

The Effects of Direct Vocabulary Instruction on Reading Comprehension Skills
on a First Grade Student with Autism

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Abstract

The purpose of this pre-experimental design case study was to examine the effectiveness of direct vocabulary instruction on reading comprehension skills of a first grade student with autism. The measurement tool for this study was comprehension quick checks from Reading A-Z ([http://www.reading a-z.com](http://www.reading-a-z.com)). The student in this study functioned as his own control under alternating patterns of fiction and nonfiction. The conditions were alternated weekly in an ABABABAB design. During the first condition, the student received direct comprehension strategy instruction. In the second condition, the student had direct vocabulary instruction in addition to comprehension strategy instruction. Dependent variable data was collected during the spring 2015 semester. The total quick check scores from the two conditions were compared; however, the scores were not subjected to statistical analysis due to a sample size of one. The data indicates a trend in which the subject performed better when receiving direct vocabulary instruction. Implications and recommendations for future research are discussed.

CHAPTER I

INTRODUCTION

Schools around the United States have begun to implement the Common Core State Standards. These standards are prompting attention to reading comprehension in primary grades as early as kindergarten by requiring students to engage in reading informational text at an early age.

Overview

Today's reading instruction must tackle the changes brought by the Common Core State Standards while continuing to address the five essential components of reading, phonemic awareness, phonics, fluency, vocabulary, and comprehension. In order to develop strong readers, instruction must equally address all five components. Currently one of the highlighted elements of reading that continues to be underemphasized in instruction is vocabulary development. As students begin their academic journeys, they come to school with a variety of working vocabulary. Some students come to school knowing a limited amount of vocabulary, and this weakness creates a challenge in comprehending text. Students need vocabulary instruction during reading to grasp word meaning. This instruction allows readers to fluently comprehend the text. Nagy and Scott (as cited in Yildirim, Yildiz, & Ates, 2011) contend that children should know 90-95% of the word meanings to be able to derive meaning from the text. Proficient readers differentiate according to drawing inferences, deriving word meanings, monitoring comprehension, and using a variety of strategies as well as using general vocabulary knowledge in order to read a text (Yildirim et al., 2011).

For the past four years this researcher has been working in an elementary school as a special educator and has taught students with various levels of autism. Many of these autistic students encounter many obstacles when reading. One autistic characteristic is a delay in

language development which has a direct impact on students' abilities to become proficient readers. Common Core Standards are continuing to require new skills from students; consequently, teachers of reading will need to provide new interventions to support this population of students.

Statement of the Problem

The purpose of this study was to determine the impact of direct vocabulary instruction on reading comprehension of a first grade student with autism.

Hypothesis

The null hypothesis was that there would be no significant difference in the combined reading comprehension quick check assessment scores from the weeks that the student received direct vocabulary instruction and the weeks he received no direct vocabulary instruction.

Operational Definitions

In support of this study the vocabulary used for each direct vocabulary instruction week originated from Vocabulary A-Z. The words chosen are vital to comprehending the text.

Direct vocabulary instruction: In using chosen vocabulary words from Vocabulary A-Z the student completed various vocabulary related activities before, during and after reading a text. The student then completed a sorting activity by matching the new vocabulary words with pictures, completed cloze activities, and created a book of words during the direct instruction.

Reading comprehension: For the purpose of this study, reading comprehension was operationally defined by student performance on a Reading A-Z level B reading comprehension quick check. These assessments focused on five questions containing implicit and explicit questions of the text. After reading either fiction or nonfiction text the student was given a five question quick check test.

Autism: In this study, the student was considered to have autism based on his special education classification as a student with autism. According to the Centre for Developmental Disability Health, Victoria (2010), Autism Spectrum Disorders is a life-long neurodevelopmental disability. It is characterized by impairments in reciprocal social interactions and impairments in verbal and nonverbal communication skills.

CHAPTER II

REVIEW OF THE LITERATURE

Reading is often considered the most essential skill necessary for school success. It may even be argued that it is essential for a successful life in the 21st century. As such, educators continue to search for methods to help struggling readers. One element of reading instruction critical to successful comprehension is vocabulary. This literature review explores the relationship between vocabulary and reading comprehension. As such, this review is divided into several sections: section one explores the role of vocabulary in reading comprehension, section two discusses the types of students who may benefit from special reading programs, and the third section examines several interventions that appear to be useful for successful reading instruction.

Role of Vocabulary Knowledge in Reading Comprehension

In 2001, the National Reading Panel for early reading instruction listed vocabulary as one of the five essential components crucial to reading instruction. The report explains that vocabulary can be divided into oral vocabulary words used in speaking, or recognized in listening, and reading vocabulary words that are recognized or used in print. Vocabulary words are also placed into three categories called tiers. Tier 1 consists of basic words, such as sight words, function words, and words that name objects. Tier 2 is composed of general academic and multiple meaning words, such as words used across the scholastic curriculum, and words important to understanding text. Tier 3 contains specific, technical vocabulary words used only in specific fields that are not a part of everyday use (Gamse, Jacob, Horst, Boulay, & Unlu, 2009).

Duke and Block (2012) have studied the essential components of reading instruction and the application of these components in today's schools. Schools often demonstrate an increase in students' word reading skills; however, the studies do observe that vocabulary and

comprehension are often overlooked in grades prekindergarten to third grade. This omission may result in a lack of progress in fourth grade students' comprehension achievement. Reading instruction is used to assist students with the ability to correctly identify words in text, and determine the meaning of those words. The authors further explain the role of vocabulary in reading by stating,

“Reading the words in a question accurately and fluently, while necessary, is not sufficient to answer the question. The fourth-grader also needs vocabulary knowledge (such as understanding the meaning of larva and development), specific reading comprehension strategies (the ability to make connections to prior knowledge and analogies), in order to continue to make progress in reading” (Duke & Block, 2012, p.56).

The authors recommend that teachers provide vocabulary instruction designed to stimulate verbal interaction, develop verbal communication skills, and enrich students' vocabularies (Duke & Block, 2012).

Another important study on vocabulary focuses on the many factors affecting the complex process of reading comprehension. Besides vocabulary, other factors include prior knowledge, linguistics skills, and metacognitive awareness (Yildirim et al., 2011). The authors state,

“Vocabulary is associated with all of these factors since all practices differentiate during the reading process for determining word meanings according to the reader's background knowledge, ability, metacognitive skills, and motivation” (p. 1541).

The findings of the above study may explain why students with restricted vocabulary often have difficulties with reading and reading comprehension. This deficit emerges especially when the students are reading expository text. Readers have difficulty in comprehending expository texts as they include more difficult words compared to narrative texts, and young

students have a lack of experience with expository texts. In elementary schools, students need to understand the frequent and purposeful use of expository text; by the time they enter middle school, students are expected to skillfully maneuver through such texts. In fact, 75% of texts used in sixth grade and beyond are expository (Yildirim et al., 2011). Furthermore, the majority of reading and writing done by adult readers is informational in nature. Approximately 95% of sites commonly visited on the Internet contain expository text. Teachers must begin to place an important focus on vocabulary instruction for students to be well equipped as skilled readers. This instruction may directly support students' comprehension of text, enabling them to carry this skill through adulthood.

Students Who Benefit from Vocabulary Instruction

The National Reading Panel for early reading instruction emphasizes the need to teach vocabulary. In today's classroom, this area of reading instruction needs to be addressed especially to different types of students who lack general and academic vocabulary. This deficit impacts students' ability to acquire knowledge and to comprehend text when learning to read. (Gamse et al., 2009). One population of students who need direct and explicit instruction are English language learners; this vocabulary deficit is a challenge and ongoing process for these students. According to the Center for Improvement of Early Reading, scientific research on vocabulary development demonstrates that children learn a majority of their vocabulary indirectly by talking, listening to adults read to them and reading on their own. These findings showcase serious consequences for English Language Learners and their parents who are not fluent in English. Vocabulary development becomes one of the greatest challenges to reading instruction for English language learners because in order to read fluently and comprehend, students need to use not only phonics but also context clues (Erkaya & Drower, 2012). In addition, students with an educational disability involving language skills are at risk for ongoing

failure in literacy related areas. The demands involving literacy tasks require students to have a vast working vocabulary. If the student lacks knowledge of the vocabulary involved in the task or the presented text, gaining any meaning or understanding will not be achieved. Children with autism have a very unique set of challenges that requires a parent or teacher to have a great deal of patience. Sometimes these students can have significant problems with attention span, lack any type of motivation to learn to read, and have problems with figuring out the rules of reading and grammar when compared to children who do not have autism (Vacca, 2007).

Lindsey-Glenn and Gentry (2008) state, “Students’ ability to learn and use vocabulary effectively dominates language instruction. For many public school students, especially those with language and learning disabilities, the ability to remember vocabulary words and use them in context presents a very difficult task” (p. 3).

All students may benefit from vocabulary instruction, but especially students who are English language learners, and students with disabilities and deficits in language. Schools must find time and strategies to address this component of reading instruction.

Intervention, Strategies, and Activities to Support Vocabulary Instruction

Direct instruction of academic vocabulary includes the use of a variety of strategies that help students learn new words and provide tools students can use in class. Learners require explicit introduction to vocabulary words, accurate and effective support in interpreting new vocabulary, and practice in order to remember vocabulary which is studied. There are various strategies, intervention and activities to support vocabulary development in students. One approach to address vocabulary needs is through the use of technology. Assistive technology aids as a visual support such as digital story books. Students can access assistive technology device capable of being a hand-held speaking dictionary, thesaurus and grammatical guide to assist students during literacy experiences throughout the students’ academic day. Devices can provide

opportunities to engage in vocabulary games where the student matches words and pictures (Lindsey-Glenn & Gentry, 2008). Reading aloud to children is a recommended practice in early childhood and primary-grade classrooms that is purported to enhance vocabulary growth (Kindle, 2010). This activity allows students from all literacy levels to participate in oral discussions about a text. The read-aloud context may be an important venue for vocabulary instruction that narrows the word gap between low-verbal children and their classmates. Children with low vocabulary skills appear not only to benefit from more adult mediations than their more-capable peers, they also require more of such mediations to benefit from incidental word exposure during read-aloud sessions (Kindle, 2010). This activity also assists students in becoming part of the literacy community in their classroom.

Another strategy teachers implement in order to support vocabulary growth is using a repetition cycle (Sibold, 2011). The teacher pronounces the word and the students repeat the word three times. Students then read the word in a text. Next, students explain the definition of the word. Finally, students write the word in a sentence. When teaching academic vocabulary using this repetition cycle, teachers should carefully select a few content-specific words from the textbook that are critical to students' understanding of the main concepts, topics, or sub-topics. Since learning vocabulary through reading may not be sufficient, direct teaching of vocabulary words will ensure learning and greater opportunities for academic success.

A simple activity to provide vocabulary growth could be a strategy called the "signal word of the day." Teachers pronounce a word and then students repeat the word. Then throughout the day the instructors use this word as a signal to start or stop an activity. Then during a transition to their seats, students will be asked what the word means. To help the class pay attention to the word the rest of the day, the teachers state the definition of the word and have the students say the word in unison. Through this method, of repetition and multiple

exposures to the word throughout the day students' retention of new words increase (Sibold, 2011).

An additional activity to expand a student's vocabulary is the use of games. Games can also be powerful tools for reinforcing English language learners' vocabulary. Commercially made games such as "Balderdash" and "Scrabble" also promote general vocabulary to progress in their learning (Sibold, 2011).

Summary

All these strategies and activities assist vocabulary development in students. Educators need to remember that vocabulary plays a major role in a world of literacy. Students start formal schooling with various levels of vocabulary. In order to support reading growth and an understanding of the literacy world around them educators need to be dedicated to building a culture of vocabulary development.

CHAPTER III

METHODS

The purpose of this study was to determine the effectiveness of direct vocabulary instruction on a student's reading comprehension scores. This design of the study was a case study with a convenience sample of a first grade student with autism.

Design

The student in this study functioned as his own control under two conditions. The conditions were alternated in an ABAB design. The dependent variable was the scores of the Reading A-Z quick check assessments (Reading A-Z: The online leveled reading program with downloadable books to print and assemble, n.d.). The independent variable was whether or not the student received direct vocabulary instruction that focused on targeted vocabulary of unfamiliar words in the reading passages.

Participants

The participant in this study was an autistic Caucasian seven year old boy in first grade. He attends an elementary school found in the suburbs in the mid-Atlantic region. The demographics of the population of the school consists of 82% Caucasian, 7% Asian, 4% African American, and 3% Hispanic. Seventy-five percent of the students live in a two-parent home.

In school, the student is currently working on first grade level standards. He currently has an Individual Educational Plan (IEP) and is served as a student under the autism classification. He has goals in the areas of reading phonics, reading comprehension, written language, math computation, math problem solving, and speech and language. He also has testing and instructional accommodations and modifications. Although he is verbal, he struggles with

phonetically blending sounds together. He tends to be a word caller and struggles to comprehend text which requires him to make an inference.

Instrument

The instrument used for this study was the comprehension quick check taken from the Reading A-Z website (Reading A-Z: The online leveled reading program with downloadable books to print and assemble, n.d.). The pencil and paper assessment entailed five multiple choice questions focusing on the main idea and details of the story. Each question had two choices, the correct answer and one distractor. These questions involved understanding the author's purpose, story elements, sequence of events, and vocabulary. Scores were determined by adding how many questions were correct out of five. Each question was worth 20 points, totaling 100 points. The student completed four tests under each condition, making the total possible quick check score 400. There is no reliability or validity data for this test.

Procedure

The student participated four days a week in a one-on-one 45-minute reading intervention. During weeks one, three, five, and seven the student received comprehension strategy instruction and on weeks two, four, six, and eight he received direct vocabulary instruction in addition to comprehension strategy instruction. The student was able to read independently on Level A which is considered beginning of kindergarten level. The student engaged in level B text which was the student's instructional level with the support of the researcher. Level B is equivalent to middle of kindergarten reading level. The following chart show the components of a level B text used in this study.

The characteristics of this level reader contain the following:

Simple factual texts, animal fantasy and realistic fiction
Simple, one-dimensional characters
Text and concepts highly supported by pictures
Two or more lines of text on each page
Repeating language patterns (3-7 words per page)
Very familiar themes and ideas
Short, predictable sentences
Almost all vocabulary familiar to children – strongly sight-word based
("Forbidden," n.d.)

The researcher randomly chose level B readers from the Reading A-Z website with lessons focused on identifying the main idea. The stories were unfamiliar to the student. The researcher also used the Reading A-Z lessons which highlighted the essential vocabulary words the student needed to acquire in order to understand the text. The vocabulary words included nouns, verbs, and adjectives. Examples of words used in the study are as follows: smooth, long, animal, stripes, and fuzzy.

On weeks one, three, five, and six the student read level B nonfiction texts. On weeks three, four, seven, and eight the student read level B fiction text. All books were printed from the Reading A-Z website as well as the quick check assessments (Reading A-Z: The online leveled reading program with downloadable books to print and assemble, n.d.). The quick check assessments were read to the student due to the fact that the researcher was focused on the student's comprehension skills not his decoding skill set. The student had taken quick check assessments prior to this study.

Comprehension Strategy Instruction

Every week the following lesson was administered with both nonfiction and fiction texts. On day one, the student read the title and completed a picture walk with the support of the researcher. He used the reading strategy of connecting to prior knowledge to understand the text

by creating a picture web with his response from the picture walk and discussion of the title. On day two, the student reviewed the web and began to read the story focusing on the author's main idea. He then completed a main idea graphic organizer in which he listed the main idea and supportive details. On day three, the student reviewed the main idea organizer and worked on building phonological awareness skills (differentiating initial sounds) and phonics skills. On day four, he reread the story and afterwards took a quick check assessment.

Direct Vocabulary Instruction

In weeks two, four, six, and eight the student had direct vocabulary instruction in addition to comprehension strategy instruction. The researcher used a vocabulary strategy called repetition cycle. On day one the student was given ten cards, five with words and five with pictures. The student sorted by placing all pictures on one side and all words on the other. The researcher then read the words as the student rearranged the pictures to locate the matching picture to the vocabulary word. The student would then repeat the words three times. The student read the title and completed a picture walk with the support of the researcher. He used the reading strategy of connecting to prior knowledge to understand the text by having created a picture web with his response from the picture walk and discussion of the title.

On day two, the student reviewed the vocabulary words and pictures plus the web. Before reading he located and highlighted the chosen vocabulary words in the text. He then began to read the story focusing on the author's main idea and connecting how the vocabulary words were used by the author. He then completed a main idea graphic organizer on which he listed the main idea and supportive details. Afterwards, he created a picture dictionary using his five vocabulary words. The picture dictionary contained the words and the student's drawings. The researcher would also read a flashcard with the definition for the student to match and glue into his picture

dictionary. The student added words to the picture dictionary every week he participated in direct vocabulary instruction.

On day three, the student reviewed the main idea organizer and worked on building phonological awareness skills with differentiating initial sounds and also phonics skills. He also completed a cloze sentence activity using the vocabulary words. In the repetition cycle strategy, typically the student wrote the words in sentences, but due to the students' difficulty in this area he completed a cloze activity. This accommodation allowed him to access this strategy

On day four the student reread the story and afterwards took a quick check assessment. The comprehension assessments for the stories were taught by reading comprehension strategy instruction and reading comprehension strategy instruction plus the direct vocabulary instruction were scored by the examiner. The total quick check scores from the two conditions were compared; however, the scores were not subjected to statistical analysis due to a sample size of one. In addition, the pattern of scores over the ABAB design were inspired visually to assess whether or not the subject was more successful with the addition of the direct vocabulary instruction.

CHAPTER IV

RESULTS

The primary purpose of this study was to determine whether there was a difference in reading comprehension scores among weeks that the student received comprehension strategy instruction as compared to the weeks the subject received direct vocabulary instruction in addition to comprehension strategy instruction. The study also assessed whether the total number of points earned on the reading comprehension tests varied between conditions. Reading comprehension was assessed using Comprehension Quick check assessments after reading a text.

Table 1

Comprehension Quick Assessment Scores

Date:	Book title	Fiction	Non-fiction	Comprehension Instruction score	Comprehension Instruction/ Vocabulary Instruction
2/05/15	<u>Where is Water?</u>		X	80	
2/12/15	<u>What Has These Stripes?</u>		X		100
2/19/15	<u>Yours or Mine?</u>	X		80	
2/26/15	<u>Games We Play</u>	X			100
3/04/15	<u>Animal Ears</u>		X	80	
3/12/15	<u>Animals Can Move</u>		X		100
3/19/15	<u>Go Animals Go</u>	X		80	
3/26/15	<u>The Hungry Goat</u>	X			100
	<u>TOTAL SCORES</u>			320	400

Due to the study having only one subject, the null hypotheses were not tested statistically. Based on visual inspection of the data, the results are not consistent with the null hypothesis that there would be no difference in the combined reading comprehension quick check assessment scores from the weeks that the student received direct vocabulary instruction and the weeks he received no direct vocabulary instruction. The results are also not consistent with the null hypothesis there will be no difference in performance from week to week on the quick check assessment scores when alternating between the control and intervention conditions. Instead, visual inspection indicates a trend in the data in which he performed better when receiving direct vocabulary instruction.

CHAPTER V

DISCUSSION

The purpose of this study was to determine the effectiveness of direct vocabulary instruction on the reading comprehension skills of a first grade student with autism. The study used an alternating treatment design to determine whether the student had better performance on reading check assessments during the weeks in which he received direct vocabulary instruction in addition to standard reading comprehension instruction. Although the results were not subjected to inferential statistical analysis, the trend of the data suggests that he was more successful in the weeks he received direct vocabulary instruction.

Implications of the Results

The results suggest that direct vocabulary instruction assisted the student in grasping the author's intention and words. This researcher deemed that the clinical impact of direct vocabulary instruction was substantial enough to warrant continued direct vocabulary instruction. One factor that the researcher contributed to this success was the ability to deliver this intervention in a one-on-one scenario outside the general education setting. The intervention setting allowed for intense student-focused instruction.

Teachers who work with students with autism could consider the value of this intervention in addressing weaknesses in language and the need to develop vocabulary knowledge. Most students with autism have limited vocabulary; this lack of word knowledge impedes their comprehension of texts and their success in the general education environment. However, the demands of the new state-mandated standards are consuming valuable instructional time. Because the direct vocabulary instruction used in the current study is time consuming, teachers will need to weigh the additional amount of time necessary to implement this

intervention outside the general education setting. Instructors must consider the value of teaching essential vocabulary during comprehension strategy instruction; thus, an additional block of time would not be necessary in students' academic day. This learning component assists students with engaging and interacting with text prior to participating in reading. Having students understand the words that are used will aid in their ability to understand an author's word choice and usage. These skills align with the standards of Common Core. Unfortunately it is not always possible to review all vocabulary students will encounter when reading complex texts. One way to address this need could be to teach small vocabulary lessons embedded throughout the academic day or during a specific block of time.

Theoretical Consequences

This case study provided preliminary data indicating that vocabulary instruction combined with comprehension strategy instruction increases reading comprehension for students with autism. This is consistent with theories that support the value of direct vocabulary instruction. As noted by Duke and Block (2012), "Reading the words in a question accurately and fluently, while necessary, is not sufficient to answer the question. The fourth-grader also needs vocabulary knowledge (such as understanding the meaning of larva and development), specific reading comprehension strategies (the ability to make connections to prior knowledge and analogies), in order to continue to make progress in reading" (p. 56). In theory, students who are given exposure to vocabulary learning in correlation with comprehension strategies will make greater advancements in their ability to read, understand, and interpret complex texts.

Threats to Validity

Because this study was a single-subject research with an autistic student, there were multiple threats to the external validity of the study. Without replication, the results cannot be generalized to a larger population of autistic students. The autistic student used in this study was one who was able to function in the general education classroom with adult support. He was able to communicate verbally and had no interfering behaviors that could impact his learning. Students with more severe presentation may not respond in the same manner. In addition, the results cannot be generalized to a non-autistic population. The intervention was also administered in a one-to-one situation and cannot be generalized to either a small or large group instruction. Because single-study cases are not typically subjected to inferential statistics, the study was also limited in that the null hypothesis was not evaluated inferentially and interpretations were based on visual inspection data.

There were also internal validity concerns related to instrumentation of the quick check assessments. The assessments were limited to five questions about the text. In the weeks the student did not receive vocabulary instruction, he was getting four out of five correct. Because the subject performed relatively well under the standard instruction condition, the assessment was insufficiently sensitive to measure the potential growth that could have been documented had there been additional questions or if those questions had been more challenging.

Connections to Previous Literature

Vocabulary instruction has been documented as one of the five essential components of reading (Gamse et al., 2009). The trend in the data in which the student consistently performed better on the quick assessments during the week on which he received vocabulary instruction is consistent with this literature. In addition, the student appeared more eager to learn and able to actively participate in the comprehension discussion after reading the text.

Duke and Block (2012) recommend that teachers provide vocabulary instruction designed to stimulate verbal interaction, develop verbal communication skills, and enrich students' vocabularies. The student involved in this study had shown a weakness in reading texts during the past year. Throughout instruction, he was able to contribute his thoughts and ideas to the conversation. When the vocabulary was taught in isolation, it revealed which words were in his working vocabulary and which he did not understand.

Vacca (2007) observed that "students with an educational disability involving language skills are at risk for ongoing failure in literacy related areas. The demands involving literacy tasks require students to have a vast working vocabulary. If the student lacks knowledge of the vocabulary involved in the task or the presented text, gaining any meaning or understanding will not be achieved "(p. 54). Because the student was able to grasp and apply the new vocabulary in various activities, prior to reading the text he was able to add the new words to his working vocabulary which could be retrieved as he read the text. This skill equipped him to also answer the comprehension quick check assessment questions with more success.

Lindsey-Glenn and Gentry (2008) state that a "student's ability to learn and use vocabulary effectively dominates language instruction. For many public school students, especially those with language and learning disabilities, the ability to remember vocabulary words and use them in context presents a very difficult task " (p. 3). The fact that the student kept a journal helped to bridge the gap between his difficulty in remembering and applying the new vocabulary.

Implications for Future Research

Vocabulary is emphasized as one of the five essential components to reading, and further research is needed to determine if adding vocabulary instruction to comprehension instruction should be a crucial component for teaching students with autism. Future research should address

limitations of the study related to the case study design. To determine if direct vocabulary instruction is successful in helping individual students with autism, it is important to have replications using a case study design. Also, to determine if vocabulary instruction could be successful with a wide variety of students in the autism spectrum, the intervention should be tried with students with varying levels of autism severity and communication skills. In addition, group studies using students randomly assigned to experimental and control conditions, could investigate the effectiveness of direct vocabulary instruction.

It would also be helpful for future studies to vary in the implementation of the intervention. For example, a study could be longer duration of time to implement the instruction and assessments. This would permit the students to build stronger vocabulary knowledge. The students could be exposed to a variety of texts, both fiction and nonfiction, at various levels of difficulties. The researcher could also use different genres of texts such as poetry and narratives. The student would be required to access his or her vocabulary knowledge to answer the comprehension questions. The researcher would also need to provide modifications for the students who have less verbal communication skills. The intervention could also be deployed in a whole group setting versus the one-on one approach used in this study. Lastly, a speech therapist could contribute support by determining areas of weakness such as expressive, receptive, or pragmatic communications, and to what degree each student is deficit.

Future research could use a different outcome variable than the quick check assessment. A possibility could be to have the students construct a brief written response to the text. Another outcome variable could be to have students participate in a comprehension discussion using several highlighted vocabulary words. Students could also take vocabulary assessments that use the content of the text, and students would need to apply the vocabulary to answer questions.

Summary

This case study examined the differential effectiveness of adding vocabulary instruction to standard reading comprehension instruction with an autistic student in first grade. Visual inspection of the data suggests that the student performed consistently better, and with complete accuracy on the quick check assessment during the weeks in which he received combined comprehension strategy instruction and vocabulary instruction. As Common Core requires students to grasp a deeper meaning from the text, students with autism may struggle to meet these demands. Direct vocabulary instruction appears to be promising strategy in helping teachers equip their autistic students with a working vocabulary knowledge that can be accessed when tackling a challenging text. As students develop their vocabularies, they will be more likely to be able to comprehend text and have greater participation in the general education curriculum.

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