Increasing Reading Fluency using *Read Naturally*® with Two Third Grade Students with Specific Learning Disabilities: A Replication of Erickson et al., 2015

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The purpose of this research was to determine the effectiveness of the Read Naturally® *program. The program was used in hopes to improve each student's ability in reading fluency. The study used* Read Naturally® *as an intervention for two struggling readers identified as two third grade students. The program included passage reading and comprehension. The participants were placed in the correct instructional level within the program by determining their age, grade level, reading abilities, and instructional level. The* Read Naturally® *program followed a multi-step procedure that required the students to read for a minute for a cold read and hot read, read passages aloud, follow along as the passages are read through an audiotape, and answer comprehension questions pertaining to the passages. Data were collected throughout the study to determine if there was an increase in words per minute for each participant from a cold read to a hot read.. The effectiveness of the* Read Naturally® *program was examined through an ABAB single-subject reversal design. The overall outcomes indicated improved fluency for each student. This improvement from hot to cold reads during the intervention was not found for either participant. Therefore, caution is urged regarding the use of* Read Naturally®.

According to the National Reading Panel (2000), reading fluency is the skills to read text both accurately and quickly. The speed at which a student reads a piece of text is essential

to becoming a fluent reader. Shriver (2001) felt that fluency affects reading as a whole because it provides bridge between word recognition and comprehension. Fluent readers have the ability to decode words at a faster rate while comprehending the text (Shapiro, 2011). Students do not necessarily become fluent readers quickly or without practice. It can take time for students to build the stamina to push through decoding words to read at a fluent level of reading as "at the earliest stages of reading development, students' oral reading is slow and labored because students are just learning to attach sounds to letters and to blend letter sounds into recognizable words" (Chard, Vaughn, & Tyler, 2002). As text becomes more difficult a student's fluency rate may decrease, as they have to again focus on decoding text. An instructional approach to increasing a student's reading fluency is through the repetition of reading the same text, known as repeated reading (Dowhower, 1987). Repeated reading substantially improves a student's ability to recognize words, decode words, and increase reading speed therefore making them a more fluent reader. Moyer (1982) reported, the student's error rate appeared to be high on the initial reading and throughout the use of repeated reading errors decreased.

A commercially available repeated reading program such as *Read Naturally*®, focuses on using the most common words in the English-language in the program's passages. This program has been shown to promote oral reading fluency in students (Reutzel, & Cooter, 2009). Denton, Fletcher, Anthony, and Francis (2006) conducted to evaluate the efficacy of the *Read Naturally*® program over an 8-week period. Their participants received the intervention every day for over 30 minutes. The reading fluency of their participants significantly increased due to the repeated reading aspect of the program. Their participants' scores on placement and state tests also improved, as they were able to more fluently read the text. According to the first authors, the use of the

repeated reading could improve the on the abilities of students with severe reading impairments to fluently and accurately read words from lists or text.

The *Read Naturally*® program uses three methods to improve a student's fluency rate (Hasbrouck.Ihnot, & Rogers, 1999). These are teacher modeling, repeated reading, and progress monitoring. Each is used to ensure the students words per minute rate increases from using the program (Hasbrouck et al., 1999). Teacher modeling is used to ensure the students understand the program and its advantages. Repeated reading is used to overall increase the student's word recognition and become more fluent in reading. Progress monitoring is used in order for the students to see positive results from the program. The students are able to graph their own progress, which helps with their self-esteem. *Read Naturally*® uses the term, words per minute or wpm, to determine the student's number of words that they read in a timed minute. The student's skills at reading correct words per minute directly relates to fluency (Shapiro, 2011). The *Read Naturally*® program incorporates a new passage a session that the students read two to three times alone, listen to on an audiotape three to five times, and reads to the first author two to four times which emphasizes the use of repeated reading.

Read Naturally® can be used as an intervention to improve reading (Denton et al., 2006). All students that struggle with reading fluency can benefit from participating in the intervention by using the program. Students with specific learning disabilities can especially benefit from the intervention. Numerous research studies have been conducted that suggest that "effective intervention fro building fluency skills for students with learning disabilities include, providing multiple opportunities to repeatedly read familiar text independently and with corrective feedback, and the employ a performance criteria along with increasing text

difficulty" (Rasinski, 2012 p.518). Considering the *Read Naturally*® program is based around the idea behind repeated reading should be successful for students with specific learning disabilities.

This single case design evaluation and replication of *Read Naturally*® was implemented to determine the effectiveness of the *Read Naturally*® program as an intervention for two third grade students with learning disabilities. Since there is evidence regarding *Read Naturally*® has not been positive, an additional purpose was to provide some empirical support for employing *Read Naturally*®. Our final purpose was to replicate and extend our prior work (Erickson, McLaughlin, Derby, & Fuehrer, 2015) which found some efficacy of employing *Read Naturally*® with three primary students with learning disabilities enrolled in a different classroom and school district. This research was carried out in a different school district and with younger students that were employed by Erickson et al., (2015).

Method

Participants and Setting

The study involved two third grade participants, a nine-year-old girl (Participant 1) and a nine-year-old boy (Participant 2). The participants attended an elementary school in Washington State. Both the participants attended the same general education classroom and received resource services at the same time. The participants both received an extra 30 minutes a day for reading, which was used to incorporate the *Read Naturally*® intervention.

Participant 1 was diagnosed with a specific learning disability. There was no history of learning disabilities within her family. The participant was a typically developing child. She received services from the resource room. She received 60 minutes for reading and 30 minutes for math a day. The participant spent 75% of her day in the general education

classroom. Her test scores reflect below average levels for both reading and math including her DRA score, which was significantly low for her grade level. She came from a broken family due to recent circumstances. She splits her time with her mother and her father. Given the circumstances they seem to not be affecting her academic progress.

Participant 2 was diagnosed with a specific learning disability. There was a history of learning disabilities within his family. Other than his learning issues, the participant was a typically developing child. He received services from the resource room. He received 60 minutes a day for reading, 30 minutes for math, and 30 minutes for writing. The participant spent 70% of his day in the general education classroom. His test scores reflect below average levels for reading, math, and writing. His DRA scores were significantly low for his grade level. The participant came from a blended family that consisted of his mother, father, and four stepsiblings.

The study took place in a special education classroom in an urban elementary school in the Pacific Northwest. The special education classroom was a resource room, which enrolled a total of 32 students. The intervention took place in the afternoon, from 1:35 pm to 2:05 p.m. each day in the presence of two teachers, one instructional assistant, and one researcher. Data were recorded daily when the students came into the classroom and the session lasted 30 minutes. The first author and participants sat at a low table where the participants sat across from one another so the first author could sit next to both of them. The classroom was a calm environment as the teachers and instructional assistants were leading different small groups. The study was conducted by the first author under the supervision and assistance of each of the other authors. She was completing part of her certification requirements as part of the academic major in special education from a local private university (McLaughlin, B. Williams, R. Williams, Peck, Derby, Weber, & Bjordahl,

1999). The classroom has been employed to carry out several data based research studies in the recent past such as Morgan, McLaughlin, Neyman, and Bolich, (2014).

Materials

The materials used in this study included the *Read Naturally*® program. This included of the instructional guidelines on how to implement the intervention, 24 non-fiction high interest stories for the level of the students, CD disc that had the recordings for each story, a disc player, headphones, and a stopwatch or timer. Each participant had a folder with all 24 stories, a graph to use for their cold reads and hot reads, a blue colored pencil to graph cold reads, and a red colored pencil to graph hot reads. The first author had a folder with the same materials, yet it had graphs for each participant and 24 stories for each student in order to use the miscue analysis for each participant.

Dependent Variable and Measurement

The target behavior for this study was to increase the student's words per minute after the familiarity of a story. The dependent variable was the number of correct words read per minute while the participant read a story from the *Read Naturally*® program. During the 30-minute session, the participants read the story chosen for the day aloud as the first author used the miscue analysis to determine the participant's total words per minute read by subtracting the number of errors from the total number of words read in a minute to determine their words per minute. This was initially completed to determine the students "cold read" words per minute. For a cold read, the students read the passage without familiarity as they had only been presented the key words and their definitions. The first author used the miscue analysis again to determine the participant's total words per minute read by subtracting the number of errors from the total

number of words read in a minute to determine their words per minute for a "hot read". For a hot read, the students were exposed to and familiar with the story as the *Read Naturally*® intervention was implemented. Both the cold read and hot read word per minute totals were graphed on the participants and researchers graphs in their intervention folders.

Data Collection

Data were collected through the use of event recording each session. The first author recorded each participant's words per minute for the cold read and each participant's words per minute for the hot read. The cold read was graphed in blue and the hot read was graphed in red in increments of five. Each session was recorded using an iPhone to calculate Inter-observer agreement. After data collection an examination of baseline and hot read data were carried our to determine the percentage of non overlapping data points (NDP). This calculated following the suggestions of Scruggs, and Casto (1987) and Scruggs and Mastropieri (2001, 2013).

Experimental Design

A single-subject reversal design (Kazdin, 2011; McLaughlin, 1983) was used to evaluate the effects of the *Read Naturally* program across two students. The design was implemented using the miscue analysis to determine each participant's words per minute for both the cold reads and the hot reads.

Baseline. Baseline consisted of a cold read of the same story with no practice and no familiarity originally. The first author graphed the participant's number of words per minute for four sessions for baseline 1 and one session for baseline 2.

Read naturally®. The reading fluency intervention was implemented using the *Read Naturally*® program, which consists of different passages varying in difficulty and grade

level. The passage level for the participants was determined by age, grade level, and reading abilities. The beginning reader called "Read to Learn", which includes basic decoding, was chosen as the starting point based on the participants skill level.

The intervention consisted of multiple steps. The first step was to determine a words per minute goal that was to obtained for each passage. The lowest goal suggested by the Read Naturally® program was 80 wpm, however this proved to be unsuitable for the participants skill levels, therefore the lowest goal was adjusted to 50 wpm which was increased to 55 wpm after her first session for the participant 1. The lowest goal was adjusted to 40 wpm for the participant 2. The first author selected the passages. Each 30-minute session began with showing the participants the selected passage and introducing key words and definitions for the key words within the passage. The participants were then timed for one minute doing a "cold read", meaning the participants had never been exposed to the passage, to determine their words per minute for the specific passage. The first author used a miscue error analysis to assess the participant's performance on the reading. The total number of words read in the one minute were added and the number of errors subtracted from that number to obtain the words per minute.

The participants were then asked to read along with an audiotape of the passage reading twice and then asked to read it without the audiotape. When they were finished they were told to return back to the audio, then again reread it independently. At this point, the first author would ask if the participants were ready to perform a "hot read", meaning they had been sufficiently exposed to the passage and ready to retest their words per minute. If participants felt they were not ready, they were given another opportunity to listen to the audiotape and then reread the story again. Once the participants were ready to pass the story, meaning they felt

they could obtain the words per minute goal, then the first author would time each participant for one minute to determine the increase in words per minute from the cold read. If a participant did not reach the goal then they were required to listen to the audio one more time, read it to themselves again, and then pass the story.

After the participants passed the story their words per minute were calculated again by using the same error miscue analysis performed for the cold read. Their number of errors was subtracted from the total amount of words read. After the participants passed the story the first author would ask each participant a series of five comprehension questions pertaining to the specific passage. Each participant and the first author would both graph their cold read words per minute score in blue and their hot read words per minute score in red, which gave the participants the opportunity to see their growth.

Reliability of Measurement

Inter-observer reliability or agreement was conducted twice during baseline and seven times during the *Read Naturally*® intervention. Agreement was conducted through the recording of the cold read and the hot read to determine the words per minute read. The first author and the video recording observer independently totaled the number of words per minute and graphed on their own graph. The percent of inter-observer agreement was figured by dividing the lower number of words per minute correct by one observer by the larger number of words per minute correct by the second observer and then multiplying by 100. The percent of inter-observer agreement for the words per minute for the cold reads was an average of 100% for both participants. The percent of inter-observer agreement for the words per minute for the hot reads was an average of 100% for both participants.

Results

The results of this study displayed an increase of words per minute from cold reads to hot reads. The effects of the *Read Naturally*® program to improve words per minute by the use of audiotape to familiarize the participants with the passage after performing a cold read to improve their words per minute are shown in Figure 1.

Participant 1, for baseline (cold reads), the mean number of words per minute was 31.8 (range: 24 to 36). The mean number of words per minute for the cold reads during *Read Naturally*® increased to 29.8 (range: 16 to 45). Also, the mean number of words per minute for the hot reads during intervention increased to 67.9 (range: 57 to 77). After the reversal back to baseline, the number of words per minute was 63. The intervention began again and the mean number of words per minute for cold reads was 27.2 (range: 11 to 39) and the mean number of words per minute for hot reads was 69 (range: 67 to 72).

Participant 2, for baseline (cold reads), his mean number of words per minute was 18.3 (range: 14 to 25 words). The mean number of words per minute for the cold reads during the *Read Naturally*® was 22.4 (range: 15 to 42) and the mean number of words per minute for the hot reads during intervention improved to 49.9 (range: 41 to 69 words). During the reversal, the participant's words per minute declined to 44. When *Read Naturally* was again employed, the mean number of words per minute for cold reads was 26 (range: 16 to 38 words) and the mean number of words per minute for hot reads was 58.8 (range: 50 to 67 words per minute).

The percentage of non-overlapping data points between baseline 1 and the first *Read Naturally*® phase was 100% for each participant. For the comparison for baseline 2 and the second *Read Naturally*® hot read data was also 100%. This indicated that the use of *Read Naturally*® was an

effective intervention for each of our participants. However, caution should be taken since the second baseline condition was only in effect for one session.

Discussion

For our two participants, the *Read Naturally*® intervention was effective as both participant's number of words per minute increased from baseline and the participant's words per minute for the cold reads increased during their hot reads. Prior to the intervention both participant's reading fluency was much below the standard. After using *Read Naturally*®, each student increased their scores. The classroom staff felt that participants grew confident in their ability to fluently read a passage at the appropriate instructional level.

Reading fluency is an essential skill in improve reading abilities (Rasinski, 2012). The participants were able to increase their fluency every session and reach their set goal. As the intervention continued, the participant's overall fluency increased from each cold read until the passages began to become more difficult. The lack of generalization from one cold read to another deserves further analysis. One would assume that over time the number of correct words read would increase for cold reads. We did not observe this in the present analysis and in our prior research with *Read Natural* (Erickson et al., in press). The program also worked on the students decoding skills as if they forgot a word in the passage after listening to the audiotape the students were familiar enough with the words to use decoding strategies to figure out a word. Due to the familiarity of words in the passage the participants were able to increase their words per minute which overall improved their fluency. This outcome was reported in our recent research with *Read Naturally*®. This took place in another school district with three primary students with LD.

The *Read Naturally*® program was an easy to implement as it allowed the first author to modify the intervention for any student. The program can be modified for any grade level, classroom setting, instructional level, and ability level. If the materials were available any teacher, instructional assistant, or even a peer tutor could easily administer the program. It does not require much time to complete a session or to set the intervention up for the participants. The program was cost efficient for the purpose of the study as the classroom teacher provided the intervention. If the materials were not readily available, the program would be easy to obtain. Various packages of *Read Naturally*® can be purchased for use online. The price varies as the program can be bought as a single instructional level packet or the entire program. The program costs over $150.00 dollars for a single instructional level and thousands of dollars for the whole program. Anybody was always eligible to purchase the program through the *Read Naturally's* website (http: http://www.readnaturally.com/). This program was also available for individual schools or districts to adopt the program. *Read Naturally*® can also be downloaded for an iPad® or tablet, which is a cheaper way to implement the intervention.

Read Naturally® was also practical in terms of time and effort. The session only required about 30 minutes or less. The environment in which the intervention was conducted was calm which made it easy to implement. The participants in the study were dedicated to the program and enjoyed seeing their improvement in each session therefore effort was minimal. The intervention relied on the students to work hard and to fluently read the passages. How effective the *read naturally*® have been if the participants had been very non-compliant or engaged in high rates of inappropriate behavior, we do not know. Due to the poor reading skills of

students with emotional and behavior disorders, *Read Naturally*® should be implemented with such students.

The study was successful as both the participants were compliant, hard working, and enjoyed the program. The participants were observed to read the passages, follow along with the audiotape, and graph their progress at the end of each session. The implementation of *read naturally*® went smoothly and we did not experience any obstacles. The effectiveness of the study allows for other teachers to recognize the importance of allowing students to improve their fluency and track their growth over the course of intervention. The intervention will be continued with both the participants, but their classroom teacher will carry this out. This was accomplished because she was pleased with the success generated by the *read naturally*® program.

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