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The Affects of Manipulatives on Sight Word Recognition

Abstract

The following study examines the affect manipulatives have on sight word recognition. Data was collected in a variety of ways throughout this action research project, which include observations, interviews, audio recordings, questionnaires, as well as authentic work completed by the participant. This study reveals that the use of hands-on materials increase one's sight word recognition, motivation, and engagement. As a result, teachers should incorporate manipulatives and educational games into their curriculum. These tools will motivate students and assist them in learning new sight words.

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The Affects of Manipulatives
on Sight Word Recognition

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Abstract

The following study examines the affect manipulatives have on sight word recognition. Data was collected in a variety of ways throughout this action research project, which include observations, interviews, audio recordings, questionnaires, as well as authentic work completed by the participant. This study reveals that the use of hands-on materials increase one's sight word recognition, motivation, and engagement. As a result, teachers should incorporate manipulatives and educational games into their curriculum. These tools will motivate students and assist them in learning new sight words.

The Affects of Manipulatives on Sight Word Recognition

The topic I chose to investigate throughout this paper is the role in which manipulatives play on sight word recognition. Sight words, also commonly referred to as high frequency words, can be defined as words that a child recognizes immediately on sight. When a reader automatically recognizes words it makes the reading process more fluent and increases ones level of comprehension of the text.

Sight words are first taught to students in kindergarten and are given a great deal of focus and instructional time throughout the elementary grades. Sight words can continue to be taught throughout high school. Teachers can undergo a variety of techniques to teach sight words such as the use of word walls, flash cards, and word related books.

It is important to teach sight words because students who lack superior sight word recognition will most likely struggle throughout the reading process and may continue to do so even as adults. Students who struggle to recognize sight words will spend more time decoding unknown words throughout the text, which takes their focus away from constructing meaning.

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There are two commonly used sight word lists that are utilized in today's classrooms. These lists are better known as the Dolch Sight Word List and Fry's Sight Word List. Both lists are divided into a variety of levels beginning with the easiest sight words and progressing to more difficult ones. Each list of sight words includes regular and irregular words that are repeatedly found within texts at the present reading level of the student. Students are assessed using these lists to ensure that they are able to read their sight words in an immediate fashion. When students are able to read each sight word on a list correctly in less than two seconds, they can advance to the next set of more difficult sight words.

Throughout my research I focused on the use of manipulatives, or hands-on materials, for sight word instruction. Psychologists such as Vygotsky (1978), Gardner (1983), and Jean Piaget (1978), the founder of the Constructivist Theory all focused their research on the importance of using hands-on materials when learning to construct meaning. Giving students concrete objects to manipulate can be essential to ones success in school.

By combining these two elements (sight words and manipulatives), gathering data on each, I discovered affective instructional strategies that can be used when teaching sight words within the classroom setting. This research was important because it determined which techniques are most affective when teaching students new words. Many of the techniques used throughout this action research study confirmed to be affective and can be used in instruction to benefit all students when learning sight words.

Throughout this action research plan, I studied the effects manipulatives have on sight word recognition. Throughout the study, I implemented various manipulatives and

educational games to determine if they affect one's sight word recognition. Based on the literature and the research I conducted, it was discovered that manipulatives increase sight word knowledge as well as motivation among students.

Theoretical Framework

Prior to studying how the use of manipulatives affects sight word recognition, it is vital to understand how literacy is defined. According to Freebody and Luke (1990), literacy can be defined as "a multifaceted set of social principles with a material technology, entailing code breaking, participation with the knowledge of the text, social uses of text, and analysis/critique of the text" (p.15). Examples of technologies can be something as simple as paperback books or hands on materials, including magnetic letters, racecars, and word-related books. Such manipulatives will be used throughout this action research paper to closely examine the affects manipulatives have on sight word recognition.

Gee (1987), also believes that literacy is a form of discourse which is acquired through acquisition and learning. According to Gee (1987), the term discourse can be defined as "a socially accepted association among ways of using language, of thinking, and of acting that can be used to identify oneself as a member of a socially meaningful group or 'social network'" (p. 18). One comes from discourses that he or she understands through both acquisition and learning. Therefore, literacy is learned through trial and error, imitation, as well as active construction.

When investigating the use of manipulatives throughout reading instruction, it is vital to understand Howard Gardner's (1983) theory of Multiple Intelligences. In 1983, Howard Gardner, discovered the Multiple Intelligence Theory. This theory states that not

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all individuals learn the same way but rather in various ways and people have different kinds of “smarts.” Gardner’s (1983) theory is made up of seven areas of intelligence which are better known as linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, intrapersonal, and interpersonal.

When referring to the linguistic intelligence, one has sensitivity to sounds rhythms, and meanings of words. Logical-mathematical means that one has the ability to understand various number patters and problems. Someone with strength in the spatial intelligence learns best through visualizations. A musical learner uses rhythm and sound to process information where as a bodily-kinesthetic learner does best through physical activity. An intrapersonal learner focuses on their inner self which is the opposite of a interpersonal learner who learns best collaboratively in a group (Gardner, 1983). Bodily-kinesthetic will be the main focus when taking a deeper look into the affects manipulatives have on sight word recognition.

Research Question

Since literacy is a social practice and learning occurs during social interactions involving the use of concrete objects, this action research projects asks: how does the use of manipulatives affect sight word recognition?

Literature Review

The following literature review explores the various perspectives of using manipulatives within the classroom setting, with a specific focus on sight word instruction. First, I will explore the importance of sight words and common ways in which they are taught in today’s classrooms. Secondly, I will examine various ways in which

manipualtives and educational games can be used in the curriculum. I will also take an in depth look at the affects manipulatives and educational games have on one's learning of sight words. In addition to this, I will examine the many perspectives researchers have on using games within the school setting. Lastly, I will investigate the use of manipulatives through Gardner's Multiple Intelligence Theory. The research indicates that when integrated into the curriculum correctly, manipualtives can be very useful when teaching sight words.

Importance of Sight Words

Reading is an essential skill that individuals need to master in order to become active members of society. Learning to read is one, if not the most demanding tasks placed on elementary students. More often than not, teachers are exploring the most effective approaches and theories to use in their classroom when teaching various literacy skills. Finding effective tools can be a challenging task because one approach is not going to meet the various learning needs of all students found in her classroom. However, it is the job of the teacher to provide satisfactory reading instruction to her students.

The National Institute for Literacy (NIFL, 2001) identified five critical components to teaching children how to read. These components include phonemic awareness, phonics, fluency, vocabulary and text comprehension instruction. Comprehension being the ultimate goal to reading instruction (Erbey, McLaughlin, Derby, & Everson, 2011). In order for one to obtain comprehension of various texts, he/she must first learn the basics of reading and literacy. One essential basic skill is being able to quickly recognize essential sight words.

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Sight words are also commonly referred to as High frequency words. High frequency words are the often found in various texts children will encounter throughout the curriculum. Examples of Sight Words are *I, me, am, my, and of*. Students should be able to automatically recognize these words when they are presented in a text.

A child with superior sight word recognition will spend less time decoding unknown words and can gear their focus on constructing meaning from the text. This automaticity is vital to creating a fluent reader, which as a result enhances ones comprehension of a text. The two most commonly used sight word lists are known as the Dolch word list and the Fry word list. Both lists are broken up into various levels (beginning with the easiest sight words and moving towards more difficult words). When students have mastered a list by correctly identifying all words within two seconds, they can begin working on the next list of sight words. Assessments are administered by the teacher to determine if the child has reached a mastery level of his/her sight words (Yellin, Jones, Devries, 2008).

Smith (1995) states that “during the beginning centuries of reading instruction, children were taught to read by the alphabet method, and the only technique which they were expected to use in attacking an unrecognized word was simply to spell it” (p. 440). At the start of the century, individuals believed that spelling an unknown word was going to help one to pronounce it. It wasn’t until later years when researchers began to study phonics and the concept of sight words. Researchers discovered the drastic impact sight words had on reading instruction. It wasn’t until the early 1900’s where researchers examined the importance of sight words.

In 1925, the following aids to word recognition were identified: the context, the total configuration of a word, significant details of words, phonetic analysis, and the use of the dictionary. At the present time we teach children the use of all these methods of attack plus another one just recently added, the study of word structure. (Smith, 1955, p. 441).

Many researchers believe that students should be introduced to reading with core knowledge of sight words. Mastery of sight words are believed to be the core of reading instruction because students will spend less time decoding unknown words which allows them to focus on constructing meaning from the text (Applegate, Applegate & Modla, 1981). Instruction of sight word often begins as early as kindergarten.

Research done by Conley, Derby, Roberts- Gwinn, Weber, & McLaughlin (2004) discovered that

Supporters of the phonics-based method place importance on the actual pronunciation and identification of the target words. Essentially, the purpose of reading instruction is to ensure that the student is able to correctly identify the words of the text and then be able to extract meaning. By focusing on word-level cues, the reader can identify words without being distracted by other stimuli, such as pictures, being presented within the reading context. (p.339).

Collins, Evans, Creech-Galloway, Karl, and Miller (2007), used students with moderate disabilities to research the most effective instruction to teach sight words. They also examined if the setting in which these participants were taught in made a difference.

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Researchers discovered that these students can learn their sight words in any setting (i.e. Special Education Classroom) but had the most gains in the general education classroom. Participants also acquired more sight words through direct instruction from the teacher (Collins, Evans, Creech-Galloway, Karl, & Miller, 2007).

As one can see, there is not just one effective technique to teach sight words but rather there are multiple approaches that can be used. When effective techniques are combined, students can become more successful at learning their sight words.

Using Manipulatives and Educational Games

Teaching students how to read is taking a major shift from a very traditional style of teaching to a more hands-on approach. This new idea of teaching “represents a shift away from ‘learning by listening’ model of instruction to one in which students learn by doing” (Garris, Ahlers, & Driskell, 2002, p. 441). One way in which this teaching style is being accomplished is through the use of manipulatives when teaching pertinent reading skills such as sight word recognition.

There is major concern and debate had by many about the use of games in an education setting. Individuals who are opposed to incorporating games into the classroom argue that there is a large gender bias, and a major disconnect between the game and the intended educational purpose it is supposed to serve. As a result, games can be seen as ineffective because students have difficulties applying strategies learned in the game back to their schoolwork (Erbey, McLaughlin, Derby, & Everson, 2011).

Despite this, there has been studies done that prove that games can be valuable tools when effectively implemented into the curriculum. For instance, research done by Garris, Ahlers, & Driskell (2002) discovered that games can be effective educational tools when incorporated into the lesson correctly. They stress the important guidelines that games need to follow in order to be meaningful educational tools. Some key features these games need to have are a complex task, goal, interaction, visuals, and must challenge the students. Using these guidelines as well as the Input-Process-Output Game Model as their method throughout their research, they discovered that Dewey's theory of 'learning by doing' carries weight throughout this study when analyzing the dynamic process of game play (Garris, Ahlers, & Driskell, 2002). These guidelines are vital to follow when implementing a game into the classroom. When following these, it will ensure that the games are being used in the most effective manor.

There are many sight word games that have been proven to be effective through extensive research, data collection, and analysis. In a study done by Kirby, Holborn, & Bushy (1981), using six third grade students with poor reading ability discovered that Sight Word Bingo was proven to be effective when learning various sight words. Students who were apart of the treatment group, had an approximate thirty percent improvement from the baseline to the final assessment done at the completion of the study (Kirby, Holborn, & Bushby). A study done by Green, McLaughlin, Derby, Lee (2010), yielded very similar results. In one of many studies done by these researchers, they found that the use of a reading racetrack as well as flashcards, increased their sight word knowledge. Through the use of explicit instruction and the use of manipulatives, Participant 1 went from only

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reading three words from the Dolch Pre-Primer Word List with four errors to correctly identifying twenty-two words with six errors from List 4.

Participant 2 shared similar results. During baseline, he read eight words correctly with six errors from List 1. After instruction using the reading racetrack and flashcards, he was able to accurately identify all fourteen words from List 7. As one can see, through the use of the Reading Racetrack and flash cards, students increased their sight words knowledge.

In addition to these games, Spiegel (1990) discovered that various decoding games with the use of manipulatives increased sight word knowledge among various students in her own classroom. Games such as Road Race and Word Trek were discovered to be effective. Each of these are board games which allow multiple students to play at one time. In addition to the game board, students use other manipulatives including dice, placement markers, and pocket charts to decode various sight words (Spiegel, 1990). In addition to these games, Curtis and McCart (1992), also found these games to be effective tools that can be used when teaching sight word recognition. Beat the Clock, Secret Word, Scattergories, and Wide World of Words. Students were given the opportunity to play these games in collaborative groups for 10-15 minutes each day (Curtis & McCart, 1992).

Educational games paired with the use of flashcards also present themselves to be very successful learning tools in a study done by Kaufman, McLaughlin, and Derby (2011). In this study, Kaufman, McLaughlin, & Derby (2011) use the reading racetracks, paired with flashcards to effectively teach sight words through the use of manipulatives. Reading racetracks are simply an oval track that consists of 28 cells; one sight word per cell.

Children have one minute to go around the track using a picture of an automobile to point at each word while they say it. Children were instructed to say as many sight words as possible within the time allotted (Kaufman, McLaughlin, & Derby, 2011).

It was found that combining the racetrack with flashcards increase fluency, sight word recognition, as well as accuracy of sounds (Erbey, McLaughlin, Derby, & Everson, 2011). In an extensive study done by Jasmine and Schiel (2009) the use of flashcards in addition to a word wall, also proved to be effective manipulatives when teaching sight words. Word walls can be defined as bulletin boards that alphabetically contain high-frequency words used in texts or instruction (Jasmine, & Schiel). Jasmine and Schiel discovered that activities done throughout their research increased fluency as well as words per minute.

Perhaps the most critical element of incorporating games and other such manipulatives into the classroom setting is the increase of motivation found among students who participated in these various studies. According to Garris, Ahlers, & Driskell (2004) refer to motivation as “an individual’s choice to engage in an activity and the intensity of effort or persistence in that activity. Individuals who are highly motivated are more likely to engage in, devote effort to, and persist longer at a particular activity” (p.451). It is made apparent that the engagement level of mostly all participants in the studies described above had an increase in motivation and in engagement when using the various manipulatives and educational games. This study proves that motivation can be a very effective tool when teaching new material to students such as sight words.

Students who participated in Green, McLaughlin, Derby, & Lee’s (2006) study also had an increase of motivation when working with the reading racetrack to enhance their

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knowledge of sight words. In research conducted by Green, McLaughlin, Derby, & Lee (2006) stated that they felt eager when it came time to play with the reading racetracks. When asked what they liked most about the study done by Norman & Woods (2008), which examined the affects of prerecorded sight words, participants feedback included “I liked pressing the buttons”, “I liked teaching”, and “I liked the prizes” (p.103). Participants in Curtis and McCart’s (1992) study found working with peers to be very motivating. One student was quoted saying “reading with other people who are trying to progress like I am makes you want to work hard” (p. 399). These are all positive indicators that the participants had very positive experiences when the use of games and manipualtives were introduced to sight word instruction.

Motivation is a major factor in one’s success in school. Motivation allows students to become active participants in their learning. Motivated students often take responsibility for their learning and more often than not, these learners are eager to become more successful in the classroom.

Manipulatives through the Multiple Intelligence Theory

It is stated that “the United States has a unique system of public education in that we try to educate all of our students equally from preschool through high school” (Webb, Metha, & Jordan, 1995). In addition, “teaching in this country has been what is termed ‘frontal teaching’ or ‘chalk and talk’. This mode of teaching has not been successful for all of our students” (Snyder, p.11). With such a diverse population in the United States, it is important for teachers to understand that there is also a very large group of diverse learners in our classrooms (Snyder, 2000).

It is stated that the “MI theory has created much interest in more diverse teaching strategies, balanced programming, and matching instruction to learning styles” (McMahon, Rose, & Parks, 2004, p. 42). In a study done by McMahon, Rose, and Parks (2004) uses the Teele Inventory of Multiple Intelligences (TIMI) to assess participants *preferences* for learning, rather than their actual *intelligence* on a topic. Through their research, they found that students tended to score highest on spatial, linguistic, and bodily-kinesthetic (McMahon, Rose, & Parks, 2004). This particular study shows that most students learn best when they are active participant in their learning.

Much like McMahon, Rose, and Parks (2004) found that students learn best when they are active participants in the learning process, Rule, Dockstader, and Stewart (2006) discovered the same. Using a participants from primary grade who were at risk of failing reading, Rules (2006), study revealed that children who were in the experimental group that used hands on materials from an ‘Object Box’ to learn various phonemic awareness strategies made a 18.0 gain from their pretests where as the control group only had an 8.2 gain.

A study conducted by Snyder (2000) also yielded similar results to the one completed by McMahon, Rose, and Parks (2004). In Snyder’s study (2000), she used an instrument to gather more information about the participants’ individual learning style using the seven Multiple Intelligences as the focus. This instrument was a lengthy questionnaire that asks questions about the best way in which they learn in the school setting. After analyzing these results as well as each participants GPA and other assessments that were conducted, Snyder concluded that approximately eighty-one

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percent of students are tactile/kinesthetic learners (Snyder). This study shows that students “learn best by actually doing things in class, not by just listening and watching. They need to be actively involved in constructing their own knowledge about the subject they are learning” (Snyder, 2000, p. 18).

Smagorinsky (1995) also discovered similar results to the study done by McMahan, Rose, and Parks (2004). Smagorinsky (1995), examined the effects of students who engaged in non-written literacy interpretations using alternatives such as paint, dance, and even songs. Various manipulatives that were used to conduct this study were chalk, markers, musical instruments, and various toys. Participants in this study were required to respond to the story *The Use of Force* through the use of these various acts and manipulatives. Participants scripted and dramatized the story, while others drew images relating to the book, and some performed a interpretive style of dance. When given the choice and completing one of these various tasks, Smagorinsky (1995), found that students gained the same knowledge they would have if they were to create a writing piece about the story after it was completed (Smagorinsky, 1995).

In today’s schools, teachers are moving away from the “Talk and Chalk” style of teaching and shifting towards the “Learning by Doing” approach which students study new ideas through a variety of ways including manipulating materials. Thomas Armstrong (1998), creates lessons for his class using the Multiple Intelligence Theory. He states that if teachers can even touch upon one or two of the intelligences within a lesson, it will be a more effective lesson than if they had not.

When implementing the Multiple Intelligence Theory into the classroom, the teacher plays a vital role. A study done by Majorie Haley (2004), discovered that students' strength and weaknesses were directly effected by teachers pedagogical style. It was also concluded that the MI theory had a positive impact on both students and teachers because instruction was designed to cater to each child's talent, resulting in positive outcomes. Students found lessons to be more engaging because they catered to each of their interests.

One major limitation to Gardner's Multiple Intelligence Theory is the lack of mainstream assessments that can be conducted. Researchers found that teachers would need to create their own form of assessments to conduct and monitor each students progress based on the specific task and as well as the standards. This limitation was found to be very costly and time consuming for most educators.

Motivation was a key component found in all of the studies discussed above. Researchers found students to be more engaged in their schoolwork when they were able to use the various manipulatives and alternative assignments. It was also found that participants were very invested and took more pride in their work because the assignments were geared towards their individual strengths. These students were able to undergo work that they were interested in. It is important for educators to understand that each of his/her students has various strengths and it is important that each child is given the opportunity to explore their strengths and is given various choices when undergoing an assignment. Overall, for children to be "successful in our classrooms, we need to be more aware of how our students learn" (Snyder, 2000, p. 19).

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Method

Context

Research for this study occurred at a catholic college in upstate New York. Max (a pseudonym), the participant in this study is enrolled in a tutoring program sponsored by the college. This tutoring program is part of a core requirement that graduate students must complete in order to receive their Master's Degree in Literacy Education. Graduate students are placed in small groups. These small groups are made up of students of the same grade level but they have ranging ability levels, socioeconomic status, and different strengths and needs. Tutoring sessions are held once a week for one hour and forty-five minutes. In this time, the tutor undergoes lessons and activities that strengthen the specific needs of each child in their group. Reading, writing, and word study are all skills that are taught during each tutoring session.

Participant

Max is the only participant I worked with throughout this study. Max is a Caucasian male who is 6 years and 10 month old. Max is currently in the first grade at a very prestigious elementary school in Upstate New York. He is a very active young boy who enjoys participating in several extra curricular activities which include soccer and chess. In his free time, Max enjoys watching the Steelers play football and the Boston Bruins play hockey. He also likes helping his dad with various home improvements and reading the Harry Potter series with his mom. Max has a very positive attitude toward school and works very hard to excel academically. Max's current reading level is an A which means

that books he is currently reading have repetitive patterns, familiar concepts, and strong picture support.

Researchers Stance

As a researcher, I worked one-on-one with Max to obtain results for this action research paper. I am currently a graduate student and working towards obtaining a Master's Degree in Literacy Education. Currently, I am certified in Elementary and Special Education. I will be an active observer throughout this study.

Method

The main focus throughout this study was to determine the affects manipulatives have on sight word recognition. I administered various assessments such as the Dolch Pre-Primer Sight Words and observed Max as he participated in several games and activities all pertaining to sight words. With the use manipulatives and direct instruction, I examined the relationship between the use of manipulatives and sight word recognition. I did this by observing, assessing, and collecting authentic pieces done by Max. Max and I had four sessions together each lasting one hour and forty-five minutes in length.

In the first meeting with Max, I obtained a Consent Form signed by his parents as well as a completed questionnaire I provided for them. I also recorded an interview that I will underwent with Max asking him various questions about school, books, games, and his knowledge of sight words. Lastly, I administered the Dolch Sight Word Assessment to determine his current level. This helped me to determine how I went about creating and conducting the remainder of my data.

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Throughout each tutoring session, I implemented various educational games such as the Reading Racetrack, Sight Word Checkers, and the Popcorn Checker Game. All of these games include the use of manipulatives. The first two activities I implemented were the Reading Racetrack and the Popcorn Sight Word Game. The Reading Racetrack is a circular track that contains twenty-eight cells. In each cell a sight word is written; seven sight words that Max knows and seven sight words he struggles with (each sight word will appear on the racetrack twice). Max was given a minute to go around the track using a Matchbox car to say as many sight words as he could. I then recorded the number of words in which Max completed in that one minute time period. The Reading Racetrack was used once during every session to determine if gains are being made.

The Sight Word Popcorn Game consists of laminated popcorn cutouts with sight words on each piece of popcorn. Some of these sight words Max already knew, others were ones he did not recognize during the Dolch Sight Word Assessment. These pieces were then put into a large popcorn container. Participants went around picking out one piece from the bucket, if they were able to read the sight word on the popcorn cutout, they got to keep it. If they were unable to read the sight word they asked a peer for assistance. If a student drew the word “pop”, they needed to place all their pieces back into the popcorn bucket. The student with the most pieces at the end of the game won. This game can be played with two or more players.

During the second tutoring session, I implemented two other educational sight word games. These include Sight Word Checkers and Sight Word Soup. Sight Word Checkers was played just like a regular game of checkers, however there is one sight word written on

each square found on the board. When the player wanted to make a move, he/she was required to read the sight word on the square prior to moving their checker piece. This game was played with two players, Max and myself.

Materials that were needed to create Sight Word Soup were penne noodles, a bowl, and ladle. Each noodle had a different sight word taped onto it. Each player took turns using the ladle to scoop out as many noodles as they could. It was required that they then read the sight words found on the various noodles aloud. After their turn was completed, it was then the next player's turn. This was repeated until the bowl was empty. The player with the most noodles won the game.

In addition to the various interviews, manipulatives, assessments, and audio recordings that were collected, I also taught Max various sight words that he struggled with through guided reading lessons. I worked one-on-one during these lessons, providing Max with direct instruction. Manipulatives that were used during this time were laminated Velcro letters. I provided direct instruction of each sight word by saying it, spelling it, and writing it for Max. We would then do these steps together. Following this, he was asked to undergo these strategies independently. When writing the sight word, Max used the laminated Velcro letters to attach them onto a board spelling the sight word correctly.

At the end of the final tutoring session, I re-administer the Dolch Sight Word Assessment. This post assessment helped me determine the gains (if any) Max had made throughout the research. Throughout each session, I also collected various observational notes about the session and the important findings that I discovered. I wrote down the various manipulatives that appeared to be effective, strategies that I wanted to

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use for the next tutoring session, and important quotes Max said throughout the session. I also kept a journal throughout the research period. This allowed me to write down any biases I had as well as any additional questions I wanted to be answered.

Quality and Credibility of Research

According to Mills (2011), the “credibility of a study refers to the researcher’s ability to take into account the complexities that present themselves in a study and to deal with patterns that are not easily explained” (p.104). In order to ensure the credibility throughout this study, I underwent persistent observations throughout the study. Taking observations throughout my research helped me to identify typical qualities as well as irregular behaviors Max displayed throughout the study. In addition to persistent observations, I also took part in several peer debriefing sessions with my critical colleague, Ashley. Meeting with Ashley allowed us to look at the data collected through a critical lens. It was also beneficial to get additional feedback from another educator. In addition, I collected various artifacts throughout the study. These artifacts include interviews, audio recordings, and graded assessments. Lastly, I will practiced triangulation by collecting various types of data throughout the research. These various types of data included student and parent interviews, note taking throughout the tutoring sessions, collecting artifact, as well as audio recordings.

The term transferability “refers to qualitative researchers’ beliefs that everything they study is context bound and that the goal of their work is not to develop ‘truth’ statements that can be generalized to larger groups of people” (Mills, 2011, p.104). To ensure that transferability is taking place throughout the study I collected very detailed

data and descriptions of the context. The very detailed collection of data, allowed me to make comparisons between different contexts.

To ensure dependability throughout this process I overlapped methods and established an audit trail. According to Mills (2011), dependability simply refers to the stability of the data. By overlapping methods, which are similar to the triangulation process, I was able to use more than one way to collect various data. By undergoing an audit trail using my Critical Colleague as the external auditor, ensured that the process of data collection is accurate.

Lastly, Mills (2011) defines the term conformability to be the neutrality or objectivity of the data collected” (Mills, p. 105). To ensure conformability throughout this study, I practiced triangulation and reflexivity. Collecting various types of data such as interviews, audio recordings, as well as artifacts will do triangulation. I practiced reflexivity by keeping a journal throughout this study. In this journal I wrote about the various research questions I wanted to answer throughout my study. This journal helped me to focus on these questions and create new ones throughout my data collection.

Informed Consent and Protecting the Right of the Participants

Prior to collecting data and beginning research, I will be collected informed Consent Forms to ensure the protection of Max. Due to the fact that Max is a minor, his parents completed this consent form to grant me permission to use Max as a participant in this study. In addition, I also obtained verbal consent from Max before beginning any data collection. I explained the purpose of this study to Max’s parents before obtaining a

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signature from them. They also understood that all names were replaced with pseudonyms to ensure the safety and confidentiality of their child.

Data Collection

In order to ensure triangulation, there were several forms of data collection done throughout this study. I was the teacher throughout this study, which makes me an active observer. I distributed a questionnaire to Max's parents for them to complete and give back to me. I also audio recorded an interview I had with Max. This interview posed many questions about his academics, home-life, and his knowledge of sight words.

In addition to undergoing interviews and collecting audio recordings, I administered the Dolch Sight Word Assessment prior to any direct instruction. During our last session, I completed a post-assessment to determine what gains (if any) Max made throughout the study. Throughout each tutoring session, I took field notes of important information, as well as strategies and the various manipulatives used throughout that particular session. In addition, I also keep a journal for myself. In this journal, I wrote reflections I had following each tutoring session. I wrote about the strategies that were implemented throughout that class and how they affected Max's recognition of sight words. Lastly, I collected various artifacts, which include assessments, writing pieces done by Max, as well as the games, and manipulatives that were used throughout the research.

Implications and Conclusions

After you present your interpretations, you will suggest implications based on your original question(s). Discuss the importance of your findings and how your findings relate to the literature. Discuss how what you have learned impacts your teaching and how it can

be used to help other teachers address similar issues in their teaching. You can also raise questions that this research brought up for you. These questions can become the basis for future action research.

Data Analysis

After spending several weeks working with Max and collecting various forms of data, it was necessary to analyze my findings. Throughout the sessions, I collected various artifacts such as student interviews, parent questionnaires, audio recordings, student work, and observational notes. During each tutoring session, I jotted down handwritten notes of important findings I saw throughout our time together. At the end of each session, I typed these notes and any audio recordings or interviews that were done that day. After completing these steps, I then printed several copies of the data, which allowed me to write down any themes I had noticed when reading through the information. I read each artifact multiple times. The first time reading through the data allowed me to make any notes on the observations done. The second time reading through the notes allowed me to identify any themes or coding. Lastly, I looked for any disconfirming evidence or additional questions that I still had when reading the data for the third time. My critical college, Ashley, and I also discussed the various data we each found which allowed us to get an outsider's perspective on our findings.

Findings and Discussion

After carefully analyzing the data collected on how manipulatives affect sight word recognition, three themes were presented. These themes were the following: increased student motivation, consistent miscues, and increased sight word knowledge through use of manipulatives. These findings are consistent with the many studies done on the use of manipulatives and sight words which were discussed in my literature review.

For example, Snyder (2000) stated that students “learn best by actually doing things in class, not by just listening and watching. They need to be actively involved in constructing their own knowledge about the subject they are learning” (Snyder, p. 18). In addition to this, a study done by Smagorinsky (1995) determined that students made great gains in interpretation of literacy when undergoing non-written activities. Manipulatives used throughout this study included paint, markers, musical instruments, and toys (Smagorinsky, 1995).

Increased Student Motivation

The first major theme that surfaced after analyzing the various forms of data collected was the increase of motivation Max displayed while working with manipulatives and other educational games. The following is a sample of a transcription completed after an initial interview was done at our first tutoring session:

Tutor: “Do you like playing games?”

Student: “Yeah.”

Tutor: “What types of games do you like playing?”

Student: “Chess, hm, Ghost In The Graveyard, and...that’s it.”

Tutor: "Do you think playing games will help you learn more sight words?"

Student: "No."

Tutor: "No? Why not?"

Student: "Because you're not saying words like your sight words."

Tutor: "What if we played games that required us to say our sight words do you think that would help us learn them?"

Student: "Uh-huh."

Tutor: "Do you think that would be something you would like to try?"

Student: "YES!" (Audio Recording, October 18, 2011)

This interview was one of the first pieces of data that was collected during my action research. In addition to this, the questionnaire completed by Max's parents, states that he loves playing various games such as soccer and checkers. These are all great indicators that Max is both competitive and enjoys playing games. Therefore, my hopes were that by incorporating educational games into this research would motivate Max to learn more sight words.

According to my field notes, when first introducing the Reading Racetrack to Max, he excitedly said "Wow, is that a track? Cool, can I play with that car?" (Field Notes, October 18, 2011). While giving Max time to play with the racetrack and Matchbox Car, I observed him moving the car in a forward motion with his hands excitedly saying "Vroom, vroom, faster, faster, look out, CRASH!!" as he collided the car into his water bottle. Following the completion of the Reading Racetrack, I asked Max if he enjoyed using the car to go around the track saying each sight word. With an affirmative yes as an answer, I asked him what his favorite part was. He explained "I liked making the car go fast and I felt like I was in a race against my sight words!" (Field Notes, October 18, 2011). **These findings show that**

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Max enjoyed using the Reading Racetrack. By observing him, I found that he had positive body language and was very motivated throughout this activity.

These findings yielded similar results to the study done by Green, McLaughlin, Derby, & Lee's (2006). Their study found that participants had an increase of motivation when working with the reading racetrack. Green, McLaughlin, Derby, & Lee (2006) stated that students felt eager when it came time to play with the reading racetracks (Green, McLaughlin, Derby, & Lee).

Similar results were found when Max was introduced to the Sight Word Popcorn Game. Max was able to play this game with a peer in his tutoring session. They each took turns as I observed their interaction. After each popcorn piece Max selected, he made it a point to jump out of his chair, read the word, put the piece of popcorn in his growing pile of words, and sat back down. Each time his opponent was selecting her word Max exclaimed "Don't pick pop, don't pick pop, don't pick pop!" (Field Notes, October 18, 2011).

I also observed an interaction between the two children that confirmed that they were enjoying themselves. Sam (a pseudonym) said "I am having fun" with a smile on his face. Max quickly replied, "Yeah, I'm having fun too and I'm going to beat you!" After pulling a piece of popcorn that read the word "pop" on it, Max was disappointed that the game was over. "Aw man, can we play that again? I didn't want the game to end." (Field Notes, October 18, 2011). Observations done throughout the Popcorn Sight Word Game proved that Max and his peer were both engaged in the game and enjoyed the competition of playing each other.

Max and his peer displayed a high level of engagement throughout the Popcorn Sight Word Game. I discovered that Max became very competitive and did not want the game to end. In a study done by Curtis and McCart's (1992) found that working with peers was very motivating for students. One child was quoted saying "reading with other people who are trying to progress like I am makes you want to work hard" (p. 399). I found the same to be true when observing Max and his peer participate in the Popcorn Sight Word Game. Their competitive nature showed that they were trying to work their best to beat their opponent.

During the second tutoring session, Max completed another round of the Reading Racetrack and was able to play the Lilly Pad Sight Word Game. In a formal interview completed at the conclusion of our tutoring sessions, Max described the Lily Pad Sight Word Game to be his favorite. He stated "I like throwing the beanbags and playing outside" (Field Notes, October 25, 2011). Max is an active young boy who enjoys playing soccer and hockey therefore it did not come as a surprise to see he enjoyed this game the most because it allowed him to use his athletic side (Field Notes, October 25, 2011).

In addition to the Lily Pad Sight Word Game, Max and I were able to play a game of Sight Word Checkers. In my observations, I found that Max was most engaged throughout this game. While we were playing checkers, other members in the classroom were playing games on the SmartBoard, painting, and playing an active game of Reading Baseball. The other children were loud and moving around the classroom causing a great distraction for Max. Despite this, Max was able to keep his focus throughout the Sight Word Checkers Game (Field Notes, October 25, 2011). This observation shows Max high level of engaged

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he had throughout the Sight Word Checkers Game. He was able to eliminate distractions to complete the task at hand.

During the Sight Word Checkers Game, Max told me that he plays checkers at home with his dad. He went on to tell me that his dad always wins. After asking Max if he'd like to challenge his dad to a game of Sight Word Checkers, he excitedly said "Yes!" After the completion of this tutoring session, I allowed Max to take the Sight Word Checkers game home with him to play. At the next tutoring session, Max informed me that him and his dad went home and played the Sight Word Checkers Game. Max was pleased to inform me that he beat his dad twice in a row (Field Notes, October 25, 2011 & November 8, 2011).

It was discovered through my observations that Max was surprised to play checkers, in an educational setting. This is a game that he was used to playing at home. I was happy to see that Max could make a connection between the games he plays at home to his learning. This really impacted his level of engagement when playing this game.

During our third tutoring session, Max was instructed to finger paint various sight words. While using the various paints to create a handmade book of various sight words, the following was observed. "Ohh, orange, this color is my favorite. This is cool" (Field Notes, November 8, 2011). After asking Max why he thought this activity was cool he stated, "Because I like to get messy!" (Field Notes, November 8, 2011). Max displayed a great deal of enthusiasm and engagement throughout this activity. I found that finger painting allowed Max to feel more responsible for his work. He was proud to be making a book that he could bring home to show his parents. This was an authentic activity that played a major role in Max's level of engagement and motivation.

The findings from this study of the use of manipulatives for sight word learning are consistent with the research done by Garris, Ahlers, & Driskell (2002) that discovered that games can be effective educational tools when incorporated into the lesson correctly. The use of games and the use of manipulatives in this study increased Max's motivation and he became more engaged when learning his sight words.

These findings are consistent with a study done by Garris, Ahlers, & Driskell (2004). They referred motivation to be "an individual's choice to engage in an activity and the intensity of effort or persistence in that activity. Individuals who are highly motivated are more likely to engage in, devote effort to, and persist longer at a particular activity" (p.451).

Consistent Miscues

After collecting and analyzing the information, the second theme that was made prevalent was the consistent errors Max was making throughout each game. During the first tutoring session, I assessed Max's sight word knowledge using the Dolch Pre Primer Sight Word List. This list consists of forty words. Max was able to accurately identify twenty-seven of the forty words giving him a score of 27/40 on this pre-assessment. Words that Max misread or had to be told included *fine*, *help*, and *here*. These words, in addition to several others, were going to be my main focus throughout this study.

At the start of each tutoring session, Max completed one round of the Reading Racetrack. This racetrack includes fourteen sight words, which were repeated twice on the track to make a total of twenty-eight words. Seven words that Max knew from the Dolch Pre Primer Assessment, and seven he was unable to recognize. During the first session,

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Max was able to read all twenty-eight words in 38.7 seconds. Despite his quick pace, Max had several miscues. For example he read the word *me* as *my* and vice versa. This miscue is common mistake made by students Max's age. This is because these two words are visually similar. He also needed help on words such as *fine*, *here* and *help*. I found that this was because Max did not obtain all the appropriate letter sound relationships to decode these various sight words.

During the second tutoring session, Max completed the Reading Racetrack again which yielded similar results to the first time it was done. This time, he went around the track in 42.1 seconds with similar errors to the first time he underwent this game. The only progress Max was able to make this time was that he was able to correctly identify the words *me* and *here* which he was unable to do the first time. The third and final time, in which Max was assessed using the Reading Racetrack, showed that he made some progress. Max was able to correctly identify all words excluding the word *fine* which I had to tell him. This was an important finding because it proved that the manipulatives used throughout this research were found to be effective. Max was starting to recognize and accurately identify words that he was not able to at the start of this action research project.

After analyzing all the data as a whole, it was made clear that Max was unable to identify the word *fine* in any of the educational games that were implemented. I found that this was because Max struggled with words that ended in the letter *e*. He did not know that the *i* in *fine* says its name when there is an *e* found at the end of the word. When trying to decode this word I found Max would sound the word out by doing the following "f-f-fin-fin". After doing this and lacking all confidence in himself, he would turn his head in my

direction with a puzzled look on his face and ask for some assistance. After asking for assistance, I would slowly sound out each letter of the word until he was able to get it (Field Notes, October 18, 2011, October 25, 2011, & November 8, 2011).

It was also made apparent that Max was unable to identify the word *help* when it was presented to him in the various formats listed on the chart below. I am unsure as to why Max struggled to identify this word. He knows the correct sounds each letter makes in the word *help*. I believe that this is a word that Max does not see when reading very often. Due to this, this word is very unfamiliar to him which may be why he was unable to accurately identify it. Max was unable to accurately identify this word during the first two rounds of the Reading Racetrack as well as in the Lily Pad and Popcorn Sight Word Games (Field Notes). Despite this, Max was able to correctly identify the word *help* in the third round of the Reading Racetrack and during Sight Word Soup Game (Field Notes, October 18, 2011, November 8, 2011). This is because these games were done towards the end of my research. Therefore, this means that Max did learn new sight words from previous games and manipulatives that were implemented in previous weeks.

This same pattern also occurred when Max was presented with the sight words *me* and *my*. Often times, Max would read the word *me* as *my* and vice versa (Field Notes, October 18, 2011, October 25, 2011). This miscue was made present in such games such as the Reading Racetrack, Lily Pad Game, and Sight Word Soup. This is a common error made among children Max's age because these two words are visually similar.

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Table I

Common Miscues Made

	fine	here	help	me	my
Reading Racetrack October 18, 2011	Did not know, told by teacher	Did not know; told by teacher	Did not know, told by teacher	Said "my"	Said "me"
Reading Racetrack October 25, 2011	Did not know, told by teacher	Correct Response	Did not know, told by teacher	Correct Response	Said "me"
Reading Racetrack November 8, 2011	Did not know; told by teacher	Correct Response	Correct Response	Correct Response	Correct Response
Lily Pad Sight Word Game	Said "find"	Correct Response	Did not know; told by teacher	Correct Response	Said "me"
Popcorn Sight Word Game	N/A	Correct Response	Did not know; told by teacher	Correct Response	N/A
Sight Word Soup	N/A	N/A	Correct Response	Said "my"	Correct Response

As one can see, Max was not able to accurately identify the word *fine* throughout the first two sessions of the Reading Racetrack. These miscues appeared to be consistent. I

believe this was because he had time to examine and sound the unknown word out. He was unable to do this during the Reading Racetrack games because he was being timed.

Consistent miscues were also found throughout the sight word games when Max was trying to decode the word *help*. It can be seen that Max needed assistance when reading this word in four of the six games that appear in this chart. Max was able to correctly identify this word during the final session of the Reading Racetrack as well as the Sight Word Soup Game.

After collecting and analyzing the data, it was made present that Max used the words *me* and *my* interchangeably. After looking at the chart, one can see that Max made this mistake five different times throughout the games.

Increased Sight Word Knowledge Through the Use of Manipulatives

After working with Max for several weeks, it was made clear that his knowledge of sight words grew in this short period of time based on the Sight Word Assessment and observations. Through various observations, I found that Max's knowledge of sight words expanded greatly. He was able to recognize and accurately identify more sight words each week. It was also made evident that he gained more confidence in himself when working with new sight words. As a result, I have concluded that the use of manipulatives does positively affect sight word recognition.

After comparing the pre and post assessments of the Dolch Pre Primer Sight Word Assessment, it is made evident that great gains were made throughout our tutoring sessions. During the pre-assessment Max scored a 27/40. At the conclusion of our tutoring

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sessions, Max was able to score a 37/40. During this post assessment, Max was able to identify all sight words presented to him except the words *here me*, and *where*. Despite this, he still made great strides and scored ten points higher on his post assessment than he did on his pre-assessment. These results show that Max was able to learn new sight words that he did not know in the pre-assessment through the use of manipulatives and educational games.

In addition to this, it was made apparent that the use of manipulatives had a positive impact on Max's learning of sight words. After analyzing the various forms of data collected throughout this action research project such as field notes and audio recordings, it was made obvious that Max was motivated to learn when using manipulatives. He had a heightened level of engagement throughout the various activities, which was made evident in my data.

My findings are consistent with previous studies done by Kirby, Holborn & Bushy (1981) and Green, McLaughlin, Derby and Lee (2010) on the use of games and manipulatives to increase sight word knowledge. The study done by Kirby, Holborn, & Bushy (1981) on 6 third grade students with poor reading ability discovered that Sight Word Bingo was proven to be effective when learning various sight words. Similarly, Green, McLaughlin, Derby, Lee (2010) found that the use of a reading racetrack as well as flashcards, increased their sight word knowledge. Use of both of these games in this study contributed to Max's learning of more sight words.

Implications

Through the assessment and observations of an elementary school student, it has been found that manipulatives positively affect sight word recognition. After collecting and analyzing the various forms of data, it was discovered that manipulatives increase motivation within students. It was also found that when implemented into the curriculum correctly, educational games can play an effective role in the recognition of sight words. It was also discovered that hands-on materials as well as educational games are motivational tools.

The first implication from my study is that hands-on materials are motivational tools that increase one's recognition of sight words. Most students excel the greatest when they are learning new materials using manipulatives. This style of teaching is better known as "learning by doing." Teachers today must be familiar with this teaching concept and provide their students with many hands-on materials to use across all content areas, especially literacy. Garris, Ahlers, & Driskell (2004) define motivation to be "an individual's choice to engage in an activity and the intensity of effort or persistence in that activity. Individuals who are highly motivated are more likely to engage in, devote effort to, and persist longer at a particular activity" (p. 451).

In addition to the increase of motivation found within the participant of this study, it was also discovered that the manipulatives used throughout this study masks potential distractions that were taking part in the room. Due to the increase of motivation, I found that the participant was very eager to use the manipulatives that he did not feel the need to bring his attention to anything else going on around him. Therefore, his undivided attention was on the task at hand.

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The second implication from my study is that educational games can be very effective tools when implemented into the classroom correctly. It is vital that these games have a purpose. For instance, research done by Garris, Ahlers, & Driskell (2002) found that games need to follow important guidelines which include a complex task, goal, interaction, visuals, and must challenge the students. Therefore, it is the job of the teacher to create games that incorporate all of these guidelines. By doing this, students will make great gains in their knowledge of sight words.

Conclusion

The purpose of this study was to determine the effects manipulatives had on ones recognition of sight words. Since literacy is a social practice and learning occurs during social interactions involving the use of concrete objects, I collected a variety of different forms of data which included interviews, observational notes, as well as audio recordings to determine how manipulatives affect ones knowledge of sight words. Previous research done shows that with the use of manipulatives, students displayed an increase of motivation and engagement. It also showed that students increased their sight word knowledge through the use of various Multiple Intelligences. Research also found that students made great gains in their sight word knowledge when using hands-on materials to manipulate. Therefore, teachers should use manipulatives in the classroom to teach various literacy skills such as sight word recognition.

The research that I conducted was limited in a few ways. For example, this research was limited by age and gender. During this study, I worked with one first-grade student who was 6 years old. Due to this, my findings were geared towards the younger elementary students; I did not research the effects manipulatives had on older students.

Older students may have used similar games, that would be created for a more advanced level but they may not have experienced the same engagement the younger student did. My study was also limited by race. The participant in my study was a middle-to-upper class Caucasian male. I may have yielded different results if I completed my research using a variety of different races.

These limitations leave me with questions that still need to be answered. For example, I would still like to know if older students would find the same excitement as the younger student did when using manipulatives? I would also like to know if race would play a role in yielding different results than the ones I found when I completed this study. As a result, I would like to examine the use of manipulatives in older grades. I would also use more participants which would include a variety of races and social classes. I would also like to know if when these sight words appear within a text, if the student would recognize them. Throughout this study, the words were presented in isolation, Despite these limitations, this study proves that manipulatives are effective tools when learning sight words. When teachers incorporate the use of hands-on materials in their classrooms, students' recognition of sight words will increase. The teacher will also find an increase of motivation found among his/her students. As a result, teachers should consider using manipulatives in their classrooms to increase sight word recognition.

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Appendix A

Tutor: "Max, what are your favorite types of books to read?"

Student: "Harry Potter, hmm."

Tutor: "Can you think of another one?"

Student: "No."

Tutor: "Do you like to read fiction books or nonfiction books?"

Student: "Nonfiction books."

Tutor: "And what are nonfiction books?"

Student: "They are real."

Tutor: "They are real, very good. Do you think reading is fun?"

Student: "Umm, yeah. Yes."

Tutor: "What do you like about reading?"

Student: "You learn a lot. It helps you know a lot."

Tutor: "It helps you know a lot. Very good. Do you know what sight words are?"

Student: "Yes."

Tutor: "What do you know about sight words?"

Student: "Um, the words you're trying to learn."

Tutor: "Very good. Do you know any examples of sight words?"

Student: "Um, sight words...is, am, play, jump."

Tutor: "Great. How does your teacher teach you different sight words at school?"

Student: "She has us bring them home with us and we practice them at school."

Tutor: "okay. How do you practice them?"

Student: "She calls sticks, um, whoever gets called, um they'll say to word."

Tutor: "Okay, does she put these words on a chalkboard? Are they written on a big flash card?"

Student: "They're on these pieces of paper and um, they're written on pieces of paper and she holds them up."

Tutor: "What do you do when you come to a word you don't know in a book you're reading?"

Student: "Sound it out."

Tutor: "okay, very good. Do you like playing games?"

Student: "Yeah."

Tutor: "What types of games do you like playing?"

Student: "Chess, hm, Ghost In The Graveyard, and...that's it."

Tutor: "Do you think playing games will help you learn more sight words?"

Student: "No."

Tutor: "No? Why not?"

Student: "Because you're not saying words like your sight words."

Tutor: "What if we played games that required us to say our sight words do you think that would help us learn them?"

Student: "Uh-huh. Yes."

Tutor: "Do you think that would be something you would like to try?"

Student: "YES!" (While nodding head up and down)