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The Impact of REWARDS on Reading Skills of Students with Learning Disabilities

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The Impact of REWARDS on Reading Skills of Students with Learning Disabilities

By

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Acknowledgments

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Abstract

Twenty-one students, an intact convenience group, were selected to participate in this research project. Each student received Special Education Services through a Resource Specialist Program (RSP). All students were randomly assigned to either the comparison or experimental group. Over a five week period participants in the comparison group remained in their language arts classroom and participated in Sustained Silent Reading (SSR). Students in the experimental group participated in REWARDS- Reading Excellence: Word Attack and Rate Development Strategies, a reading intervention. Both groups were administered the Woodcock-Johnson III form A at pre-test and form B at post-test, results of these assessments were analyzed using an AnCOVA test.

Chapter 1

Introduction

Many middle school students who have been identified as having a Specific

Learning Disability (SLD) are reading exceptionally far below grade level (Perie, Grigg,

& Donahue, 2005). According to Roberts, Torgesen, Boardman, and Scammacca, (2008)

decoding, fluency, and comprehension are the primary areas of reading in which these

students struggle to achieve a level of mastery. It is imperative that the reading skills of

middle school students who have been identified as having a SLD improve (Archer,

Gleason, & Vachon, 2003).

The addition of a research based reading intervention to their general education

instruction will allow students to better understand the curriculum presented in their

classes. In order to meet the needs of these students and improve their reading skills, the

intervention must include strategies which focus on improving the students' abilities to

decode text, read fluently, and comprehend what they are reading (Roberts, Torgesen,

Boardman, and Scammacca, 2008). Therefore, an explicit systematic skills based reading

intervention for students with mild/moderate disabilities at the middle school level

increases the likelihood they will develop the literacy skills necessary for academic

success.

As a teacher working with students who have been identified as having a specific

learning disability, a research based reading intervention that will improve students'

decoding, fluency, and comprehension abilities is necessary. Teachers will be able to use

this research to inform their instruction and support their students with and without

learning disabilities. There is a wealth of literature supporting the effectiveness of

instruction in both reading fluency and word study. However, the literature on the effectiveness of the REWARDS (Archer, Gleason, & Vachon, 2000) program is very limited. Much of the existing research on the REWARDS program was conducted by the author. For this reason, there is a great need for additional research on the REWARDS program and the impact the program has on a student's reading skills. This research will attempt to determine the effectiveness of the REWARDS literacy intervention program.

Problem Statement

Students with mild to moderate disabilities at the middle school level often struggle to read narrative and expository text (Henry, 1993). When they are included in general education classroom setting, the pace of instruction and the complexity of the content along with their processing difficulties mitigates understanding. As a result, these students tend to fall further behind. The instruction in the general education classroom is not sufficient to bridge the gap between their current reading abilities and the reading demands of their grade level (Archer, Gleason, & Vachon, 2003).

In the general education setting, students that have reading challenges do not receive the type of instruction to increase their decoding, fluency, and comprehension so that the text is comprehensible. Though it is important that students are part of the core curriculum, they also need a reading intervention to enhance their reading skills so that they can better access the core curriculum. There is a need to provide middle school students with evidence based systematic reading intervention to ensure that they can comprehend core instruction in a general education classroom.

Purpose of Study

The present study was designed to examine the impact of implementing the REWARDS reading intervention on students reading skills. This quasi-experimental study included a pre and post reading assessment for all participants. Students were randomly assigned to either a control or experimental group. Students in the control group remained in the general education language arts classroom for silent reading, while students in the experimental group went the resource room where they participated in the reading intervention. Through explicit direct instruction, the reading intervention attempted to improve the students reading skills specifically their ability to decode multisyllabic words.

This research topic is important because students who have SLD need access to a research-based reading intervention in order to improve their reading skills. Providing reading instruction tailored to the individual needs of students with SLD is an essential part of educational programming delivered by educational specialists. In order to give these students the skills and experiences needed to be successful in reading and in life, changes to their current reading instruction need to be made. Finding the most preferred and effective reading intervention or approach to serve students with Learning Disabilities requires a level of expertise and understanding necessary to meet the needs of this population.

A research-based reading intervention has the potential to bridge the gap between students with SLD reading levels and the reading levels of their peers without SLD (Archer, Gleason, & Vachon, 2003). Improving these students' reading will allow them equitable opportunities in the general education classroom. These equitable opportunities

in the general education classroom will carry over into their adulthood, increasing and expanding their future education and career options. In addition, the data collected through this research project will inform other teachers; working with students who have been identified as having a SLD, about a research based reading intervention that has the potential to improve their students' reading abilities.

Research Questions

This study has been designed to investigate and answer three very specific questions regarding the impact of REWARDS on the reading skills of a very specific group of middle school students:

- Does REWARDS impact the decoding skills of middle school students who have been identified as having a SLD?

- Does REWARDS impact the fluency skills of middle school students who have been identified as having a SLD?

- Does REWARDS impact the reading comprehension skills of middle school students who have been identified as having a SLD?

Theoretical Model

According to the National Institute for Direct Instruction, the origins of Direct Instruction date back to the early 1960s when Siegfried Engelmann investigated the relationship between the learning process (a student's ability to learn?) and instruction. In 1964, Engelmann and education researcher Carl Bereiter opened the Bereiter-Engelmann preschool, where they were able to implement and test the effectiveness and efficiency of Direct Instruction. According to Engelmann, the students who attended this preschool were disadvantaged children. Engelmann used the scientific method to determine that a

student's ability to learn was based on the instruction used to teach the student. Findings indicated that students need to be instructed in small groups based on skill level not grade level. Direct Instruction requires students to reach mastery of a skill before progressing to the next skill. REWARDS is based on the Direct Instruction Theoretical Model.

Researcher Background

For the past thirteen years I have worked for Pajaro Valley Unified School District (PVUSD), in the field of Special Education, as both an Instructional Assistant and Resource Specialist. For the past six years I have been a Resource Specialist, working with middle school students who have been identified as having a SLD. All of my students receive services through the Resource Specialist Program (RSP). The services and supports provided to these students include but are not limited to reading instruction. Each of my students is reading at least two years below grade level, and they continue to make very little progress. At this time, there is no reading intervention program available to my students. It is my hope that through this investigation the findings will indicate that REWARDS is a reading intervention that meets the needs of my students.

Definition of Terms

Decoding- The ability to use phonics to sound out words (NRP, 2000)

Word Study- spelling and vocabulary instruction which teaches students to examine words and study word patterns (Roberts, Torgesen, Boardman, & Scammacca, 2008)

Reading Fluency- The speed and accuracy of a persons' reading (Roberts, Torgesen, Boardman, & Scammacca, 2008)

REWARDS- Reading Excellence: Word Attack and Rate Development Strategies, a

reading intervention program (Archer, Gleason, & Vachon, 2000)

Acronyms

SLD- Specific Learning Disability

RSP- Resource Specialist Program

ELL- English Language Learner

Chapter 2

Literature Review

Introduction

Research shows that an increasing number of middle school students who have been identified as having a Specific Learning Disability (SLD) are reading very far below grade level (Perie, Grigg, & Donahue, 2005). This delay in reading ability makes it exceedingly difficult for these students to be successful in their general education core curriculum classes, and they need to be provided with effective reading instruction and/or intervention in order to access grade level content and text (Archer, Gleason, & Vachon, 2003). According to the National Reading Panel (NRP) when children are young, the five key areas which need to be included in their effective early reading instruction include phonemic awareness, phonics instruction, reading fluency, vocabulary development, and reading comprehension (2000).

Similarly, older students who are struggling readers should receive evidence-based instruction and/or intervention that focus on word study, reading fluency, vocabulary, reading comprehension, and motivation (Roberts, Torgesen, Boardman, & Scammacca, 2008). A research-based comprehensive reading program or reading intervention which includes all five instructional areas is needed to improve the reading ability of older students with SLD, and this is especially true for evidence-based instruction and strategies in word study and fluency. The amalgamation of word study and fluency is the foundation for all other reading skills including comprehension, which is the sole purpose of reading (Archer, Gleason, & Vachon, 2003; Roberts, Torgesen, Boardman, & Scammacca, 2008; Staudt, 2009).

Research on Word Study and Fluency

Word study and fluency are the foundational reading skills necessary for comprehension. In this section the research on word study and fluency is examined and presented.

Word Study

According to Archer, Gleason, and Vachon (2003) word study instruction is geared towards students who are reading above the second grade level, have mastered letter-sound correspondence, and have the ability to decode high frequency words and single syllable words. Word study or word analysis instruction assists readers in developing skills necessary for spelling and decoding multisyllabic words. Henry (1993) explains that instruction in word analysis focuses on the structure and meaning of the word and the parts of the word. It develops students' ability to separate words into their smaller, more recognizable parts or syllables. Once words are separated, readers are able to find familiar patterns including affixes, roots, and compound words. These patterns are then used to successfully pronounce, decode, and spell multisyllabic words (Boyle, 2008; Williams, Phillips-Birdsong, Hufnagel, Hungler, & Lundstorm, 2009).

Bhattacharya & Ehri (2004) investigated the use of a four step process to teach syllabication in which the process was repeated at least four times for each word, consisted of pronouncing the word, dividing the word into spoken syllables, matching spoken syllables with written syllable, then blending the syllables to read the word. Results indicated that the reading abilities of students taught using process-based syllabication instruction improved greatly as compared to those taught using the rule-based syllabication instruction.

A large-scale, long-term study over a six-month period investigated whether teaching flexible syllable skills to older students with disabilities and/or who are at risk for reading failure would improve their reading achievement. Eighty-three middle school students who were identified as either having a disability or who were considered to be at risk for reading failure were separated into two groups, one of which received Syllable Skills Instruction Curriculum (SSIC). The study found that, although participants in the treatment group scored lower than the control group in all areas assessed on the pretest, they scored higher than the control group on the posttest in word identification, word attack, and comprehension. However, even though both groups improved their reading fluency scores on the post-test, the control group made greater gains in this area (Dilberto, Beattie, Flowers, & Algozzine, 2009). The research presented along with the results of this study show that students with disabilities need syllable instruction to improve their word identification, word attack, comprehension, and fluency skills.

Research supports the need for syllable instruction to teach struggling readers how to decode multisyllabic words. When syllable instruction is process-based instead of rule-based, students' ability to decode, recognize sight words, remember vocabulary words, and spell greatly improves.

Fluency

The National Reading Panel defines reading fluency as the rate, accuracy, and expression of a student's oral reading (2000). A student's ability to read fluently positively impacts the ability to comprehend reading. This correlation relates to the fact that students who are unable to read fluently have difficulties remembering what they read (National Institute of Child Health and Human Development, 2000). These students

spend so much time and energy focused on decoding the individual words that they lose

the meaning of the passage or text (Archer, Gleason, & Vachon, 2003).

Oral reading fluency measures are used to assess the speed and accuracy of a

student's reading. The student reads the passage aloud for one minute while the proctor,

usually a teacher or paraprofessional, records the number of Correct Words Per Minute

(CWPM). The CWPM is determined by the difference between the total number of words

read and the reading errors tracked during the timed reading (Coulter, Shavin, & Gichuru,

2009; Hasbrouk & Tindal, 2006).

The importance of oral reading fluency has made it the subject of research aimed

at developing strategies for increasing fluency. Guided Oral Reading is one research-

based strategy that has been known to increase reading fluency, especially for students

who have been identified as having learning disabilities (NRP, 2000). In this strategy, the

teacher calls on students to practice reading aloud; during the reading, the teacher

corrects students' decoding and pronunciation in addition to asking comprehension

questions (Archer, Gleason, & Vachon, 2003).

Another evidence-based strategy used to increase the reading fluency of students

is repeated readings (Archer, Gleason, & Vachon, 2003). The repeated reading process

begins with a timed reading probe that the student has never read. Probes for repeated

reading can include word lists, sentences, or passages. Next, the student rereads the probe

at least three times, after which the student reads the probe again while being timed to

determine CWPM. Students are then encouraged to graph their fluency progress

(Roberts, Torgesen, Boardman, & Scammacca, 2008; Staudt, 2009).

Begeny, Hailey, Ross, & Mitchell (2009) investigated the effectiveness of three reading fluency interventions. The alternating-treatment design compared the effectiveness of repeated reading, listening passage preview, listening only, and a control condition (student read passage alone). The study took place over sixteen sessions which consisted of four separate sessions for each condition including the control condition. The participants included four second grade students whose standard reading scores were average or below average. The results of the study proved that the repeated reading condition was more effective than all other conditions. Both repeated reading and flexible decoding are strategies used in the multisyllabic word reading intervention program REWARDS (Archer, Gleason, & Vachon, 2000).

Reading Intervention: REWARDS

The Reading Intervention: Reading Excellence: Word Attack Rate Development Strategies (REWARDS), (Archer, Gleason, & Vachon, 2000) was developed for students in the fourth through twelfth grades who are reading below grade level but above the level of the middle of second grade, and can decode single syllable words. The aim of the intervention is to teach readers to decode words with between two and eight parts and to increase oral and silent reading fluency. The REWARDS program is divided into two sections: In lessons 1-15 students are taught a variety of pre-skills including the knowledge that each part of a word contains a vowel sound made up of one or more letters, the pronunciation of vowel sounds, and the common affixes. In lessons 16-25 students are taught a flexible decoding strategy consisting of two important components: First, a set of overt strategies, which eventually fade into the second component consisting of covert strategies. Overt strategies are physical behaviors in which the

participant circles affixes, underlines vowel sounds, says the word parts, says the word, and then determines the accurate pronunciation of the real word. Covert strategies are cognitive behaviors in which the participant looks for affixes and vowel sounds, says the parts slowly, says the parts quickly, and determines the accurate pronunciation of the real word (Archer, Gleason, & Vachon, 2003).

The REWARDS program also includes a repeated reading component to increase the rate and accuracy of a student's reading. That is, participants reread sentences and passages which improves their reading fluency and also assists them in generalizing and using the flexible strategy approach in their core curriculum and content areas (Archer, Gleason, & Vachon, 2003). The oral reading practice gained during the repeated readings is needed to improve reading skills.

Summary

Very few experimental investigations have been completed to validate the effectiveness of REWARDS on students' reading ability (Archer, Gleason, & Vachon, 2000). The research on the program that does exist supports the program's effectiveness but is unpublished, which limits its validity and usefulness. However, the components of the REWARDS program, including multisyllabic decoding skills and reading fluency, are supported by research.

In this section, the research and evidence supporting word study and reading fluency instruction were examined and presented. It has been determined, based on the limited amount of research, that additional research and experimental investigations must be conducted on REWARDS to validate its effectiveness as a reading intervention

program for older students who are reading below grade level (Archer, Gleason, Vachon, & 2000).

Chapter 3

Methodology

Overall Research Design

A quantitative research design was used to answer the research questions based on test results. A pre-experimental design was used because the sample was selected based on convenience instead of randomization; the participants were a specific group of students. The model for this research was a pre-test/post-test control group design. The students were divided into two groups, one was the control group and the other was the experimental group.

Setting

The research was conducted at a middle school in Central California. Approximately 600 students attended this school, 90% of who received free or reduced lunches, 40% of whom were English Language Learners, and 15% of whom received Special Education Services. According to the guidelines set forth in No Child Left Behind, this Middle School was considered a persistently low performing school. The research took place in the Resource Specialist classroom, during the first 30-40 minutes of the students' Language Arts class. For the first 30-40 minutes of the period all Language Arts Teachers were required to provide students with an opportunity to engage in silent reading. Conducting the experiment at this time ensured that students in the control group would not be provided with instruction that the students in the experimental group did not receive.

Participants

The participants for this research were selected from 21 students, an intact convenience group of 6th, 7th, and 8th graders. There were 21 students participating in this research project, 13 boys and 8 girls, all between the ages of 11 and 14. Of the 21 students, 16 students were English Language Learners. Each student had an IEP and received Special Education Services through the Resource Specialist Program. All students were identified as having a Specific Learning Disability, and were provided with support in Language Arts and/or Math.

Data Collection Procedures

All student participants took a pretest in the areas of decoding, fluency, comprehension, and broad reading. Half of the student participants were taught 19 different 30-45 minute lessons from the REWARDS program, which took 5 weeks. All student participants took a posttest in the areas of decoding, fluency, and comprehension. The pretest results and the posttest results were analyzed to determine if there was a statistically significant difference between the results of the control group and the experimental group.

Data Sources/Instruments

The Woodcock-Johnson III form A was used for the pretest in the areas of decoding, fluency, reading comprehension, and broad reading. The Woodcock-Johnson III form B was used for the posttest in the areas of decoding, fluency, reading comprehension, and broad reading. Trained members of the research team conducted all of the assessments. Pretests were individually administered to all participants prior to the beginning of the intervention period. The posttests were completed immediately

following the intervention period. All included measures have strong psychometric properties.

Decoding- At pre and posttest, students' decoding skills was assessed using the Test 1: Letter-Word Identification (Woodcock, McGrew, & Mather, 2001). During the administration, students were asked to read and pronounce words in isolation. Words gradually became more difficult, this test was complete when the student reached their ceiling of 6 incorrect responses in a row or if the student read all items on the test before reaching a ceiling. Each form of the assessment has a median reliability of .91 for individuals between the ages of 5 and 19.

Reading Fluency- At pre and posttest, students' reading fluency skills was assessed using the Test 2: Reading Fluency (Woodcock, McGrew, & Mather, 2001). During the administration, students were given 3 minutes to read as many simple sentences as possible and decide if each sentence was true. If the student believed that the sentence was true they had to circle yes in their testing booklet, if they believed the sentence was not true they had to circle no. Sentences gradually became more difficult. Each form of the assessment has a median reliability of .90 for individuals between the ages of 5 and 19.

Reading Comprehension- At pre and posttest, students' reading comprehension skills were assessed using the Test 9: Passage Comprehension (Woodcock, McGrew, & Mather, 2001). During the administration, students were presented with reading passages, each passage had 1 missing word, students were asked to read the passage and identify the missing key word needed so that the passage made sense. Passages gradually became more difficult, this test was complete when the student reached their ceiling of 6 incorrect

responses in a row or if the student read all items on the test before reaching a ceiling. Each form of the assessment has a median reliability of .83 for individuals between the ages of 5 and 19.

Broad Reading- At pre and posttest, students' broad reading skills, a comprehensive measure of the students overall reading achievement was determined by combining the scores for Test 1: Letter-Word Identification, Test 2: Reading Fluency, Test 9: Passage Comprehension (Woodcock, McGrew, & Mather, 2001). Each form of the assessment has a median reliability of .93 for individuals between the ages of 5 and 19.

Procedures

The study was organized into four phases to ensure clarity and consistency of the research. Recruitment and consent, pre-testing and group placement, intervention, and post-testing are the four phases. In this section each phase is explained in detail.

Phase One- Recruitment and Consent

All participants were selected from 21 students, an intact convenient group of 6th, 7th, and 8th graders. Consent forms written in the parents' primary language, either English or Spanish were sent home for parent signature and consent to participate. All students with parent consent to participate in the research project became the participants for the research project.

Phase Two- Pre-Testing and Group Placement

The participants were randomly separated into two groups, the control and experimental. All participants were given a pretest. The Woodcock-Johnson III form A

was used to assess their decoding, fluency, comprehension, and broad reading skills.

Pretests were individually administered prior to the beginning of the intervention period.

Phase Three- Intervention

Participants in the control group did not participate in the intervention. These

students remained in their Language Arts classes silently reading while the experimental

group participated in the reading intervention. Participants in the experimental group

were taught 19 different lessons from the REWARDS program, which took 5 weeks.

Lessons were taught 5 days per week during the first 30 - 40 minutes of the students'

Language Arts class. REWARDS is a scripted, explicit, direct instruction intervention

and the script for each lesson was closely followed.

Phase Four- Post-Testing

All participants were given a post-test. The Woodcock-Johnson III form B was

used to assess their decoding, fluency, comprehension, and broad reading skills. The

posttests were individually administered and completed immediately following the

intervention period.

Data Analysis

The Data for this research was analyzed using an AnCOVA test because the

research design is a quantitative pretest-posttest and the participants were not randomly

selected to participate in the research project. The data analysis determined the impact the

REWARDS intervention had on decoding skills, fluency skills, and reading

comprehension of middle school students who have been identified as having a SLD.

Chapter 4

Results

The purpose of this study was to examine the impact of implementing the

REWARDS reading intervention on students reading skills. Student participants were

randomly separated into two groups, comparison and experimental. Over a five week

period, students in the experimental group participated in the REWARDS reading

intervention while students in the comparison group participated in silent reading. The

Woodcock-Johnson III form A was used to assess all of the student's reading skills at

pre-test, and form B was used to assess their reading skills at post-test. All pre-tests and

post-tests were administered by the same trained researcher to ensure accuracy and

consistency.

The results of the assessments were analyzed using an ANCOVA. The researcher

decided to use an ANCOVA to analyze the results because although the groups were

randomly separated into comparison and experimental, that does not guarantee that the

groups reading abilities were equivalent. As part of the statistical analysis, an ANCOVA

has the ability to take the students prior reading ability out of the equation and only show

their progress between pre-test and post-test. This is important because we are not simply

considering students post-test scores; we are analyzing their progress over the five week

period and the cause of their progress.

Effectiveness of REWARDS Reading Intervention

This study was designed to investigate and answer three very specific questions

regarding the impact of REWARDS on the reading skills of a very specific group of

middle school students. In order to address the impact and effectiveness of the

intervention, the results of the study will be used to answer all three research questions.

Research Questions and Related Findings

Research question number 1: Does REWARDS impact the decoding skills of

middle school students who have been identified as having a SLD? Based on the results

of the ANCOVA as displayed in tables 1 and indicated by the p value of 0.0333,

REWARDS did impact the decoding skills of middle school students who have been

identified as having a SLD. More specifically, REWARDS improved the students'

decoding skills.

Table 1
Summary of ANCOVA for the post-test difference for decoding

Dependent Variable	Source	F	P
Letter-Word Identification	Group	5.31	0.0333*

*statistically significant at the $p < .05$ level

Research question number 2: Does REWARDS impact the fluency skills of

middle school students who have been identified as having a SLD? Based on the results

of the ANCOVA as displayed in tables 2 and indicated by the p value of 0.563,

REWARDS did not impact the fluency skills of middle school students who have been

identified as having a SLD.

Table 2
Summary of ANCOVA for the post-test difference for fluency

Dependent Variable	Source	F	P
Reading Fluency	Group	0.35	0.563

*statistically significant at the $p < .05$ level

Research question number 3: Does REWARDS impact the reading

comprehension skills of middle school students who have been identified as having a

SLD? Based on the results of the ANCOVA as displayed in tables 3 and indicated by the

p value of 0.3449, REWARDS did not impact the comprehension skills of middle school

students who have been identified as having a SLD.

Table 3
Summary of ANCOVA for the post-test difference for comprehension

Dependent Variable	Source	F	p
Passage Comprehension	Group	0.94	0.3449

*statistically significant at the $p < .05$ level

Summary of Results

Based on the results it is clear that REWARDS reading intervention improved the

decoding skills of the students who participated in this study. This improvement in

decoding was statistically significant which means that the intervention is the only thing

that caused the improvement. However, the results for fluency and comprehension were

not statistically significant. When examining these results it is important to remember

that the primary focus of the REWARDS reading intervention is to improve students

decoding abilities. Hence, in this study the intervention did exactly what it was developed

to do.

Chapter 5

Discussion

The purpose of this study was to investigate and determine if REWARDS reading intervention could improve the reading skills of middle school students. Specifically, middle school students who have been identified as having learning disabilities and who are reading below grade level. The goal of this study was to determine if REWARDS was an effective reading intervention that could be used by Resource Specialists to improve the decoding, fluency, and comprehension skills of their students.

As a means to answer the research questions, all participants were randomly divided into two groups, experimental and control. All student participants were given a pre-test and the experimental group received the REWARDS reading intervention over a five week period. At the end of the five week period, all student participants were given a post-test. The independent variable in this study was the REWARDS reading intervention. The dependent variable in this study was reading achievement, as measured by the results of the post-test. ANCOVA was used to analysis the results to determine the impact of REWARDS reading intervention on the student participants' reading skills.

Significance of Scores

The results for decoding showed that the REWARDS reading intervention improved the decoding skills of the students in the experimental group with a p value of 0.0333, a p value of <0.05 is considered statistically significant. This is significant because it shows that the REWARDS reading intervention has the potential to improve the decoding abilities of middles school students with SLD. REWARDS is an effective

reading intervention which should be used to improve the decoding skills of these students.

The results for fluency and comprehension were not statistically significant and REWARDS did not appear to improve the students' fluency skills. However, it is important to note that the researcher was unable to complete all 25 lessons in the intervention and it is the last few lessons that focus on fluency skills. Also, fluency and comprehension skills are developed and improved with practice over time. It is possible that as the students continue to use the decoding strategies taught through the REWARDS reading intervention that their fluency and comprehension skills will improve.

Limitations

There were several limitations to this study. One limitation to this research was that the samples were small and not random. Also, participants were in different grade levels and their Language Arts classes were taught by a variety of different teachers using divers teaching strategies to teach the same content standards.

Another limitation is that the intervention was implemented for a short period of time. Unfortunately only 19 of the 25 lessons were taught. The first 15 lessons focus primary on teaching strategies to develop the decoding skills of the participants. Lessons 16 through 19 continue to develop the decoding skills and begin to focus on fluency skills. Lessons 20 through 25 also continue to develop the decoding and fluency skills but strategies for comprehension begin to be introduced. Hence, the inability to complete the entire intervention made it so that very little fluency and comprehension instruction was

provided for participants. It is possible that this impacted the post-test fluency and comprehension results for the experimental group.

Implications

The methodology of this experiment is described in detail, and presented in a systematic way which allows another researcher and/or educator to duplicate the experiment. An explanation for determining the research design and selecting the participants is provided. In addition, a comprehensive description of the data collection procedures and data instruments/sources is introduced. Sequential procedures organized into four phases are recommended. Finally, the data analysis and limitations of this experiment are investigated and presented.

It would be very beneficial for this research to be replicated repeatedly with diverse groups of students. The more research we have on the REWARDS reading intervention the more we will understand its impact on students' reading skills.

Conclusion

Based on the research and the results of this study REWARDS is a systematic effective reading intervention which improved the decoding skills of the student participants in the experimental group. Although the fluency and comprehension skills did not statistically improve it is believed that over time and with practice these skills too could improve. Additional research needs to be conducted to determine the results of this predication.

In addition to the scores it is also very important to note ancillary findings. Students stated that they learned many strategies from the intervention and that they were using these strategies in their classes. Students who participated in the intervention were

aware that they would not be able to complete all 25 lessons prior to post-test and they still wanted to finish the final six lessons. Teachers stated that the students in the intervention appeared to become more confident readers and were now volunteering to read aloud in class. Whereas, prior to the intervention, these same students would cringe when called upon to read aloud during class.

Also, students in the experimental group were observed using the strategies taught during the intervention while completing all post-tests. It is possible that using the decoding strategies on the fluency post-test could have negatively impacted the students' scores. If students slowed down to decode unfamiliar words which they had simply skipped on pre-test, this would cause them to have a lower fluency score. Hence, although they would be reading slower, their reading would be more accurate which would improve their understanding.

Based on primary and ancillary findings REWARDS is an effective reading intervention for middle school students with SLD. More research most be conducted on the REWARDS reading intervention particularly focused on its ability to improve fluency and comprehension skills. REWARDS is one reading intervention that has the potential to bridge the gap between middle school students reading abilities and their grade level expectations.

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