 (Balfanz et al., 2011). Furthermore, there is little evidence of growth that special education intervention remediates achievement gap issues with reading (Wanzek, Vaughn, Roberts, & Fletcher, 2011).
The emphasis has been on prevention with children at a younger age when it comes to reading disabilities and challenges by attempting to implement interventions that are effective (Fletcher, Lyon, Fuchs, & Barnes, 2007; Torgesen, Rose, Lindamood, Conway, & Garvan, 1999; Vellutino, Scanlon, Small, & Fanuele, 2006; Wanzek & Vaughn, 2011). Remediation of reading challenges in older students requires more intensity and differentiation of instruction, which can be difficult in terms of finding highly skilled teachers to meet special education students’ needs (Wanzek, Vaughn, Roberts, & Fletcher, 2011). The few studies of students who receive special education services and have reading interventions demonstrate little evidence of closing the achievement gap in reading and instead show flat levels of growth (Bentum & Aaron, 2003; Torgesen et al., 2001).

As a result of students’ reading disfluency, many districts focus their funding on remediation of reading skills through English Language Development and intervention programs that are evidence based. The focus has been on designing and implementing effective interventions with an emphasis on the prevention of early reading problems in young children (Wanzek, Vaughn, Roberts & Fletcher, 2011; Vellutino, Scanlon, Small, & Fanuele, 2006). Effective practices for improving adolescent literacy with strong research evidence include explicit vocabulary instruction, direct and explicit comprehension instruction, and providing intensive and individualized interventions by specialists who are trained (Kamil et al., 2008). However, reading interventions have been inadequately implemented or are not sufficient in preventing reading difficulties encountered later on by older students (Wanzek, Vaughn, Roberts, & Fletcher, 2011). Moreover, studies that have focused on reading instruction for special education students demonstrated variability in the amount of reading instruction and a
lack of high quality instruction than if the students would have remained in a regular class (Allington & McGill-Franzen, 1989).

Due to this variability in reading instruction for special education students, no accurate differences between outcomes from the regular and specialized instruction classes were noted (Allington & McGill-Franzen, 1989). In conjunction with variability among reading remediation programs, there are not many studies that focus on the outcomes of remedial reading instruction specifically with special education students at the middle school level (Bentum & Aaron, 2003). One meta-analysis by Scammacca and her team (2007) looked exclusively at 17 reading intervention studies with older students with reading disabilities and found that students benefited from a range of intervention types, specifically including word and text-level interventions, as well as vocabulary and comprehension interventions. However, the majority of the studies reviewed in the meta-analysis focused on vocabulary and comprehension, not fluency (Scammacca et al., 2007). Additionally, there was an insufficient amount of studies that were conducted over an adequate intervention period or that utilized standardized measures to show outcomes (Wanzek, Vaughn, Roberts, & Fletcher, 2011).

Of the programs currently being implemented for reading remediation with special education students, one program that is utilized regularly in both the schools and in research is Read 180®. Read 180® is a reading intervention program intended for third through twelfth grade students who demonstrate below proficient reading levels. The program includes four components: independent reading, whole group instruction based on the groups’ needs, use of the L, R, or System 44 books, and use of the computer program. Read 180® has been touted as
an effective reading intervention program for English Language Learners and Special Education students due to its multi-sensory approach.

A study conducted by Read 180® in Desert Sands Unified School District in 2014 showed statistically significant gains on the California State Testing (CST) in Language Arts, and this trend of statistically significant improvement in overall reading achievement scores was similar in other studies (Haslam, White, & Klinge, 2006; Interactive Inc., 2002; Kim, Capotosto, Hartry, Fitzgerald, 2011). CSTs in Language Arts measures word analysis, literacy response, and writing conventions. This is significant because reading fluency and comprehension are tied to success in writing and students’ ability to connect and interact with texts (National Reading Panel, 2000). Similar results occurred on the English Language Arts achievement test in a study in New York (White, Williams, & Haslam, 2005). It is important to note that participants performed best when they were at a Reading Proficiency Level 2 out of 4 when they entered program treatment. Level 2 performances correlate to a basic reading proficiency level, which means students show partial understanding of learning standards, written text, and oral text. This may indicate that students who are at a lower and basic reading proficiency level show more academic gains through Read 180® program implementation than students who are closer to proficiency (Interactive Inc., 2006; White, Williams, & Haslam, 2005).

Studies that have focused specifically on Read 180’s® impact on oral reading fluency are limited. One peer reviewed study conducted by Kim and his colleagues (2011) found no statistical significance of improvement on oral reading fluency after the administration of the Dynamic Indicator of Basic Early Literacy Skills (DIBELS) oral reading fluency probes in
comparison to the control group (Kim, Capotosto, Hatry, & Fitzgerald, 2011). This study included 312 participants who scored below proficiency on language arts state assessments in grades 4-6. Participants attended an after school program where Read 180® was implemented using a randomized controlled trial. Four elementary schools were recruited, and participants were randomly assigned to Read 180 Enterprise or the district after-school program 4 days per week for 2 hours. Standardized Stanford Achievement Tests 10 scaled scores and DIBELS ORF probes were used to measure student progress. Although students participating in Read 180 outperformed the control group in the areas of vocabulary and reading comprehension, they did not outperform the control group in the areas of spelling and oral reading fluency. The study suggested that Read 180® is most effective for students for more moderate risk students, as opposed to the readers who are most struggling. The research outcomes suggest targeting students in the 40th-45th percentile and implementing both teacher-directed whole-group instruction in conjunction with three small group rotations.

Although there are a few studies that implement the Read 180® program, little is known about the impact this intervention may have on oral reading fluency. In addition, the previous studies did not focus on special education students. Thus, it is difficult to know Read 180’s® true impact and effectiveness on students who have identified learning challenges. Furthermore, a limited number of special education students were included in the previous studies in comparison to the total number of participants. This presents a problem with validity, as it is hard to determine the program’s effectiveness with a limited number of special education students involved. Moreover, none of the research reviewed indicated what kind of special education services students were receiving, or analyzed data based on special education
eligibility category (Haslam, White, & Klinge, A., 2006; Interactive Inc., 2006; Lang, Torgesen, Vogel, Chanter, Lefsky, & Petscher, 2008; Scholastic Research, 2008; White, Haslam, & Hewes 2006; White, Williams, & Haslem, 2005; Scholastic Research and Validation, 2008; Kim, Capotosto, Hartry, & Fitzgerald, 2011; What Works Clearinghouse, 2010).

Overall, there is a lack of research of the Read 180® program and its effectiveness for individuals with special needs. Few of the studies have been peer-reviewed; and furthermore, most of the studies have been funded by the publisher, Scholastic, Inc. This presents a conflict of interest, and the lack of empirical evidence from outside sources is problematic. If Scholastic, Inc. claims the program is effective for special education students, then there should be more studies that investigate the impact the program has on that population of students.

Moreover, of 101 adolescent literacy studies reviewed by the What Works Clearinghouse, only 7 studies met their criteria as valid research, and that was with reservations (Haslam, White, & Klinge, A., 2006; Interactive Inc., 2006; Lang, Torgesen, Vogel, Chanter, Lefsky, Petscher, 2008; Scholastic Research, 2008; White, Haslam, & Hewes 2006; White, Williams, & Haslem, 2005; Scholastic Research and Validation, 2008). Additionally, out of 56 studies of Read 180® for students with learning disabilities released from 1989-2009, none of them met the Students with Learning Disabilities review protocol (What Works Clearinghouse, 2010).

Of the studies reviewed there was no determination available of the effectiveness of the Read 180® program. The issues reported included to ineligible study design (no comparison group), studies having less than 50% students with learning disabilities included in the sample size, and a lack of analysis first conducted regarding the effectiveness of the reading
intervention program, such as a literature review or meta-analysis (What Works Clearinghouse, 2010). Lastly, previous studies did not implement the Read 180® program to fidelity and the prescribed 90-minute instructional model. This can be problematic because in order for the study to be truly reflective of the program, the model should be held with fidelity. Some studies only used parts of the program, or deviated from the model outlined by Scholastic, Inc. Results could not always be as accurate as possible because the program was not held with fidelity (Haslam, White, & Klinge, A., 2006; Interactive Inc., 2006; Lang, Torgesen, Vogel, Chanter, Lefsky, & Petscher, 2008; Scholastic Research, 2008; White, Haslam, & Hewes 2006; White, Williams, & Haslem, 2005; Scholastic Research and Validation, 2008; Kim, Capotosto, Hartry, & Fitzgerald, 2011; What Works Clearinghouse, 2010).

There is a dearth of empirical studies for individuals with learning challenges who present with below level reading proficiency and the use of Read 180®. This brings up a major issue, as school districts are required to provide reading intervention programs that are empirically sound. In addition, from an ethical standpoint, it is imperative that students be engaged in reading intervention programs that are backed by empirical evidence. Thus, if teachers and school districts are implementing reading interventions that are not supported in the research, students who are already behind due to reading challenges may be losing critical time needed to close the achievement gap. This could be detrimental to their academic success, as reading skills are the foundation to academic success across subjects. There needs to be more peer reviewed research conducted on the effectiveness of Read 180® on reading achievement, and the research needs to be from a neutral funding source other than by Scholastic, Inc.
**Research Question**

What are the effects of Read 180® on oral reading fluency with middle school students receiving special education services in a rural school setting?

Research Question:

- Will there be an increase in correct words per minute read after using DIBELS Oral Reading Fluency weekly progress monitoring probes?

**Methods**

**Participants and Setting**

Participants were recruited from a self-contained special day class in a middle school located in Santa Cruz County. The middle school is located in a rural setting, and has 531 sixth through eighth grade students.

Four students were selected for this study, because of their challenges in oral reading and reading comprehension as they have scores in the “low” and “very low” ranges on the reading comprehension subtest of the Woodcock Johnson IV. Additionally, the recruited participants were at least three grade levels behind in reading, as determined by their most recent Scholastic Reading Inventory (SRI) lexile scores. Lastly, these students have not been exposed to all of the instructional components of the independent variable.

Two sixth grade students and two seventh grade students with varying learning challenges who currently receive special education services were recruited. The participants range in age from 11-13, and consisted of two boys and two girls. In addition, the participants have one of the following learning challenges / identified disabilities: Specific Learning Disability, Speech and Language Impairment, and Autism. Each participant was assigned a pseudonym to ensure confidentiality and anonymity.
Alex was in sixth grade. She had identified learning challenges of Specific Learning Disability and Speech and Language Impairment. Additionally, she received Occupational Therapy services in order to assist her with sensory challenges throughout the duration of the study.

David was in seventh grade. He had an identified primary learning disability of Specific Learning Disability and a secondary learning disability of Speech and Language Impairment.

Quinn was in sixth grade. He had a more severe Speech and Language Impairment, and was very selective about when he would speak. Additionally, he had a history of behavioral challenges, including oppositional defiance in the “significant” range, as per his latest triennial evaluation.

Sofie was in 7th grade. She has an identified learning challenge of Autism and had a Speech and Language Impairment. Additionally, she had echolalia and difficulty with expressive language.

Apparatus/Materials

The Read 180® Scholastic Reading Inventory (SRI) was used to determine current student lexile reading levels. The SRI test consists of student choice of the top three genres of text they enjoy, and then creates reading passages with corresponding multiple-choice comprehension questions that the students must answer. The number and difficulty of passages and questions administered during the test are determined by how successful a student is as they progress through the SRI.

The Read 180® program was used throughout the duration of this study. This reading intervention program was developed by Scholastic, Inc., and includes a 90 minute instructional
model. This 90 minute model encompasses independent reading, time on the computer developing critical reading and writing skills, and time in one of the reading intervention books that focuses on vocabulary development, comprehension, and writing skills.

Dynamic Indicator of Basic Early Literacy Skills (DIBELS, Good & Kaminski, 2002). The DIBELS is a widely used, curriculum-based, early literacy assessment and progress-monitoring tool. It is a standardized measure that typically takes one minute to administer. There are numerous components to the DIBELS; however, for the purposes of this study only the Oral Reading Fluency (ORF) probes will be used to measure the student’s oral reading fluency.

Research Design

A multiple baseline across participants was used to examine the research question. Prior to baseline, each participant was assessed using the Scholastic Reading Inventory to find the participants’ instructional level. Tier 1 entered intervention once baseline data were stable. Subsequent tiers entered intervention once the previous tier had demonstrated an increase of reading 2 words per minute over the average of baseline.

Experimental Manipulations

The dependent variable was correct words read per minute as measured by informal one-minute timed oral reading fluency (ORF) probes administered approximately three times a week at each student’s current instructional level.

The Read 180® reading intervention program model was used as the independent variable. The program was implemented to fidelity as defined by Scholastic Inc. during the
assigned reading class. The intervention consisted of three 90-minute sessions per week. This surmounted to 4.5 hours of reading instruction per week for the duration of the study.

The program model started with 20 minutes of whole group instruction using the R-book. The R-book encompasses intense, scaffolded writing instruction with an emphasis on narrative, explanatory/informational, and argumentative essays. Additionally, it supports vocabulary development, develops skills to be able to cite contextual evidence, and enhances reading comprehension skills.

After, the model moved into three twenty-minute rotations. Twenty minutes were spent on the Read 180® computer program. Students were not allowed to progress to the next part of the computer program without completing each section with full accuracy. The computer program contained the following components:

- **reading zone**: students practice oral reading fluency skills by having passages read to them, and reading passages orally into the computer headset microphone
- **word zone**: students practice reading words in isolation into the computer headset microphone accurately
- **writing zone**: students respond to comprehension questions and focus on developing writing skills
- **spelling zone**: students practice accurately typing commonly used words at their current instructional level
- **success zone**: students review everything they have learned in the previous zones, including a final recording of the reading passage, and applying comprehension and vocabulary skills
Another rotation component was 20 minutes for utilizing instructional strategies dependent upon demonstrated student need. For example, this included materials pulled from the Reading Strategies Book, Phonics and Word Study Strategies Book, and Writing and Grammar Strategies Book. Scholastic, Inc. leaves this aspect up to the instructor based on where students’ skills need to improve. Students practiced decoding words in isolation, defined and developed academic vocabulary, found errors within a sentence, and identified parts of a paragraph (i.e. topic sentence, detail sentences, concluding sentence).

Lastly, students were required to complete 20 minutes of independent reading. The book chosen by the student was at the student’s current instructional level, based on the most recent Scholastic Reading Inventory lexile level. All books in the Read 180® program library have the respective lexile levels noted on the back of each book.

The remaining 10 minutes were utilized as whole group instruction for class wrap-up to review what was learned during the instructional period through group sharing, reflection, and skill reinforcement.

**Procedural Fidelity**

Procedural fidelity was determined at a minimum of 20% of the total sessions by an observer utilizing the Read 180 Classroom Implementation Review checklist to ensure that each part of the instructional model had been implemented (see Appendix A). The section entitled “Completed required professional development” was omitted due to the duration of the study. Procedural fidelity was upheld to an average of 98% accuracy throughout the duration of the study. This was calculated by finding the average of each session’s agreement of the forty instructional components in the checklist divided by the total of disagreement and agreement.
opportunities (40) multiplied by 100. Of the total sessions, the range of agreement was 95% (38 points) to 100% (40 points).

**Social Validity**

Social Validity was determined by a three-question yes/no survey (Appendix B) that highlighted certain reading behaviors targeted by the independent variable. The survey was given to the parents of the participants, the instructional assistants in the classroom, as well as the general education teachers who work with the participants during the spring semester.

All individuals who completed the survey felt that reading was an important skill, should be fluid and can negatively impact other academic areas other than reading.

**Interobserver Agreement**

Interobserver agreement was collected for 20% of the total sessions. The percentage of agreement was calculated by the number of agreements by the independent observer in regards to the correct words read per minute divided by the number of disagreements and multiplied by 100. The average percentage of agreement for Alex average was 100%. The average percentage of agreement for David was 100%. The average percentage of agreement for Quinn was 100%, and the average percentage of agreement for Sofie was 89%. The range was 88%-100%, and the average of the total percentage of agreement was 97%.

**Results**

Each participant’s correct words per minute (CWPM) on provided reading passages is displayed on the y-axis and the number of sessions along the x-axis (see Figure 1).
Figure 1. Read 180 intervention instruction on correct words per minute as measured by probes.
During baseline condition, Alex’s reading rate as measured by the DIBELS ORF was a range from 63 correct words per minute to 68 CWPM. The average during baseline was 66 CWPM. During the intervention phase, her range during the intervention phase was 72 to 80 CWPM with an average of 71 CWPM.

David’s performance on baseline DIBELS ORF probes ranged from 63 CWPM to 90 CWPM with an average baseline score of 79 CWPM. The range during the intervention phase was 80-97 CWPM with an average of 90 CWPM. During the intervention phase, there was a general therapeutic trend, with two data point exceptions that demonstrated a return to previous baseline levels.

During the baseline condition, Quinn’s reading rate ranged from 17 to 31 CWPM. The average during baseline was 26 CWPM. His performance during the intervention condition demonstrated a gradual increasing in correct words read per minute, with the exception of one point. During intervention, his reading rate varied from 26-52 CWPM with an average of 38 CWPM.

During the baseline condition, Sofie’s data was variable. Correct words per minute ranged from 54 to 83. The average during baseline was 67 CWPM. Similarly, there was little difference noted between baseline data and intervention data. During the intervention condition, data ranged from 75-97 correct words per minute and the average was 83 CWPM.

**Discussion**

This study examined the effects of the Read 180® intervention program on oral reading fluency with special education students in grade 6 and 7. This study’s purpose was to find if
Read 180® was an effective resource for improving reading fluency rates among special education students at the secondary level. According to the NRP report in 2000, fluency is acknowledged as a critical element of skilled reading. Thus, if students are low in fluency, they can have challenges maintaining adequate progress, and accessing different texts (Snow, Burns, & Griffin, 1998). This can adversely affect students’ ability to access and be successful with the academic rigor required at the secondary level.

All four participants made some fluency gains as a result of Read 180® program implementation. There was some overlap (61% average across participants) between baseline and intervention correct words per minute, which suggests some reading fluency gains. Overall, a positive trend line from baseline conditions to intervention is noted for all participants. A return to baseline occurred with Alex and Quinn.

The percentage of non-overlapping data for each participant was in the minimally effective range (50-70%), with the exception of Quinn. Quinn’s data fell in the moderately effective range with 71% non-overlapping data. Alex had 57% non-overlapping data, David had 67% non-overlapping data, and Sofie had 50% overlapping data. In three out of four cases, performance did not improve on progress monitoring probes until after the introduction of the Read 180 program. Therefore, results suggest Read 180 may have contributed to the participants’ improved reading rate. However, none of the improved reading rates produced a dramatically positive trend line. This could be due to previous research nothing that fewer opportunities exist for students to read aloud to themselves in concurrence with receiving guided feedback, which are two factors associated with improved fluency (Kim, Capotosto, Hartry, & Fitzgerald, 2011; National Institute of Child Health and Human Development, 2000).
Although the general trend was positive, there was one exception in the study. Sofie had variable data, as noted by her percentage of overlapping data being in the ineffective range. She is on the more moderate end of the autism spectrum and exhibits behaviors such as hand flapping, humming, and word repetition / echolalia, which could have negatively affected the results. It should be noted that participation on the computer portion of the Read 180® program could have been negatively impacted due to her echolalia. During the reading zone portion of the computer instructional program, Sofie would be unable to progress due to word repetition. Without 100% accuracy on the oral reading aspect, she could not continue to the next level of the program. This could suggest that the Read 180® program may need to be investigated further to see the effects on reading achievement with students who have autism. Additionally, it should be noted that Quinn had an outlier data point because he has behavioral challenges, and he de-escalated immediately prior to reading class on that day.

The results of this study suggest that Read 180® may offer an additional way to increase the number of words read per minute. The program was used as a supplemental piece of instruction with potentially positive effects demonstrated by the results. Read 180® incorporates elements deemed effective by evidence-based practices and backed by research. For instance, the use of R book and computer instructional component integrates explicit and direct comprehension instruction and vocabulary instruction, which are practices considered effective by research (Wanzek, Vaughn, Roberts, & Fletcher, 2011). These elements are beneficial in helping increase reading fluency among students, as decoding and comprehension difficulties occur simultaneously at all ages and are correlated (Snowling & Hulme, 2012).
Overall, data demonstrated a positive trend in increasing correct words per minute read. Increasing the reading rate of special education students is vital because there is a close relationship between reading fluency and reading comprehension (NRP, 2009). Increasing student fluency and reading comprehension has a direct effect on special and general education students’ ability to access the general education curriculum successfully. If the number of correct words read per minute continues to be low, more effort is placed on a student decoding words with great effort, as opposed to focusing on content knowledge. When students use their resources to decode, fluency and comprehension suffer. Moreover, fluency develops from reading practice in order to gain access by achieving fluency with different texts and should thus be emphasized in the classroom (Snow, Burns, & Griffin, 1998).

The results from this current study coincide with previous research that suggests that Read 180® has potentially positive effects as a program for students with disabilities (Haslam, White, & Klinge, 2006; Kim, Capotosto, Hartry, & Fitzgerald, 2011; Scholastic Inc., 2003-2006; What Works Clearinghouse, 2009).

There was a more dramatic increase in reading rate with Quinn, the student who was the lowest overall in reading achievement scores to David, who had medium-low scores, as determined by their most recent triennial evaluation scores. Quinn was absent due to illness, which accounts for movement to intervention seeming as if it occurred on the same session as David. Both of these participants have basic reading skills, such as phonic and decoding skills. This coincides with previous research suggesting that the Read 180® program as being most effective with students who are at the basic (40th-45th percentile) and lower reading proficiency levels, and are at moderate-risk (Interactive Inc., 2006; White, Williams, & Haslem, 2005). The
demonstration of positive effects with the implementation of Read 180® suggests that integrating multisensory elements such as the computer program should be considered when creating curriculum for both typical and special education students. The repetition of the online component in conjunction with teacher feedback during the allocated reading time may be beneficial for special education students, and connects to research on effective remediation involving explicit vocabulary and comprehension intervention (Wanzek, Vaughn, Roberts, & Fletcher, 2011).

The least amount of impact in correct words per minute read was with Sofie and Alex, who are the students who were higher achievers in reading. Their data tended to be more variable, although not demonstrating an entirely counter therapeutic trend line. This supports previous research that Read 180’s effectiveness may be greatest with students who are lower to moderate in reading achievement (Haslam, White, & Williams, 2005; Kim, Capotosto, Hartry, & Fitzgerald, 2011; Lang, et al 2009).

This study provides preliminary evidence regarding the effectiveness of the Read 180®; however, additional research is needed to assess the validity of Scholastic, Inc.’s claims that it is an effective intervention for special education students due to its multisensory approach. There has yet to be a study considered valid by the What Works Clearinghouse or in academic journals that focuses solely on Read 180’s® effects on special education students. Further research would need to be conducted in order to improve external validity and prove the efficacy of the Read 180® program supported by empirical evidence for special education students. In current research, less than 50% of the participants in each study were students with learning disabilities (What Works Clearinghouse, 2010). Moreover, none of the current
research examines the outcome of the program on word reading or fluency (Kim, Capotosto, Hartry, & Fitzgerald, 2011). Further research needs to be conducted in those domains.

Two limitations should be addressed in future studies. First, future studies should consider a longer intervention phase to better assess the long-term effects of the program on fluency. Moreover, studies should consider comparing the results to other reading programs available as an intervention for special education students. This would better determine the overall effectiveness of the Read 180 program as an intervention for special education students.

In conclusion, this study demonstrated positive results in three out of four cases with increased reading rate. However, the increase in correct words per minute did not show a dramatic change from the baseline condition. The study supports the use of the Read 180® program as an effective method for producing reading rate gains in 6th and 7th grade students with disabilities. Further research should be conducted focusing on special education students and the effects of the program on oral reading fluency to improve external validity.
References


Interactive, Inc. An efficacy study of Read 180, a print and electronic adaptive intervention program, grades 4 and above. (2002).


December 17, 2015, from Policy Study Associates website:


Appendix A

Read 180 classroom instruction checklist and classroom structure and organization checklist

<table>
<thead>
<tr>
<th>Part II: Classroom Instruction</th>
<th>READ 180® Implementation Review</th>
</tr>
</thead>
</table>

### Whole-Group Instruction

<table>
<thead>
<tr>
<th>INITIAL IMPRESSION</th>
<th>YES</th>
<th>NO</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher and students are using the rBook together.</td>
<td></td>
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<tr>
<td>Students are writing appropriately in the rBook.</td>
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<tr>
<td>Teacher is using lesson plans from rBook.</td>
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<tr>
<td>Teacher is actively involving all students in the task using instructional routines (e.g., Think-Pair-Share).</td>
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<tr>
<td>Teacher uses sentence starters for all responses and requires all students to answer questions both orally and in writing.</td>
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</tbody>
</table>

### Small-Group Instruction Rotation

<table>
<thead>
<tr>
<th>INITIAL IMPRESSION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher is using lesson plans from rBook daily.</td>
<td></td>
</tr>
<tr>
<td>Teacher and students are using the rBook together.</td>
<td></td>
</tr>
<tr>
<td>Teacher spends time with each member of small group and incorporates instructional routines (e.g., Think-Pair-Share).</td>
<td></td>
</tr>
<tr>
<td>Students are grouped based on instructional needs, Groupinator recommendations, and/or SAM data.</td>
<td></td>
</tr>
<tr>
<td>Teacher differentiates instruction daily by using Resources for Differentiated Instruction lessons, Boost and Stretch activities, or other READ 180 print resources.</td>
<td></td>
</tr>
<tr>
<td>At rBook Checkpoints, teacher differentiates instruction using Resources for Differentiated Instruction lessons.</td>
<td></td>
</tr>
<tr>
<td>Teacher uses sentence starters for all responses and requires students to answer questions in complete sentences.</td>
<td></td>
</tr>
<tr>
<td>Teacher uses SAM data to conference with students regarding performance feedback and goal setting.</td>
<td></td>
</tr>
</tbody>
</table>

### Independent Reading Rotation

<table>
<thead>
<tr>
<th>INITIAL IMPRESSION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are choosing appropriate books based on their reading abilities (Lexile measure) and interests.</td>
<td></td>
</tr>
<tr>
<td>Students are actively engaged in reading silently or listening to audiobooks and have set quarterly/weekly reading goals.</td>
<td></td>
</tr>
<tr>
<td>Multiple methods of accountability are in place to track reading (Scholastic Reading Counts!, graphic organizers, etc.).</td>
<td></td>
</tr>
<tr>
<td>Teacher monitors students' on-task behavior through SAM data and/or student reading logs.</td>
<td></td>
</tr>
</tbody>
</table>

### Instructional Software Rotation

<table>
<thead>
<tr>
<th>INITIAL IMPRESSION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are focused on READ 180 Software.</td>
<td></td>
</tr>
<tr>
<td>Students are using headphones and microphones.</td>
<td></td>
</tr>
<tr>
<td>Teacher regularly monitors students' time on software through Teacher Dashboard, SAM data, and/or student software logs.</td>
<td></td>
</tr>
</tbody>
</table>
# Classroom Implementation Review

**READ 180 Next Generation**

## Part I: Classroom Structure and Organization

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>YES</th>
<th>NO</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student screening and placement:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students have completed initial SRI and placed into program based on results</td>
<td></td>
<td></td>
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<tr>
<td>Student progress data is monitored with a clear plan for exiting upon completion</td>
<td></td>
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<tr>
<td><strong>Each rotation is timed appropriately with smooth transitions:</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Whole Group: 20 minutes</td>
<td></td>
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<tr>
<td>Small Group: 20 minutes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Instructional Software: 20 minutes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Independent Reading: 20 minutes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wrap-Up: 10 minutes</td>
<td></td>
<td></td>
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<tr>
<td><strong>Rituals and routines are clearly posted and include:</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Daily agenda posted</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Student groupings visible to students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rituals/routines for each rotation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Daily objectives posted</td>
<td></td>
<td></td>
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<tr>
<td><strong>Sufficient working hardware for software rotation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All computers functioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All headphones/microphones working</td>
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<td></td>
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<tr>
<td>At least 3 working CD players</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 projector/DVD player</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Sufficient print materials:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>rBook</em> per student</td>
<td></td>
<td></td>
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<tr>
<td><em>rBook Teacher’s Edition</em></td>
<td></td>
<td></td>
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<tr>
<td>Complete classroom library</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Student data reviewed</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Updated SAM reports analyzed and included in data notebook or lesson plan</td>
<td></td>
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<tr>
<td><strong>Completed required professional development</strong></td>
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<tr>
<td>READ 180 Day 1 Training</td>
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<tr>
<td>READ 180 Day 2 Training</td>
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<tr>
<td>READ 180 Follow-Up Training</td>
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<tr>
<td>Conversion Training</td>
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<tr>
<td>Webinar</td>
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<td></td>
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<tr>
<td>Other Training</td>
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Appendix B

*Reading survey for participant’s parents, general education teachers, and classroom instructional assistants*

Directions: Thank you for completing this short survey regarding the relevance of reading. Please indicate Y (Yes) or N (No) for each of the following questions:

<table>
<thead>
<tr>
<th>Question</th>
<th>Response (Y=Yes, N=No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think reading is an important skill to have?</td>
<td></td>
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<tr>
<td>Do you think the speed and accuracy in which a student is able to read is important?</td>
<td></td>
</tr>
<tr>
<td>Do you think a lack of reading skills negatively affect students in academic areas other than reading?</td>
<td></td>
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</tbody>
</table>