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Learning Styles and Their Impact on Sight Word Achievement: A Focus on Students with Disabilities

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Learning Styles and Their Impact on Sight Word Achievement: A Focus on Students with Disabilities

Abstract

This action research paper focused on the question “how does instruction that includes a multitude of learning styles impact the achievement levels of students with special needs in regard to sight word instruction?” Data was collected through assessment, observation, recordings, and surveys. After analyzing the data, three themes were found: sight word recognition abilities, engagement levels, and disability classification in relation to preferred learning style. The implications of this study suggested that teachers should attempt to incorporate learning styles throughout instruction in order to increase engagement and motivation. The study implied that sight words taught in isolation are not as effective for some students. The study implied that least restrictive placement is not adequate enough for all students to succeed.

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Learning Styles and Their Impact on Sight Word Achievement:
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Abstract

This action research paper focused on the question “how does instruction that includes a multitude of learning styles impact the achievement levels of students with special needs in regard to sight word instruction?” Data was collected through assessment, observation, recordings, and surveys. After analyzing the data, three themes were found: sight word recognition abilities, engagement levels, and disability classification in relation to preferred learning style. The implications of this study suggested that teachers should attempt to incorporate learning styles throughout instruction in order to increase engagement and motivation. The study implied that sight words taught in isolation are not as effective for some students. The study implied that least restrictive placement is not adequate enough for all students to succeed.

Learning Styles and Their Impact on Sight Word Achievement for Students with Disabilities

In the English Language, there are 220 common words that cannot be sounded out and therefore need to be recognized by sight. These 220 words are typically referred to as sight words or high frequency words. The words have been split up into five groups: pre-primer, primer, first, second, and third. There is also a separate list comprised of 95 nouns. Each list correlates to a specific grade level and it is expected that students be able to recognize that “list” by the time they complete each grade. These words can be the beginning steps for educators in teaching students how to read due to the fact that they can comprise between 60% and 85% of a text for children’s emergent reading material (“Picture Me Reading,” 2016). They are the most commonly used words; therefore having students be able to instantly recognize them is key in learning how to read.

For students being taught using Common Core modules, their sight word instruction comes through the form of the Skills Units. The Skills Strand is intended to provide students with systematic and explicit phonics instruction. The goal is that if students follow along with the Skills strand from Kindergarten through Second Grade that they will have learned all sound-spelling correspondences in the English language and be able to accurately and independently use decoding skills (“Core Standards,” 2016). While some sight word instruction is woven into the Skills Strand lessons, it is not a main component. The instruction also lacks in manipulatives and incorporation of multiple intelligences to keep students engaged and meet their learning needs. For students who are on grade level and are able to keep themselves focused this may not make a difference in their achievement levels and ability to learn sight words. For students with disabilities, though, teaching to their learning styles and

maintaining high levels of engagement and interaction can make all the difference between success and failure.

There are currently 50 million students in the United States education system today. Of those 50 million students, over 5 million are currently receiving special education services under IDEA (“Disability Compendium,” 2016). Each one of these students comes from a different background and has different abilities, but is still expected to be able to access the general education curriculum. It is because of the wide variety of background knowledge and experiences that students are coming in with that makes it critical to examine not only how students best learn in the classroom, but also how instructional materials or the lack thereof impact Students With Disabilities. According to Wilson and Peterson (2006):

When teachers decide what to teach, they must find ways to emphasize both concepts and facts and modes of inquiry (the nature of knowledge students need to acquire).

When teachers consider what students will find interesting or difficult, they need ways to access students’ minds; they need to create communities among their students. (p. 12)

Teachers can access students’ minds by determining the way in which they best learn and incorporating that into their teaching strategies. Howard Gardner’s Theory of Multiple Intelligence originally described six learning styles, which has since been expanded to include nine different learning styles that can be incorporated into classroom instruction. These nine intelligences are verbal-linguistic, logical-mathematic, spatial-visual, bodily kinesthetic, musical, interpersonal, intrapersonal, naturalist, and existential (Takashi, 2013). The different intelligences describe ways in which different types of learners best take in information that is

being delivered. Incorporating these learning styles is of significant importance for students with disabilities because it can help further accommodate them in being able to access the general curriculum (Sze, 2009). Learning styles and their correspondence to allowing greater access to instruction directly correlates to sight word instruction for students with special needs. In a level A text, at least half of the words will typically be sight words. For example, in the popular text *Green Eggs and Ham* by Dr. Seuss 87% of the total text is comprised of words from the Dolch Sight Word List (“Picture Me Reading,” 2016). If a student is unable to identify the sight word independently, they will quickly reach frustration, have difficulty comprehending the text, and be unable to move up to the next level. Allowing students to be active participants in their learning, or in other words incorporating their preferred learning style, rather than using the “skill and drill” technique will provide them with experiences that allow them “to develop a critical eye, enabling them to become consumers and users of knowledge” (Wilson & Peterson, 2006, p. 15). If students with disabilities are able to interact with sight words in a multitude of contexts that support how they learn they will be more likely to be engaged and remember the sight words when reading and writing.

According to neuroscience and its impact on how students learn, students benefit the most from active learning. When students are engaged in active learning it means that students are taking advantage of processes that stimulate multiple neural connections in the brain and promote memory (Berkeley Education Center, 2015). It is key that students are active participants in their learning during sight word instruction in order to create these neural connections and promote the memorization of these words. Taking into account a student's preferred learning style and building it into sight word instruction will promote the creation of those neural connections, and in turn allow students to increase their reading achievement.

This research will examine student achievement levels in relation to sight word knowledge when they are engaging in sight word instruction using multiple learning styles rather than skill and drill teaching techniques.

This action research study was conducted to see if combining preferred student learning styles into instruction had any impact on student ability to recall sight words. The main research question for this study is how does instruction that incorporates a multitude of learning styles impact the achievement levels of students with special needs in regards to sight word instruction? The data for this study was collected through daily observations and recorded notes, interviews, student IEPs, and informal and formal assessment. After analyzing the data, three major themes were found. My findings suggested that learning styles increased student engagement, there was a connection between student preferred learning styles and their IEP classification, and sight word instruction in isolation is not enough to increase student reading abilities. This information indicates that learning style based instruction increased student levels of engagement, and therefore increased their sight word recognition abilities. The findings of this research present several implications for elementary education teachers. The first implication from the findings of this research is that teachers should attempt to incorporate learning styles throughout instruction in order to increase engagement and motivation. The second implication from the findings is that for some students, sight words taught in isolation are not as effective, even with the inclusion of learning styles. The third implication is that for some students, least restrictive placement is not an adequate setting for them to have all their needs met and to learn.

Theoretical Framework

Before beginning to examine teaching sight words with multiple learning styles, it is important to first discuss the definition of literacy. Literacy can be defined as “a multifaceted set of social practices with a material technology, entailing code breaking, participation with the knowledge of the text, social uses of text, and analysis/critique of the text” (Freebody & Luke, 1990, p. 5). Incorporating a multifaceted set of practices means that literacy is a multidimensional practice that our students will encounter throughout a wide dimension of social situations. As teachers, we need to prepare our students to be able to successfully interact with text in all types of social settings (Freebody & Luke, 1990). In order to be able to prepare our students to interact with a variety of text, students first need to be able to independently identify basic sight words that are prevalent in all forms of literacy. Without being able to accomplish this major step in learning how to read, students will not be able to move onto more advanced literary participation such as having knowledge of text, engaging in social uses of a text, or analyzing and critiquing text.

Acquiring spoken language and learning the “basics” of phonics, letter understanding, and spelling skills, as well as the relationship between the two, is fundamental for success in reading and writing. Not learning these skills can often times be an indicator of a student who may struggle with reading in the future (Freebody & Luke, 1990). Not being able to recall grade level sight words can also be an indicator of struggles in the emergent literacy process. In order to be a successful text user, literacy can’t be viewed as an activity to be completed individually, but “as a set of social practices undertaken with others” (Freebody & Luke, 1990, p. 6). Teachers need to teach their students how to use and interact with different texts in different social settings. Readers need to be able to have an understanding

that there is language being used in texts and that through the use of this language, ideas are being conveyed. Giving students the opportunity to interact with sight words in a multitude of contexts along with their peers can be a step towards allowing them to participate in social practices. Basic sight word interaction begins with sight word instruction for students at the emergent level. Giving students the opportunity to interact with sight words in a multitude of contexts along with their peers can be a step towards allowing them to participate in social practices.

While the definition of literacy is important, a discussion of emergent literacy and theories related to learning styles are equally as important, as they will provide a framework for the remainder of this literature review. Emergent Literacy “begins during the period before children receive formal reading instruction” (Gunn, Simmona, & Kameenui, p. 34). Children acquire the information through informal activities, as well as adult directed activities about reading, writing, and print (Gunn, Simmona, & Kameenui, 1995). The emergent literacy stage is so critical for children because it allows them to build the foundational skills that they will need in the future to be successful. Sight word instruction is just one of these key foundational skills.

There are several theorists who have different philosophies regarding how to best incorporate emergent literacy instruction into the classroom. For example, Rousseau (1762) believes that children learn through curiosity and therefore need no formal instruction, while Pestalozzi (1977) believes that parents and teachers need to create conditions for students to work and learn in (Rousseau, 1762). No two students in a classroom learn the same way. There may be a wide range of abilities within the classroom, and because of this it is important that we are providing our students with developmentally appropriate instruction. Developmentally

appropriate instruction is defined as instruction that is challenging but achievable with the help of the knowledge a teacher has about their students. Teachers need background information about a child mentally, emotionally, physically, and academically in order to provide them with developmentally appropriate instruction.

While teachers need to discover the different learning styles of their students and provide developmentally appropriate instruction, there are still specific understandings that students must be taught in grades Kindergarten through eight in order to become highly effective users of oral and written language (Fountas & Pinnell, 2007). Fountas & Pinnell (2007) state that

Students need to learn by talking, need to process a large amount of written language, that the ability to read and comprehend texts is built on through talking and writing, and that learning deepens when students engage in reading, talking, and writing about texts across many different instructional contexts. (p. 15)

Combining these teaching strategies and using a multitude of instructional approaches in the classroom will make more learning, especially in the emergent literacy stage, more accessible and meaningful for students.

McDermott and Varenne's (1995) culture "as" disability theory is used to guide this study. According to McDermott and Varenne,

When culture is understood as the knowledge that people need for living with each other, it is easy to focus on how some always appear to have more cultural knowledge than others, that some can be part of everything and others not, that some are able and others are not. (p. 326)

McDermott and Varenne's theory discusses and analyzes how the occurrence of disabilities in education due to cultural focus can impact students who are "different" or not accepted in what is considered to be the norm in education. In relation to this study, the norm or mainstream is the school system and the standards that all students are expected to be able to meet, regardless of the fact that a large number of students are unable to do so. Students who are not able to fit into the mainstream school society are disabled by the educational system because they cannot meet the standards being set for them, and therefore are not able to become part of the general education setting. Students who are unable to identify basic sight words at what is deemed to be a "typical" pace will have difficulties with reading not only in their current educational level, but in future grades as well. This can lead to students needing more restrictive placements or supplemental supports, causing a lack of self-confidence. The Culture as Disability theory will guide this action research study.

Research Question

Given the critical importance of emergent literacy skills such as sight word identification and the fact that students are more likely to create neurological connections and remember what is taught if they are active participants in their learning, this action study asks, how does instruction that incorporates a multitude of learning styles impact the achievement levels of students with special needs in regards to sight word instruction?

Literature Review

When conducting research about sight word instruction it is very important to look up past studies in order to see that information that researchers have already gathered and analyzed. In this literature review three themes will be identified and elaborated on. The first theme will be focused on sight word instruction and the impact that it can have on reading achievement. This theme will elaborate upon the importance of sight word instruction for all students, as well as how sight word instruction can be a building block in allowing students to achieve fluency and comprehension. The second theme discusses sight word instruction specifically for students with disabilities. Students with disabilities often times are not able to access phonological-based curriculum. Due to the difficulty that students with disabilities can encounter while building their basic emergent literacy skills, sight word instruction frequently becomes the main form of reading instruction. The third theme in this literature review discusses learning styles and sight word instruction. For years different theorists have presented the idea that students learn in different ways and because of this teachers should be teaching to these learning styles. This theme investigates this idea while discussing research that suggests learning styles promote more active engagement, and therefore higher achievement levels.

Sight Word Instruction and Reading Achievement

Learning to read is one of the most critical skills for success both in and out of school. According to Spector (2010) “reading skill defines the success that students are apt to achieve in school” (p. 1411). In order for a child to achieve success in school and in adulthood they need to be able to read with fluency and comprehension. Similarly, it has

been found that students with higher-level word reading skills are able to use more developed cognitive processes in order to achieve comprehension of a text. (Staden, 2013). As children learn and grow, their emergent literacy skills continuously develop. Musti-Rao et al. (2015) state that “instruction in sight words not only can result in a corresponding increase in reading fluency and comprehension but also can improve students’ confidence levels and reduce their frustration with reading” (p. 34). The emergent literacy stage of development is important for students because this is when they develop the critical skills needed for success later in life. Sight word identification is just one of many critical emergent literacy skills. According to Yaw et al. (2012),

Supplementing early literacy-skill instruction with sight-word reading instruction designed to teach students to read commonly used words may enhance students’ confidence in their reading abilities, improve their daily living skills, and reduce frustration associated with learning to read and/or reading instruction. (p. 355)

Not only is sight word instruction a critical component of emergent literacy, but the ability to identify sight words correctly can boost student confidence in their own abilities. While reading, beginning readers need to be able to identify the most frequently used words quickly and efficiently before they can begin to have reading comprehension, which is the primary goal of reading instruction (Staden, 2013; Burns & Boice, 2009). These words that come up frequently in texts are sight words. Sight words can be used as a starting point to later build off of in order to teach more abstract alphabetic concepts and principles (Spector, 2010). If students are able to increase their sight word recognition, this can lead to achievements in

other aspects of reading such as fluency, phonemic awareness, phonological awareness, and comprehension.

The main goal of sight word instruction is for students to be able to automatically identify high frequency words. It can also be used as remediation to help students improve fluency and comprehension, however. Sight word instruction needs to be intensive and deliberate, especially for students who are requiring reading interventions. Determining if instruction will be whole group, small group, or one-on-one can be a key factor in student success. McGrath et al. (2012) discussed the importance of repeated intensive exposure to sight words for students who were struggling with reading. According to McGrath et al., “poor readers often need systematic and explicit instruction in reading fluently and sufficient opportunities for intense, fluency-focused practice incorporated into their reading program” (p. 51). McGrath’s findings on poor readers support the importance of sight word instruction for struggling readers. The importance of intensive sight word instruction for students was also discussed in a study carried out by Griffin and Murtagh (2015). In the study it was discussed how Precision Training or PT can increase basic skills such as sight word identification in order to eventually be able to transfer the basic skill over to the more complex skill of reading fluency. Griffin and Murtagh’s study reinforced the importance of small group intensive intervention for students struggling with reading to increase sight word recognition.

Traditionally the procedure for sight word instruction has been small group instruction with flash cards (Mechling, 2008). Small group instruction allows students to have more intensive instruction that better meets their needs academically and instructionally. In a study conducted by Kupzyk, Daly, and Andersen the most effective

method of flash card instruction was researched and analysed. Through this study it was found that providing students with greater opportunities to respond to stimulus, or OTR, made a significant impact on their ability to maintain and generalize sight word identification (Kupzyk, Daly, & Andersen, 2011). This finding supports the idea that providing students with small group instruction would have a greater positive correlation to achievement in sight word recognition than whole group instruction would.

Three other critical aspects of sight word instruction are selecting the words that will be taught, insuring students can demonstrate comprehension of those words, and providing instruction that leads to reading and comprehending connected text (Alberto et al). Sight word instruction can be comprised of either functional or core content words. Core content words can be high frequency words or words connected to content material. Functional sight words are words that help students improve their daily living functions and would allow them to read words on a grocery list, menu, or street signs. Alberto et al. conducted a study in which controlled vocabulary sight word instruction was examined versus functional sight word vocabulary to determine which was more easily maintained and generalized by students with disabilities. This study spanned four years and gathered data from both individual and small group interactions. At the end of the study it was found that all students were able to learn both the controlled and functional vocabulary, but were able to maintain the functional vocabulary for longer periods of time (Alberto et. Al, 2013). While traditional sight words were not the main focus of this study, it was found that the methods used allowed students to comprehend and maintain the words being taught. A child having the ability to generalize the sight words being taught is important because the end goal of any reading program should be comprehension. Hong and Kemp (2007) conducted a similar study focusing on

functional sight words rather than traditional sight words. The words used were related to grocery store items such as juice, fruit, pasta, and tissue. This study had similar results as the study conducted by Alberto et al (2013). Alberto et al found that students were able to maintain functional sight words for longer periods of time. Functional sight words include words that students can use to be successful in daily life tasks. Hong and Kemp (2007) found that all students who participated in the study were able to learn and maintain the functional words that were taught throughout the course of the study. These studies show that sight word instruction is not only beneficial but can improve the vocabulary comprehension of students, which can in turn have a positive impact on reading fluency and daily living abilities.

There are several different methods of sight word instruction that have been proven to be effective through a number of studies. The majority of these studies use flashcard methods as the main form of instruction. As Kupzyk et al. (2011) stated “flash cards are a convenient, simple, and popular format for presenting discrete stimulus items during discrimination training” (p. 781). Discrimination training involves the presentation of the flashcard, a response from the student, and a consequence from the teacher. One flash card method that uses discrimination training is incremental rehearsal, or IR. IR or incremental rehearsal is a flashcard drill method that intermixes unknown items with already known items at a ratio of one known to nine unknown. For example 1K, 1U, 1U, 1U, 1U, 1U, 1U, 1U, 1U, 1U, 1K. When Burns and Boice (2009) conducted their research on flashcard strategies that worked best for students they found that this IR method lead to better retention of words than TD, or the flashcard method with no known words interspersed, due to higher opportunities for response. In other words, allowing students the opportunity to review

words that they already knew while learning unknown words made them more successful in sight word recognition skills overall. Kupzyk (2011) also had similar findings in her research. She found that participants learned more total words in the IR condition than in the other conditions that were analyzed. It was discovered that the frequency of stimulus presentations is a critical component of all discrimination-training programs. This form of sight word instruction has been proven to be effective because students are given the opportunity for more chances to respond due to the insertion of already known words. Including previously known sight words in instruction can also increase confidence, motivation, and engagement, which lead to higher success rates.

Sight Word Instruction for Students with Disabilities

For students with disabilities access to the general curriculum can be difficult to achieve. According to Spector (2010), “Impairments in word recognition are more prevalent in students with disabilities than in the general population” (p. 1411). Students with disabilities can have difficulty with acquiring, maintaining, and generalizing basic emergent literacy skills such as phonological awareness, phonics, fluency, vocabulary, and comprehension. Students need frequent exposure and repetition to new words in order to be able to identify and maintain them. A child with an average IQ generally requires 35 repetitions to be able to immediately recognize a word. For students with disabilities, this number is even higher (Burns & Boice, 2009). As the IQ of a student becomes lower, the number of necessary repetitions increases past the minimum 35. Those 35 repetitions only take into account how many repetitions are needed to be able to recognize the word. In order to maintain, comprehend, and generalize the word the number of repetitions would probably

need to be even higher than 35, regardless of IQ. Even though the number of word exposures required for identification is high, for students with “moderate intellectual disabilities sight word instruction may be the primary mode of reading instruction” (Alberto, 2013, p. 232). Reading difficulties can decrease motivation, confidence, and willingness to participate. This in turn can cause students to dislike reading and other literacy related activities. Spector (2010) found that “over half of the students in the sample who were classified under the IDEA category of Autism and who could be assessed fell below the 25th percentile on Letter-Word recognition” (p. 1412). In other words, students with disabilities are falling well below grade level in their acquisition of literacy skills. Barton-Arwood (2005) found similar disturbing statistics about students with disabilities in their study. It was stated “students with emotional and behavioral disorders frequently experience reading difficulties. In one sample of students aged 7 to 19 with behavioral disorders, almost 75% were one to two years below grade level in reading” (p. 7). Students with behavioral disorders are missing out on key instructional time when they are engaged in behavioral problems throughout the school day. Missing out on instruction can lead to less effective instruction for not only the students displaying behavior problems, but for the entire class.

Regardless of behavior problems or students being far below grade level, it is important that teachers have high expectations for all of their students. All students must be given the opportunity to achieve high academic standards (Spector, 2010). Providing all students with the same high academic standards creates a level of autonomy throughout the classroom and prevents teachers from singling students out for negative purposes. Similarly, Simos (2007) found that “reading disabilities are associated with a specific functional deficit in the brain circuits that normally supports reading” (p. 38). Students who have difficulty

reading have neural connections in their brain that are preventing them from processing the necessary information that would allow them to be on level in their reading skills. In his study Simos claims that “the predominant underlying deficit in reading disabilities that involve word recognition is the awareness that letters correspond to sounds and the ability to mentally manipulate speech-specific sound representations” (p. 37). Because students may have difficulty with the phonological processing aspect of reading instruction, turning to sight words to help students make reading gains has proved to be beneficial. Spector’s (2010) study agreed with Simos’ (2007) finding, stating that sight word instruction has long been a key aspect of instruction for students with disabilities due to the fact that in sight word instruction students are taught to identify words as logographs without analysis of the relationships between letters and sounds. Sight words cannot typically be sounded out following the normal letter-sound relationships that are taught in early phonics programs, which makes them a good starting place for students who struggle with phonics.

As previously discussed in this literature review, sight word instruction can improve daily living skills and reduce frustrations that struggling readers may have with learning to read. According to Spector (2010), “Mastery of sight words may enable students who are unable to master the alphabetic principle to perform functional tasks such as reading environmental signs, grocery lists, or directions” (p. 1412). The main goal for all students is that when they leave the education system they will be able to be independent and find some form of success. Spector’s findings are in agreement with research completed by Burns and Boice (2009). They state “rapid recognition of words is potentially important for students with disabilities because it can provide a comprehensive foundation for functional academics and improve functioning with various daily tasks” (p. 285). The main goal for students is to

be able to succeed in the world after leaving school. For students with disabilities having the ability to identify words that they may see in restaurants, grocery stores, or signs is part of ensuring that they are successful in daily life. Teachers of students with moderate and severe disabilities have found that they need to teach sight words that are functional for their students as well as those that are found in the general education core content” (Collins, 2007, p. 220). In doing so, teachers of students with special needs are preparing them for success not only in the classroom, but also in society. A study completed by Yell in 1992 examined the impact that sight word instruction had on students with emotional and behavioral disorders. In his study Yell found that students with emotional and behavioral disorders resulted in an increase in on-task behavior and decreased interfering behaviors. Not only did the sight word instruction improve behavior, but the participants in the study also had increased reading comprehension after engaging in small group teacher directed instruction (Yell, 1992).

Two studies that were reviewed focused on the same form of instruction for students with disabilities. The researchers in these studies used a method called reading racetracks. Reading racetracks puts the sight words into a game format for students. A board or piece of paper with a “racetrack” is used with 28 squares. For the purposes of sight word instruction, each square contains a sight word; however the racetrack concept can also be used for other purposes across a multitude of content areas. The track has a racing flag, a start, a finish, and each player is a “car.” Erby et al. (2011) and McGrath et al. (2012) both analyzed this form of sight word instruction to determine if it would be beneficial for students with disabilities. Both studies used the IR method previously discussed in this literature review. The findings of McGrath et al. would be found to be agreeable by Burns and Boice (2009) who state

“incremental rehearsal, a drill method for facilitating sight-word recognition, led to enhanced recall of words and considerably faster acquisition of word sets than comparable conditions among children with disabilities” (p. 285). In other words, students with disabilities who were instructed using the racetrack method were able to identify sight words at a faster rate than students who were instructed using solely flash card methods. McGrath et al. (2012) incorporated personalized student sight word lists into the racetrack, which were comprised of four unknown words and three known words. The racetrack method used by McGrath et al. differs slightly from the IR method previously discussed in which there was one known word shown for every nine unknown words. The difference in methods could be due to the limitations of the number of squares on the “racetrack.” When using reading racetracks students are timed for one minute and are able to “compete” against each other to see how many of the words on the racetrack they can accurately read within the time frame. Progress is monitored by the teacher while students are completing the racetrack (McGrath et al., 2012). This method allows students to become more engaged by having a classmate to compete against, while improving their sight word recognition skills. Erby et al (2011) took the reading racetrack method a step further by combining it with flashcard instruction in order to further improve sight word recognition. Flashcards could potentially be used as review before students use the racetrack, or could be used to complete more intensive instruction on the words that students were not able to identify on the racetrack. The idea that combining the racetrack method and the flashcard instruction method would align with Colins (2007) findings that “repeated, regular exposures to sight words that are embedded in general education settings can, like systematic instruction, result in acquisition and maintenance” (p. 232). In other words, combining the racetrack and flashcard methods

during instruction is effective because it leads to more intensive instruction. Both Embry et al. (2011) and McGrath et al. (2012) found that the frequent repetition and exposure to the sight words aided students with disabilities in being able to accurately identify the sight words being tested. The results of this study show that this technique would be a beneficial and effective procedure to use with students with disabilities.

Several studies have been conducted to determine the most effective method of sight word instruction for students with disabilities. Burns and Boice (2009) found that IR was the most effective approach. Their findings showed that IR led to two or three times more words being retained than the skill and drill method. Thus, this method is a safe and reliable practice to use when providing sight word instruction to students with disabilities. In a study conducted by Kupzyk et al. (2011) it was determined that IR is effective for students with disabilities because unknown items become designated as known items across multiple sessions students benefit from repeated practice with previously unknown and new unknown items during each learning session. According to Burns and Boice (2011) IR led to an increased ability for students with disabilities to recall words, as well as an increased acquisition of word sets. These findings relate back to the previously discussed idea of students with disabilities needing a higher number of exposures to each word than students without disabilities. Incremental Rehearsal gives student more frequent exposure to words, allowing them to recall them more quickly.

Incorporation of Learning Styles in Sight Word Instruction

Academic engagement is critical for learning and success in students with and without special needs. In a study completed by Brownell (2008) examining the effectiveness

of four different teachers it was found that “teachers capable of motivating and engaging students in literacy classrooms possessed a highly sophisticated array of practices for promoting and sustaining student engagement” (p. 100). In other words, teachers who are able to create authentic and engaging learning experiences for their students have a higher success rate than teachers who are unable to motivate their students. This finding is supported by Bruner’s (1966) study, which found that developing children form ideas and concepts through active experiences and that through action they build mental representations of their learning (Bruner, 1966). Children working in the emergent literacy stage benefit from concrete play and hands-on experiences that keep them engaged while promoting learning and social interaction.

Incorporating student learning styles into instruction is just one way in which to promote academic engagement in the classroom. Educational theorists have described learning styles as “descriptions of the attitudes and behaviors that determine our preferred way of learning” (Sun et al, 2013, p. 383). Attitudes and behaviors determining how we like to learn means that how we best take in and process information, as well as our daily behaviors, impacts how we best learn. There are several different theorists who describe how learning styles are connected to instructional methods. Kolb (1984) described learning styles as being a part of a continuum that ranges from concrete experience to active experimentation. In 1993 Gardner outlined his theory of the nine multiple intelligences of learning. Felder and Silverman put out a theory of learning styles that suggests students learning occurs within a four dimensional space, with the four dimensions being sensing, visual, active, and sequential (Sun et al., 2013). While there are different proposed theories in which learning styles work, all of them share in the common idea that students learn in

different ways. In order for students to reach their highest potential it is important for teachers to implement evidence-based practices in instructing all students so that they can have the best instruction possible (Spector, 2010). Incorporating evidence-based practices can assist teachers in creating engaging activities that promote active engagement for all students. Active engagement can be defined as “the intensity and emotional quality of children’s involvement in initiating and carrying out learning activities” (Brownell, 2008, p. 98). In other words, active engagement can be defined by how greatly involved a student is in the activity. Carnahan narrowed down this definition to better-fit students with disabilities. Carnahan (2009) described active engagement for students with special needs as “on-task and on-schedule behavior”(p. 38). For a student with disabilities on-task and on-schedule behavior means that they are attending to the task at hand with minimal adult refocusing or redirection and displaying the appropriate behaviors for the setting that they are in.

Every student’s brain functions and processes differently. Once the teacher is able to understand the student’s disability and how his or her brain processes information, then instruction can be better adapted for each individual student (Sze, 2009). Teachers can learn about how a student processes information and learns through classroom observations, inventories, questionnaires, and parent and student interviews. After completing these teachers can gain greater insight into how their students learn. Taking the time to discover how students learn can have the potential to increase achievement for students with disabilities. Canahan (2009) found that “students with disabilities have greater success when teachers design engaging learning experiences that incorporate their learning preferences” (p. 37). For example, for a student who identifies as an auditory learner, teachers incorporate music to increase engagement. Similarly, Bostrom (2006) found that when teachers applied

learning style methods to their instruction that students had increased achievement, retention, behavior, and comprehension. Students were not only engaged in their learning, but were able to maintain their learning over an extended period of time. Active engagement in academic tasks can lead to better academic outcomes for students and also give them the confidence they need to spend more time participating in the classroom (Carnahan, 2009). The concept of academic engagement leading to better academic outcomes supports the idea that taking student learning styles into account during instruction can have a positive impact on student learning and achievement.

Students with disabilities can have difficulty accessing content being delivered, even in small group settings. More restrictive placements such as 12-1-1 or 8-1-2 classrooms can have students with disabilities ranging from Autism to Emotional Disturbance to Intellectual Disability. Each one of these students may take in and process information differently. According to Kleinart (2015) “students with disabilities need substantially adapted materials and individualized methods of accessing information in alternative ways to acquire, maintain, generalize, demonstrate, and transfer skills across multiple settings” (p. 312). When students perceive that they are different from other kids or that academic tasks are too difficult, students may become disengaged or disruptive. Difficulties in social exchanges, peer and adult interaction, and the wide range of behaviors that can accompany students with special needs can make students less available for learning, or less engaged during academic instruction (Carnahan, 2009). Keeping students with disabilities or reading difficulties actively engaged can be a difficult task for instructors. According to Brownell (2008) “students who were at risk for reading failure spent less time engaged in academic tasks than did their counterparts. Students in special education often times did not receive instruction

that was differentiated to meet their needs” (p. 98). In Brownell’s study examining the effectiveness of four special education teachers, he analyzed what materials each teacher used and if they had an impact on the level of student engagement. It was found that highly effective and engaging teachers used various instructional materials and activities as well as extensive explicit modeling to help students have access to instruction, while low engaging teachers employed primarily “drill and skill” techniques in their classrooms. (Brownell, 2008). Drill and skill techniques, such as the flashcard methods previously discussed in this literature review, may improve student achievement but they may not necessarily promote active engagement, especially for students with special needs who need more engaging and hands-on activities to participate in.

There are words in the English language that do not have predictable grapheme-phoneme correspondence, making them difficult to decode (Kupzyk et al. 2011). Having good audiology skills and being able to process information presented orally is beneficial to students when trying to decode words and hear letter-sound connections. According to Spector (2010), “students who have difficulty with auditory-based abstract concepts, sight word instruction may be more accessible than a phonics based approach” (p. 1412). Sight word instruction would be beneficial for students who have trouble with audiology processing because it is difficult to sound out sight words due to the fact that they don’t have the predictable grapheme-phoneme patterns such as c-v-c or c-v-c-e.

Some students with special needs benefit from materials being presented to them visually. Carnahan (2009) states that “visual learning materials are an example of one strategy that may promote active engagement for students with special needs” (p. 38). When teaching sight words, especially functional sight words, presenting students with a

visual cue or prompt may help students learn, generalize, and maintain the words and their meanings. According to Bijl (2006), “because of the abstract nature of sight words, it may be helpful to pair them with pictures when initially presented to provide students with a non-linguistic cue to reduce task complexity and increase motivation” (p. 44). In other words, because sight words do not follow a typical language pattern that can easily be decoded, matching them with pictures or some other visual cue may be helpful for students. Spector agreed with Bijl’s findings after he discovered in his study that “Picture-text matching activities may be a logical next step for students in order to develop literacy and oral language” (Spector, 2010, p.1412). In Bijl’s study, he tested two ways in which to use pictures in conjuncture with sight words. He was concerned that students would focus too heavily on the picture prompt and would not pay attention to the orthographic word form. The first process that was tested was the picture fading approach. In this approach pictures are used to gain the students initial attention and then picture fading is used to shift student attention from the picture to the word. The second approach that was tested was the stimulus fading approach. This approach was similar to the picture fading approach, but included the addition of a prompting stimulus such as a picture, color, or coding which would be gradually removed by reducing its intensity as the trials continued. Bijl’s hope was that if the written words were accentuated visually to closely resemble the object they represent that the students would remain engaged throughout sight word instruction and it would be easier for the students to acquire the symbolic meaning of the words. His findings concluded that students with disabilities had the most success with sight word instruction methods that combined modified orthography with traditional orthography (Bijl, 2006). The success of combining modified and traditional orthography means that students with

disabilities had higher sight word recognition and comprehension when sight words were paired with some type of visual stimulus, rather than just having the words written on a flashcard by themselves. Incorporating the visual learning style was more effective and was able to keep students engaged.

Musical is another learning style that some children may excel with. Students who fit into this learning style profile enjoy music and may be sensitive to environmental sounds. They can be taught through music and rhythm. Music routines that incorporate students' interests, predictable routines, and structure may improve outcomes for students with special needs when combined with other supports such as visual schedules or daily structure (Carnahan et al., 2009). Incorporating some musically rhythmic element into even simple tasks such as transitions can have a positive impact on students. In 2005 Gromko et al. conducted a study to determine whether or not music instruction had any impact on the emergent literacy skills of Kindergarteners. He found that Kindergarten children who received at least four months of music instruction showed significant increases in phoneme-segmentation, fluency, and word identification while students who did not receive music instruction made significantly smaller growth in the same areas. (Gromko, 2005). Incorporating music into instruction not only increased abilities in the areas of word identification, but in several other critical literacy aspects as well. Carnahan et al. tested a similar theory while completing a study in 2009. The study examined how the incorporation of music into student ELA instruction would impact a group of students with Autism. Results of the study indicated that students with disabilities displayed higher rates of engagement when activities were interactive and incorporated both visual materials and music. The addition of music to interactive books significantly increased student

engagement (Carnahan, 2009). Incorporating music into a read aloud allowed students to be more actively engaged than they would have been in a traditional read aloud. Research conducted by Walton (2014) further supports the findings of Gromko and Carnahan (2009). Walton (2014) found that having students sing songs while viewing printed words strengthened phonological and text-connections in long term memory. In other words, adding auditory instruction into a primarily visually based instruction led to higher instances of retention for students. He stated “research has found connections between music and language that includes the transfer of abilities between music and speech and supported the use of songs to teach key pre-reading skills” (p. 54). These studies all support the concept that incorporating the musical learning style into instruction can have a positive impact on not only student engagement and achievement, but on behavior as well.

Bodily-Kinesthetic, tactile, and linguistic learners all benefit from different aspects of instruction than musical, visual, or auditory learners do. Bodily-Kinesthetic and tactile learners benefit from concrete, hands-on activities. Allor et al. (2014) discussed the importance of tactile activities to support instruction stating that “with additional text and activities including both decoding and sight word practice students made clear improvement and were able to quickly increase their word identification to between 50 and 70 words” (p. 304). In order to achieve these significant gains Allor et al. employed the use of activities such as sand sight word writing. Incorporating activities such as this allows students to experience the sight words in a different format that comes across as a fun learning experience. In a study done on multi-sensory coding to support word learning for students with disabilities, it was found that interactive word walls and chaining combined with multiple visual, tactile, and kinesthetic activities aided children in improving significantly in

their word reading abilities (Staden, 2013). In other words, combining a multitude of learning styles had a significant impact on the achievement levels of students. These findings from Staden support Allor's (2014) findings that incorporating hands-on activities can result in improved achievement levels.

The use of technology in the classroom can incorporate all four dimensions that Felder and Silverman described, which are sensing, visual, active, and sequential (1988). Finding an instructional tool that can incorporate a multitude of learning styles while engaging a wide range of learners would be beneficial not only for students, but for teachers as well. While several theorists and researchers have advocated for the incorporation of learning styles in instruction, there are several who have found that learning styles have no significant impact on instruction and feel that trying to accommodate for all learners personal learning styles is too great a task for teachers. Spark (2006) argues that

Differences in individual processing capabilities create significantly different requirements in learning environments. Once identified, advocates argue, it becomes possible to improve the academic achievement of each individual by matching instruction and the learning environment with their individual preferences. Styles advocates fail to take into account the preponderance of empirical evidence since the 1970s which has shown that learning styles models have a host of conceptual and empirical problems and that matching students' preferred styles with a compatible teaching method does not improve academic achievement. (p. 520)

While learning models may have conceptual and empirical problems, it makes sense to incorporate them for students with disabilities in order to assist them with general processing

difficulties, as well as increase motivation and decrease behavior problems that may occur. Mechling et al. (2008) found evidence supporting the use of computer-based instruction (CBI) to teach sight words for students with disabilities. The research conducted found that

Students with special needs have shown more motivation, attention, learning of vocabulary and improved behavior when using Smart board technology or computer based instruction compared to teacher delivered instruction. Motivational and engaging forms of technology may further support students' preference to use such an interactive medium over traditional formats for delivering instruction. (p. 45)

Incorporating technology in the classroom can provide an exciting and different way of presenting information while helping to minimize the behaviors of students and still promote learning. For students who fall into the active domain Smartboard instruction can give them an opportunity to get out of their seats and interact with the touch-screen aspect of the Smartboard. Sensing learners can take the sight word instruction being provided on the Smartboard and apply it to reading text. This text can be enlarged on the Smartboard and highlighted and manipulated to make it more user friendly for students with disabilities. Enlarged and user friendly interfaces can also be beneficial for visual learners. The Smartboard provides a much larger instructional area for visual learners to take in, and instruction can be manipulated on the SmartNotebook program to contain different colors, sizes, and fonts. Several researchers found that providing students with this type of stimulus during sight word instruction can increase their ability to recall words, as well as generalize and maintain them (Mechling et al. 2008). The use of technology has been constantly

increasing and changing in districts across the country, so supporting students with CBI based programs has become increasingly easier. Two studies on CBI were conducted by Yaw et al. (2012) and Coleman et al. (2015). Both studies were focused around the use of technology to provide sight word instruction. The authors found that both studies proved that technology was an effective tool to use for students. Not all students in the studies made significant gains, which could be related back to the importance of student learning styles and the impact that they have on how students take in and process information.

As can be seen from the literature review above, there are several different aspects that need to be taken into consideration when engaging in sight word instruction. Sight word instruction is a foundation for students learning how to read. It is just one of several emergent literacy skills that students need to be exposed to from a young age in order to help students be successful. As discussed throughout the literature review, effective sight word instruction can help students improve their fluency and comprehension, as well as increase their chances of success in secondary education and adulthood. In order for sight word instruction to be effective it is beneficial for educators to take into account group size, student learning style, and method of sight word instruction. Students with disabilities often times have difficulty finding success with reading instruction that is built off of letter-sound relationships, so teachers often turn to sight word instruction as the main form of instruction. Combining all of these aspects can help in creating a balanced-literacy program with effective sight word instruction for students with disabilities. In doing so, these students will have an increased chance of becoming a successful reader and being able to participate in a wide variety of literacy activities.

Method

Context

Research for this study took place in a school district in the greater Rio area, in New York State. According to the New York State District Report card for 2014-2015, this district has a population of 28,316 total students. The population in this school district is approximately 51% male, 49% female, 10% white, 59% black, 4% Asian, and 27% Latino. 19% of students have disabilities and 13% are English Language Learners. Ninety-one percent of the students enrolled are economically disadvantaged and 86% eligible for free, or reduced-price lunches at the schools. The school district contains 65 separate school buildings located throughout the district for grades pre-Kindergarten through 12th grade. The students in this district who are included in this study attend one of the 65 schools, which houses grades pre-Kindergarten through sixth. The school that they attend has 520 students in total. The population in the building is 60% African American, 18% Asian, 18% White, 4% Asian, and 1% American Indian. 15% of students in the building have a disability and 5% are English Language Learners. 95% of students in the building are economically disadvantaged and 91% are eligible for free or reduced lunch.

The classroom that will be the focus of this study is a first grade 12-1-1 class. There is one special education teacher in the room, one teaching assistant, and two one-on-one aides who are assigned to specific students due to behavior. The class is comprised of five females and seven males. All of the students have IEPs with academic, behavioral, social, emotional, and study skill goals. Some students have speech, motor, and physical goals as well. Their classifications range from Emotional Disturbance to Learning Impaired. Five students have behavior plans that are followed daily to minimize behaviors. The 2015-2016 school year is the

first year that all 12 students have attended school in this building. Seven of the students were dismissed from their previous building at the end of Kindergarten due to behavior concerns. Five of the students are new to the building since January 2016. They were removed from general education classrooms and put into a 12-1-1 class due to severe behaviors. The 12 students in the room all qualify for free lunch.

Participants

The participants for this study include three students from the school discussed above. All of the students in this study are in the same first grade 12-1-1 classroom. They all have IEPs with academic, social, behavioral, speech, and motor goals. All three students receive free lunches. One of the students has a behavior plan, which focuses on his physically aggressive behaviors towards both peers and adults.

Joanna (pseudonym) is white and seven years old. Joanna lives at home with her grandmother, mother, father, and younger brother. Both of Joanna's parents and her younger brother have learning disabilities. Joanna is currently functioning at a late pre-school level academically and struggles with speech, fine, and gross motor activities. She is very quiet and loves to learn. She is always eager to listen to stories or work one-on-one with adults. She likes to color and play on the playground.

Joseph (pseudonym) is an African American student who is seven years old. Joseph lives at home with his mother, brother, and sister. He does not have contact with his father. His mother and both siblings have learning disabilities as well. Joseph receives speech, counseling, and occupational therapy services. He has been diagnosed with ADHD and is constantly moving and making noise. He can frequently be a disruption to his peers and the adults in the room. He

enjoys playing iPad and working one-on-one with preferred adults. He can be a behavior problem when he does not receive the attention that he wants in the classroom.

Paula (pseudonym) lives at home with her two mothers and older sisters and brothers. She does not have any contact with her biological father. She receives speech therapy services three times a week. Paula is currently functioning at an early Kindergarten level academically. She is very unmotivated and has a great deal of difficulty staying focused for more than two minutes at a time. She enjoys playing on the playground and interacting with her peers. She does not enjoy academics and will often times refuse to complete work.

Researcher Stance

I am currently a graduate student at St. John Fisher College. I am working toward a Master's of Science in Literacy Education, and will be certified to teach literacy to children from birth through grade six at the completion of this program. I hold a Bachelor's degree in Childhood and Special Education, which I earned at St. John Fisher College. My current New York State teaching certifications are in childhood and special education. As a researcher for this study, I acted as an active observer, meaning that I was involved in the instruction and teaching of the six students. Mills (2014) defines an action observer as someone who is "continuously monitoring and adjusting their teaching based on formal and informal observation of students" (p. 37). While I didn't adjust my teaching throughout the trial, I continuously monitored and used the trial to inform sight word instruction for my students.

Method

For this study, I collected only qualitative data to determine how the incorporation of learning styles impacts student's sight word retention. My instruction was specifically based off of the learning styles of the students in my focus group. The study took place over the course of

three instructional sessions, lasting approximately 10-15 minutes in length. I collected a sight word pre-assessment and post-assessment, a learning styles interest survey, and conducted interviews with the students about how they like to learn. I also took observational notes on the children's engagement levels during the instructional sessions.

The first part of my collection of data involved giving a pre-assessment (Appendix A) to each student to determine what sight words they knew before instruction. The children also took a follow-up assessment as the last portion of the data I collected. This post-assessment (Appendix B) was used to determine final sight word retention abilities for each student. I also took mini-assessments each day about an hour or so after instruction (Appendix C) to determine if students had any retention of the word before it was reviewed in the next instructional session. Taking assessments the day of instruction rather than just at the end of all the trials allowed me to get a clearer picture on whether or not there was an immediate difference between the group of students involved in sight word instruction and the group of students involved in learning style based instruction.

The second part of my study involved determining what each students' preferred learning style was. In order to determine this, each student took a learning styles survey (Appendix D) so that I could learn more about their personal interests. The survey, titled the Elementary Multiple Intelligences Preference List, contained 40 questions that determined if a student is more of a visual, auditory, reading and writing, or kinesthetic learner. There is also a description to go along with each category to help students fully understand what their score and learning style really means. The results of this inventory assisted me in determining my plans for the group of students whose instruction was more heavily based on their learning styles. For example, for students who were strong auditory learners, I incorporated a sight word song into the instruction.

For students who were strong kinesthetic learners, I incorporated activities such as sight word dances.

The final part of this study was focused on the engagement levels of students during the instructional periods. All three of the students in this study have IEP goals pertaining to staying on task and being able to complete work independently without adult re-direction. Noting the number of times students in each group needed to be re-directed by myself allowed me to see if students were able to stay on task for longer periods of time when taking part in instruction that matched their learning styles.

Quality and Credibility of Research

Due to that fact that my collection of data was qualitative and also part of an action research project, it is important for me to ensure that my study is trustworthy. Mills (2014) cites the work of Guba (1981) in explaining how credibility can lead to trustworthiness in research. All of the sections of this study were subject to the four criteria for trustworthy research, as outlined by Mills' (2014) and Guba'(1981).

Credibility is the first criterion for trustworthiness in research. Mills (2014) explains that "The credibility of the 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. 115). As researchers it is important to understand that studies are conducted in real life, where problems and unforeseeable circumstances can occur. Credibility was highly relevant to my study. I originally intended for there to be six participants and for the trials to cover five instructional sessions. After sending home parent consent forms and making phone calls, I was only able to get parental consent for three students to be involved in my study. Due

to the amount of time it took for me to get consent forms back, as well as testing and end of the year activities, I was only able to have three instructional sessions in my trials.

Transferability is another criterion for trustworthiness that Mills (2014) discusses. Transferability is defined by Mills (2014) as, “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” (p. 116). In other words transferability as a criterion for trustworthiness means that the results of the study will only apply to the participants involved in this study. To ensure the possibility of transferability, I collected detailed and descriptive data to allow for future researchers to make comparisons between my population group and theirs (Mills, 2014).

The third component of trustworthiness is dependability. Mills (2014) defines research dependability as “The stability of the data” (p. 116). Stability in research involves how weak or strong an argument is based on the amount and quality of the data that is collected. In using sight words, the data collected for this study is concrete and objective. The student either has the ability to identify and read the sight word or they don’t, and that is evident from the data collected.

The last criterion for trustworthiness is confirmability. Mills (2014) defines confirmability as “The neutrality or objectivity of the data that has been collected” (p. 116). In other words confirmability means that the beliefs and opinions of the researchers are not included in the results of the data. My study included several different methods of data collection. All of these different types of data were examined and analyzed so that the four criterion for trustworthiness described above could be ensured.

Informed Consent and Protecting the Right of the Participants

Before beginning to collect data for this study, it was essential to inform the students I wished to work with, as well as to ask their parents if they would be willing to allow me to work with them. I sent home a letter of permission for each parent to determine if they would be willing to allow their child to participate. The form that I sent home to the parents described the purpose for the study and asked for their signature so that I could ensure that I had their permission for their child's involvement. I also asked the children involved if they would be willing to participate. All parents and participants were informed that pseudonyms would be used to protect the identities of the students involved and to ensure confidentiality and anonymity.

Data Collection

As previously discussed, I collected three different forms of data. The first form of data collection that I used was assessment. I created a pre-assessment, as well as a post-assessment, to determine previous sight word knowledge, as well as final sight word retention. The mini-assessments given after each instructional session allowed me to determine if there was immediate retention. The post assessment determined if the students were able to retain all of the sight words taught in the three instructional sessions over a longer period of time.

The forms of data collection that I used for the second part of my study were the learning styles survey and student interview. The survey allowed me to determine what learning category each student fell into. This helped me to plan out my instruction for the group of students whose instruction will be learning style based. The student interviews (Appendix E) allowed me to explore more thoroughly how my students liked to learn.

In the final part of my study, I took detailed observational notes. While students were working, I noted the number of times that each student needed to be re-directed by myself. I also video

recorded the instructional sessions so that I could go back and take detailed notes about comments students made related to the type of instruction or their enjoyment levels.

Data Analysis

Numerous forms of data were collected for this action research project. The data included sight word assessments, student surveys, observational notes, and video recordings. After the process of collecting all of this data was complete, I thoroughly analyzed the data collected. I began the process of data analysis by reviewing all of the collected data. First, I analyzed the sight word pre-assessment that was given to the students. I examined which words each student was and was not able to identify. Examining the pre-assessment allowed me to choose the words that I would use in the instructional sessions. Analyzing the pre-assessment was helpful because it allowed me to choose words from the pre-primer sight word list that all of the students had not been able to identify, rather than giving each student different words to study. When the instructional sessions were over I compared the pre-assessment to the final post-assessment. I compared the two assessments in order to determine overall how much growth each student had made. I also analyzed the pre and post-assessments to determine if there were any structural similarities in the words that the students were able to consistently identify. I determined if there were structural similarities between words by comparing each word that the students got right or wrong by looking at number of letters in the words, letter patterns as c-v-c, and the actual structure of the words. The information collected from these assessments was very beneficial to this study.

Another piece of data that was analyzed for the findings was the student learning style surveys. Each of the students involved in this study was given the survey before the instructional

sessions began. The surveys were completed one-on-one with each student, with the researcher reading the questions aloud to the students and marking their responses on the answer sheet. There were 40 questions in the survey and the students answered by pointing to a smiley face if they agreed with the statement being read aloud to them, or a frowny face if they disagreed with the statement. After the students were done completing their surveys they took them and colored in a leaf on a flower petal that corresponded to the question number. Only answers with smiley faces were colored in. Each learning style had a “flower,” and whichever flowers had the most petals colored in were the preferred learning styles. After the students finished this, I double checked them to ensure that they colored in the petals the right way and were coming up with the correct responses. In analyzing this data I was able to determine what learning style each student felt that they would respond the best to. I also compared the results of the survey to IEPs to determine if there was any correlation to the learning styles that each student identified with and their classifications.

The next piece of data that was analyzed was observational notes from the instructional sessions. Throughout each of the instructional sessions the researcher took notes on student engagement levels. Every time that a student needed to be re-directed or refocused the researcher noted it through the use of tally marks. I analyzed this data by going through each instructional session and determining how many times each student needed to be re-directed. I looked for things such as if one instructional activity required more re-directions over the course of the study than others. This data was analyzed to determine whether or not the inclusion of student preferred learning styles in instruction impacted student engagement.

The final piece of data that was analyzed was video samples from all of the instructional sessions. I analyzed the videos by looking at the number of times I or another adult needed to re-

direct the students and how easily they became distracted. I also looked at if they appeared to be more engaged during one activity than they did during another. While analyzing the videos I also paid close attention to the comments that the students made that might suggest they were engaged in what was going on or not engaged.

The data was reviewed three times, each time looking for any related topics, or codes, throughout all of the data. Related codes were used to determine themes that came up across the data. The themes that came up based on similarities between codes were student sight word recognition abilities, engagement levels during instruction, and student disability classification in relation to preferred learning style.

Findings and Discussion

Sight word instruction is one of the key foundational skills that children need to master in order to be successful in all areas of education. The purpose of this study was to determine the impact that learning style instruction had on students' word recognition abilities. While analyzing the sight word assessments, the student learning surveys, observational notes, and video recordings, three themes seemed to occur throughout the data. The first theme that repeatedly occurred throughout the data is that even with the incorporation of learning styles, sight word instruction in isolation is not sufficient for students to make significant learning gains. This theme focuses on the fact that not all of the students were able to maintain the words being taught, and therefore would have increased achievement with other literacy instruction. The second theme that was apparent from the data was that learning styles correlated with student IEP classification. Each of the students had a preferred learning style that closely related to comments in the PLEPS section of the IEP, as well as the IEP goals. The

third theme that was apparent from the data is that increased engagement led to pro-longed sight word recognition. The students who were able to stay focused and needed fewer re-directions were able to maintain the sight words for longer periods of time.

Sight Word Instruction Alone is not Beneficial without Other Literacy Instruction

Although emergent level texts are comprised primarily of sight words, sight word instruction alone is not enough for students to succeed in maintaining and generalizing the words. In the data collected from this study, it was evident that not all students were able to maintain all of the words being introduced with sight word instruction alone. To determine what sight words each student knew it was key to first collect data that reflected the participants' ability to identify sight words before beginning instruction. In order to gain a baseline for the students sight word knowledge I used a sight word pre-assessment. This assessment was completed in June of 2016, towards the end of their year in first grade. Students on grade level at this point in the school year should be able to immediately identify 100 sight words. These words would come from both the pre-primer and the primer Dolch sight word lists. The students used for this action research study are all below grade level in ELA and are working off of the Dolch pre-primer word list. The table below gives an overview of how many sight words on the Dolch pre-primer list each student immediately accurately identified. There are 40 words on the pre-primer list all together.

Table 1

Pre-Assessment Scores

Students	Words Identified	% correct (out of 40 words)
Joseph	a, and, one, see, to, I, you	17% accuracy
Paula	a, me, I, yellow	10% accuracy
Joanna	a, blue, can, one, play, said, me, my look, funny, the, three, here, two little, we, yellow, I, is, jump, your, to	55% accuracy

Table 1 displays the number of sight words that the students were able to identify before instruction in this study began. Joseph was able to immediately identify seven out of 40 pre-primer sight words. Identifying seven out of 40 words means that he was able to identify pre-primer sight words with 17% accuracy. Students working on grade level should be able to do so with 100% accuracy. The words that he was able to identify were all one, two, or three letter words. None of the words followed the typical letter-sound relationships that are taught in first grade or had a c-v-c pattern. The fact that the words Joseph identified could not be sounded out means that he was able to identify them without needing to decode them in some way.

Paula was able to identify four out of 40 pre-primer sight words. Identifying four out of 40 words means that Paula was able to identify pre-primer sight words with 10% accuracy. As a student at the end of first grade, she would have been able to identify all words on the list with 100% accuracy if she was working on grade level. The words that Paula identified were all one or two letter words, with the exception of the word yellow. In a student interview Paula was asked how she knew the color yellow. She stated that “Yellow is easy. It’s my favorite color and

Mommy helps me learn it at night” (Student interview, 2016). With the exception of the color yellow, all of the other words that Paula was able to identify were words that she was frequently exposed to throughout the day in all content areas. The words did not follow typical letter-sound relationships or contain c-v-c patterns, which means that she would have been unable to sound them out. When tested on letter-sound relationships and letter names, Paula’s ability to identify letter names was significantly stronger than her ability to identify letter sounds. This could account for her ability to identify the words *a* and *I*. The increased number of exposures to those words all day every day could suggest why Paula was able to immediately identify them.

Joanna was able to identify 22 out of 40 pre-primer sight words. Identifying 22 out of 40 sight words means that Joanna is able to identify words from the pre-primer sight word list with 55% accuracy. The words that Joanna was able to identify varied in both structure and length. The number of letters in each word varied from one letter up to six letters. Five of the words were functional sight words, meaning that they were color or number words that could potentially appear in daily life outside of the classroom. One word, *can*, followed a typical c-v-c pattern. Since the word followed a c-v-c pattern it could potentially be sounded out. The majority of the words could not be sounded out using the typical letter-sound relationships, meaning that Joanna would have been unable to decode them by sounding them out. When asked how Joanna was able to identify the words in a student interview she stated “Dad plays the sight word game at home with me and baby sometimes” (Student interview, 2016). While it was unknown what the sight word game was, it’s possible that the extra time Joanna spends at home working on sight words has had an impact on her ability to recognize them.

The number of words that each student got right on the sight word pre-assessment is the baseline data around which the rest of this action research study is based around. Students had

previously been instructed on all of the above words throughout Kindergarten and First Grade using the Common Core Skills program. Students working on grade level at the end of first grade should be able to identify all of the above sight words immediately. As noted previously in this study, all of the participants are working below grade level and have Individualized Education Plans to support their academic, physical, and behavioral needs. According to Burns and Boice (2009) students with average intelligence need to be exposed to a word a minimum of 35 times in order for instant recognition to occur. For students with below average intelligence, such as the three participants in this study, the number of required repetitions for recognition becomes higher. The necessity for higher repetitions could support why the participants were unable to identify all of the pre-primer sight words, and none of the words on the Dolch primer sight words list. With approximately 40 words on the pre-primer list, students working at an average intelligence would need approximately one thousand four hundred instructional exposures to be able to have immediate recognition. This number would increase based on lower IQ level. With only 180 instructional days in the school year, having the time to give students the necessary number of exposures to each sight word is difficult, which could account for their pre-assessment scores. The table below (table 2) demonstrates the scores for each student at the end of the instructional sessions as compared to the baseline data gathered at the beginning of this action research study.

Table 2
Post-Assessment

Students	Baseline Scores	Post-Assessment Scores
Joseph	17%	37%
Paula	10%	12%

Joanna

55%

72%

The table above (table 2) displays the students' scores at the end of the study as compared to their scores at the beginning of the study. After conducting the pre-assessment, I chose three words that all participants were not able to identify to focus on for instruction: *away*, *it*, and *red*. These words were chosen for several reasons. Each of the three words varied in length with *it* having two letters, *red* having three letters, and *away* having four letters. *Red* is a c-v-c word, meaning that it could be sounded out and decoded if necessary. The word *it* follows the typical letter-sound relationships that are taught, so it could also be sounded out. The word *away* was not a c-v-c word and could not be sounded out. The differences in these words would allow me to see at the end of the session if structure or letter length made an impact on student success.

While the words *red*, *away*, and *it* were the only three words that were focused on in the instructional sessions, at the end of the study I gave the three students the same assessment that they were given before the study began. The assessment given tested them on all 40 Dolch pre-primer sight words. When given the post-assessment Joseph was able to recall 15 out of 40 words, meaning that he was able to recall the words with 37% accuracy. Being able to recall 15 words is an increase of five words from the pre-assessment, or 20%. Joseph was not only able to identify all three words taught in the instructional sessions, but also the words *two* and *the*. Neither word follows a c-v-c pattern or typical letter-sound relationships, so he would not have been able to decode by sounding out. The word *two* is a functional sight word used in multiple content areas, which could account for why he was able to retain and identify it during the post-assessment. The word *the* is a word that Joseph would have been frequently exposed

to throughout all content areas, not only in the classroom but also in therapies. Joseph attended occupational therapy three times weekly, in which a lot of the activities had sight word instruction built into them. While interviewing the Occupational Therapist about how she tied sight words into her activities she stated, “we’ve been working on chalkboard writing a lot recently to improve their grip and fine motor skills. This week we’ve been working on the words *the* and *look*” (Teacher interview, 2016). While in occupational therapy, Joseph was not only working on fine and gross motor skills, but he was increasing his exposure to sight words, which could account for his ability to identify the word *the* in the post-assessment in addition to the words that were focused on in the instructional sessions.

When Paula was given the pre-assessment she was able to identify four words, meaning that she was able to identify words with 10% accuracy. When she was given the post-assessment she was able to identify five words. This is an increase of one word, which increases her accuracy on the pre-primer word list from 10% to 12%. Paula was able to maintain all of the words that she accurately identified on the pre-assessment, as well as the word *it*, which was a word in the instructional sessions. The word *it* was focused on in all three instructional sessions, meaning that Paula had frequent exposure to it over the course of the study. The word also followed the typical letter-sound relationships that were focused on in the classroom multiple times a day, meaning that she would be able to decode by sounding out if necessary. The frequent exposures to the word *it* and the fact that she would have been able to sound it out could account for her ability to maintain this word throughout the course of the study.

Joanna originally identified 22 words on the Dolch pre-primer sight list during the pre-assessment, meaning that she was able to identify the words on the list with 55% accuracy.

When she was given the post-assessment where she was tested on all 40 words again, she was able to identify 29 words. 29 words is an increase of seven words from the pre-assessment, meaning that she went from 55% accuracy to 72% accuracy on the post-assessment. Along with the three words taught during the instructional session, Joanna was also able to identify the words *run, in, it, not, and big*. With the exception of the word *away* from the instructional sessions, all of the other words that Joanna was able to identify are either c-v-c words or follow a typical letter-sound relationship. If needed Joanna could sound them out to decode.

Previously in the study it was mentioned that Joanna played a sight word game at home with her Dad. I asked her after the post-assessment if the new words she knew were in the sight word game, but she was not able to give a clear answer.

Learning Styles in Relation to IEP Classifications

Before beginning the instructional sessions with the participants I completed a learning style survey with each student. The survey was titled the Elementary Multiple Intelligences Preference List and was comprised of 40 yes or no questions. Working one-on-one with each student, I read them the question and then prompted to them to choose either the smiley face or frowny face on the page to indicate their answer. The students were then able to complete their answer sheet independently to determine their preferred learning styles. The learning styles could be musical, spatial, logical/mathematical, inter-personal, linguistic, naturalist, intra-personal, or bodily-kinesthetic. The questions asked things such as “Do you like to show people what you mean by drawing a picture” and “If you hear a song one or two times can you remember the words.” The results of the survey for each student are listed below (table 3). The preferred learning style column shows the top learning style indicated for each student. If there is more than one learning style listed, than there was a tie between two scores.

Table 3
Classification and Learning Style

Student	Classification	Preferred Learning Style
Joseph	Learning Impaired	Visual/Intra-personal
Joanna	Other Health Impaired	Musical/Bodily-Kinesthetic
Paula	Learning Disabled	Musical

Table 3 displays the results from the survey for each student. The overall purpose of this study was to examine whether or not including active experiences in learning would help students increase their overall achievement. All of the children involved in the study had different classifications. Joseph is labeled as being learning impaired, Joanna is labeled as being other health impaired, and Paula is labeled as being learning disabled. Due to the fact that each student has a different label they all have different needs academically, emotionally, and behaviorally. After completing the learning style surveys, I found that all of the students involved in the study had different preferred learning styles. I found it interesting that each student had a different preferred learning style because, as shown above, all of the students also had different classifications on their IEPs. When completing the learning style survey Joseph identified himself as being a visual and intra-personal learner. Being a visual and intra-personal learner means that he is able to best process information that is presented through a picture or video, and that he prefers to work independently. Due to the number of students involved in the

study, Joseph was the only student in the flashcard instruction group, which aligned with his intrapersonal learning style. Joseph's preferred learning style did not necessarily connect with his IEP classification, but it did connect with comments made throughout the PLEPS section of his IEP. Throughout his IEP there were comments about Joseph being a hard worker who preferred to play alone and tried to stay away from negative influences in the classroom. It was also mentioned that an Autism specialist had been into the classroom to observe him, and that a diagnosis of Autism may need to be looked into. Children with Autism often times have difficulty relating to and understanding their peers, which causes them to prefer working and playing alone. Students with Autism preferring to be alone could support why Joseph is an intra-personal learner. Students with Autism also can benefit significantly from visual cues and visual schedules to help them process information, know what is expected of them, and make it through the day. Joseph relied heavily on pictures and visuals throughout all aspects of the school day, which would support the fact that he also described himself as being a visual learner.

The learning style for Paula indicated that she was a musical and body-kinesthetic learner, meaning that she would learn and process best from information presented in ways that involved music, rhythm, and movement. Her learning style was supported from data gathered from her IEP. Her IEP stated that she was diagnosed as having ADHD and was in the process of trialing different types of medications to minimize her overactive behavior. Students who are kinesthetic learners need movement and action throughout the day in order to thrive. Music ties into this because it can often involve dancing or some form of body movement, which is a kinesthetic activity. Intertwining opportunities for movement for Paula could potentially minimize the frequent need she feels for movement. When it is built into learning it is

something she can freely do, whereas random movement in the classroom otherwise can lead to a potentially negative interaction between an adult and student. According to Brune (1966) developing children form ideas and concepts through active experiences and that through action they build mental representations of their learning. Bodily-Kinesthetic activities allow for frequent movement in learning, which would help to keep Paula active and moving throughout instruction.

After taking the learning styles survey it was determined that Joanna was a musical learner. Being a musical learner means that information presented to her would be more easily processed when presented in a more lyrical form. Information presented in a more lyrical form could be done through rhymes, musical patterns, sounds, or mnemonic devices. It was stated by Joanna's occupational and physical therapists that she enjoyed activities involving instruments and music, and that when given a choice of activity she frequently picked activities related to music in some way. Her choice of musical activities connects to Joanna being able to best process information that is presented musically in some way. According to Sze (2009) every student's brain functions and processes differently. Once the teacher is able to understand the student's disability and how his or her brain processes information, then instruction can be better adapted for each individual student.

Increased Engagement Causes More Long Term Sight Word Recognition

The goal for any form of instruction for students is active engagement. Carnahan (2009) described active engagement for students with special needs as "on-task and on-schedule behavior"(p. 38). The goal for including learning styles into instruction was to increase on-task and on-schedule behavior, therefore increasing achievement. The results of the learning styles

survey were used to plan instruction for the students involved in the study. There were three instructional sessions over a three-day period. Joseph was instructed using the typical flash card IR method and Joanna and Paula were both included in the instructional group that was planned around preferred learning styles. Each day of instruction lasted 15 minutes in length. Joseph used the IR flashcard method during his instructional period. In order to determine if the incorporation of learning styles was effective, it was important to observe and analyze each students engagement throughout the instructional sessions. Table 4 below displays how frequently Joseph needed to be re-directed by an adult in order to become re-focus and get back on track.

Table 4
Joseph Required Redirections

Day 1	Day 2	Day 3
1 redirection	0 redirections	2 redirections

Table 4 above displays the necessary number of redirections that Joseph needed during each 15 minute instructional sessions. A re-direction could involve saying Joseph's name to pull his attention back to the task at hand, tapping the table to re-focus him, or telling him how much time was left in order to motivate him to keep working. The number of re-directions used in each instructional session were gathered from observational notes that the instructor took during the sessions, as well as the video recordings from each session. Joseph, who was working 1-on-

1 with the instructor, was instructed using the flashcard method. On the first day of instruction he needed only one re-direction from the teacher. He was very focused for the majority of the lesson and was motivated to learn new words. When asked if he enjoyed learning new words Joseph stated “learning is fun it helps me to read better” (Student interview, 2016). On the second day he needed no re-directions. During this particular session, Joseph and the teacher were the only ones in the classroom so there was no one else in the room for him to get distracted by, which could account for him needing no re-directions. On the third day, he needed to be re-directed three times. The last instructional session occurred on the last day of school, which could account for why Joseph needed to re-directed most frequently during the last session. The third session was also the third time that he was seeing flashcards of the same words, so it is possible that he was getting bored, as well, and therefore needed a greater number of re-directions than in the previous sessions. As can be seen above, Joseph needed minimal redirections across all three instructional sessions. Joseph needing minimal re-directions could be due in part to the fact that Joseph was working one-on-one with the teacher. Working with a teacher one-on-one supported his preferred interpersonal learning style.

The girls participated in instructional sessions that incorporated their learning styles, musical and bodily kinesthetic. Similar to Joseph, the girls went through three instructional sessions that each lasted 15 minutes. The sessions were split into three different five-minute activities. The first was to listen to a sight word video from a group called Heidi Songs (Appendix E). The videos put the sight words and their spelling into a song and combined the song with physical movements for the students to follow along with. Due to the fact that the songs incorporated music and dance, they met both Joanna and Paula’s learning styles. For example, the lyrics to the Heidi Sight Word Song IT are “If it’s spelled with an I and a T it’s IT,

if it's spelled with an I and a T it's IT. It is spelled with an I and a T It It." Those lyrics repeat three times and are accompanied by physical movements. Following the song, the girls would complete rainbow writing with each word, where they had to write each word in the colors of the rainbow. Writing the word multiple times in different colors provided slight movement for Paula, which met her bodily-kinesthetic learning style. When they were completed with that the girls played a sight word popping game on the SmartBoard where they were required to go up to the board, listen to the word that was read aloud, and then "pop" the written form of the word. The game had music playing while the girls popped the words, which met both Joanna and Paula's musical learning style. Being able to go up to the Smartboard met Paula's bodily kinesthetic learning style. Table 5 below displays the engagement levels of both girls throughout each activity. In order to collect this data, I tallied the number of times that each student needed to be re-directed by an adult during instruction. I also looked back at the instructional videos to clarify re-directions. A student would need a re-direction when they were off-task and not paying attention. For example, at one point while using the Smartboard Joanna left the carpet and went to talk to a peer working at a different center. The table below displays how frequently Paula needed to be re-directed during each instructional activity.

Table 5
Paula Required Redirections

	Day 1	Day 2	Day 3
Heidi Songs	6 redirections	5 redirections	10 redirections
Rainbow Writing	5 redirections	5 redirections	6 redirections

Smartboard	2 redirections	3 redirections	4 redirections
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The table above (table 5) displays the necessary redirections for Paula throughout the instructional sessions. These re-directions are gathered from observational notes and video recordings that the instructor took during the sessions. Paula needed a total of 21 redirections during the Heidi song activities. After looking back at the instructional videos they showed that she was able to maintain her attention the song for 30 seconds to a minute, and then would need to be refocused by an adult. Her need to be refocused so frequently could suggest that five minutes is too long to keep her attention and that she might benefit from activities chunked into smaller increments of time. Paula needed to be re-focused a total of 16 times during the rainbow writing activity. Switching from the songs on the carpet to a desk allowed her to get in a short movement break before working, which could explain why the redirections needed for this activity were less minimal. When asked how she felt about this activity Paula stated, “I love coloring. I like to use all the colors” (Student Interview, 2016). Paula stating that she loved coloring and using all the colors could suggest that she needed fewer redirections because she was more motivated by the task at hand. During the final activity of the instructional sessions Paula needed the fewest redirections. She needed nine total. The smartboard activity allowed Paula to not only get up and move around, but to physically interact with the Smartboard. While the songs were displayed on the Smartboard, she wasn’t given the opportunity to physically touch it like she was during the Smartboard game. The ability to physically touch the Smartboard could account for the difference in necessary redirections.

Paula needing more re-direction is supported from data gathered from her IEP stating “she can be highly impulsive and has difficulty responding appropriately to adult direction.” Paula would frequently throughout the day run around the room, scream, and attempt to distract other students. She had great difficulty following the rules, even though when prompted she was able to tell adults exactly what was expected of her both in and out of the classroom. In an interview with Paula’s speech teacher she stated that

Paula comes to me with only one other student in a separate location. She takes away a large amount of instructional time from her peer because I have to spend so much time getting her on track. She will occasionally run away or cry if she doesn’t get her way.

(Teacher interview, 2016)

The quote from Paula’s speech teacher suggests that Paula needs frequent re-direction throughout their sessions. Even in a separate location working 2-on-1 with an adult, Paula still had difficulty staying on task and completing her work. Paula’s difficulty completing assignments in groups without 1-on-1 teacher support could indicate why she was unable to maintain all of the sight words taught in the instructional periods.

Throughout the instructional sessions, Joanna also needed several re-directions. In order to collect this data, I tallied the number of times that each student needed to be re-directed by an adult during instruction. I also looked back at the instructional videos to clarify re-directions. A student would need a re-direction when they were off-task and not paying attention. Joanna would often lose focus and start paying attention to what her peers were doing, something on the carpet, or her clothes. She occasionally would get up from the carpet and wander off. When these things happened, she could be re-directed by simply calling her

name. Table five below shows the number of redirections that Joanna needed for activity throughout the instructional sessions.

Table 6
Joanna Required Redirections

	Day 1	Day 2	Day 3
Heidi Songs	3 redirections	2 redirections	4 redirections
Rainbow Writing	4 redirections	3 redirections	6 redirections
Smartboard	2 redirections	1 redirection	3 redirections

The table above (table 6) displays the necessary redirections for Joanna throughout the instructional sessions. These re-directions are gathered from observational notes and video recordings that the instructor took during the sessions. With the exception of the rainbow writing, all of the activities presented in the instructional sessions matched Joanna's preferred learning style. When participating in the Heidi Songs Joanna needed nine redirections. During the five minutes when the song played, it was seen in the instructional videos that Joanna could typically make it through the first sight word song and stay focused. When the song was over and the teacher had to choose the next song, she would lose focus and not be paying attention when the next song began. Not being on task could suggest that having the songs immediately play one after another may have been more effective for her, rather than having a pause in between each song. Joanna required 13 redirections during the rainbow writing activities. The

rainbow writing was the one activity that did not involve Joanna's preferred learning style. While completing this activity she would frequently stop writing the words and begin scribbling or drawing, causing her to require re-direction from an adult. The fact that her learning style was not incorporated in this activity and she needed the highest number of redirections could suggest that she benefits from learning style based activities. Joanna needed the fewest number of redirections during the Smartboard activity. She required six redirections while using the Smartboard. The Smartboard activity involved music and also allowed her to physically interact, which may have helped to increase her motivation and engagement. According to Mechling et. Al (2008), "students with special needs have shown more motivation, attention, learning of vocabulary and improved behavior when using Smart board technology or computer based instruction compared to teacher delivered instruction" (p. 45). Mechlins findings could support why Joanna needed fewer re-directions in the Smartboard activity than she did during the song activity, despite the fact that it wasn't as musically involved.

Joanna needed fewer re-directions in these instructional sessions than was typically needed throughout an activity, suggesting that incorporating learning styles was effective for her. Typically music was not incorporated into the majority of learning that took place in the classroom. Joanna would often start playing with her clothes, get up and walk away, or fall asleep. She worked best sitting right next to an adult or she would be unable to complete assignments or stay focused. In these instructional settings, Joanna was able to work somewhat independently, with minimal re-directions from an adult.

After each instructional period, the students were informally assessed on their ability to maintain recognition of the focus words taught in the short-term. In order to determine if increased engagement was effective on sight word retention, it was important to assess student

ability right after the instructional sessions. Table 7 displays student ability to identify the words taught immediately after the lesson. An *X* indicates that the student was able to identify the word immediately following the lesson.

Table 7
Immediate Sight Word Recognition

	Joseph	Paula	Joanna
Away (day 1)			
Away (day 2)			
Away (day 3)	X		
It (day 1)	X		
It (day 2)	X		X
It (day 3)	X		X
Red (day 1)			
Red (day 2)	X		
Red (day 3)	X		X

At the end of the first instructional session Joseph was able to maintain the word *it*. As shown in table 4, Joseph needed one re-direction throughout the instructional session, which means that one time during the session he was off-task and needed adult assistance to get re-focused. The word *it* contains only two letters and follows the typical letter-sound relationship, suggesting that he may have had the ability to sound it out if he didn't immediately recognize it. After the second session he was able to maintain the words *it* and *red*. As shown in table 4, Joseph needed no redirections during the second instructional session. He was focused throughout the entire session. This could account for Joseph's ability to be able to maintain a second word, *red*, in this instructional

session. At the end of the third instructional session Joseph was able to maintain all three words. He needed the highest number of re-directions in this session, yet he was still able to recall all of the words taught. After the third session he had had frequent exposure to all three words while working one-on-one with an adult and the material was presented to him in a visual manner. This could have aided him in the ability to recall all three words taught.

Paula was unable to maintain any words after the sessions. She needed frequent redirections and was often times unfocused, which could have prohibited her from taking in what was being taught. Joanna was unable to maintain the word *away* after any of the sessions. The word *away* is longer than the other words that were taught and does not follow a c-v-c pattern or typical letter-sound relationships, which could explain why she was unable to maintain just this one word. At the end of the second session she was able to maintain the word *it*. The word *it* contains only two letters, which follow the letter-sound relationships that she had a strong understanding of. Having increased exposures to the word *it* after the second instructional session could account for why she was able to recall the word at the end of the second day and not the first. At the end of the third session she was able to maintain the words *it* and *red*. Both *it* and *red* follow typical sound patterns, which Joanna had success with. By the end of the third instructional sessions she had been exposed to the words multiple times. The frequent exposures and typical letter-sound relationships in both words could account for why she was able to maintain them and not the word *away*.

In order to determine if engagement played a role in student ability to maintain and generalize the taught words in the long-term, it is important to examine not only their ability to maintain right after the sessions, but also several hours later. Table 6 below displays the students'

ability to maintain the words at the end of the school day, about five hours after the instructional sessions.

Table 8
End of Day Sight Word Recognition

	Joseph	Paula	Joanna
Away (day 1)	X		
Away (day 2)			
Away (day 3)	X		X
It (day 1)	X	X	X
It (day 2)	X		X
It (day 3)	X	X	X
Red (day 1)	X		
Red (day 2)	X		X
Red (day 3)			X

Table eight shows student ability in identifying each word at the end of the day. It is shown that the students' ability to retain sight word recognition decreases as the day goes on, but that on average the students were more likely to retain the words in the long term as the instructional sessions went on. As the instructional sessions went on, the students were able to have repeated exposures to each word. The increased exposures increase the chance that a student will retain the word and be able to recognize and use it, which could explain why they were able to retain the

words more frequently towards the end of the study than they were in the beginning. Paula was the exception to the idea that the students were able to retain the words in the long term, as she was unable to retain any sight words taught in the long term. As was shown in table 5, Paula needed the highest number of redirections in every activity that she participated in. Due to the fact that she was frequently distracted, the total number of exposures that she had to each word was lower than it would be for a student who was focused for the entire 15 minute session. These findings are supported by Burns and Boice's (2009) idea that students with lower IQ's need higher repetitions of exposure. The data from tables 1-4 aligns with this idea, as well as data from the students IEPs describing their current educational progress.

Sight word instruction is important for student achievement. For students with disabilities, several different factors can impact their achievement and play a role in how teachers deliver instruction. Engagement, delivery of instruction, and student classification can all lead to a student's ability to succeed.

Implications

The findings of this actions research study present several implications for elementary education teachers. The first implication from the findings is that teachers should attempt to incorporate learning styles throughout instruction in order to increase engagement and motivation. The second implication from the findings is that for some students, sight words taught in isolation are not as effective, even with the inclusion of learning styles. The third implication from the findings is that for some students, least restrictive placement is not adequate enough for them to learn. These implications for teachers became apparent from the findings of this action research study.

When students are learning in a way that they can best connect with, their engagement levels can increase exponentially. According to Carnahan (2009), active engagement in academic tasks can lead to better academic outcomes and also give students the confidence they need to participate in the classroom. The findings from this research study as well as the findings of Carnahan (2009) support the implication that incorporating multiple learning styles into instruction will lead to increased engagement and motivation. Due to the fact that sight word instruction is such a key aspect of early literacy skills that are taught, having students engaged and motivated is incredibly important in order for students to be successful. Teachers can easily give students multiple intelligence/learning style surveys in order to determine how they best learn. Taking this information, teachers can incorporate the results across multiple content areas. Individualizing instruction for students can be difficult, so it could be something that is embedded into centers or small group instruction in order to keep students engaged.

Since sight word instruction is so important to student success both in and out of the classroom, it is important that is incorporated in more ways than just direct instruction. According to Burns and Boice (2009) students with special needs require more than 35 exposures per word in order to achieve immediate recognition. The findings from this study along with Burns and Boice's (2009) findings led to the implication that the incorporation of learning styles in direct instruction is not enough for all students to succeed. For students who are struggling more severely with sight word acquisition, the words need to be incorporated into as many instructional opportunities as possible throughout the school day. On top of direct sight word instruction, sight words can also be woven into centers, small

group instruction, math word problems, morning meeting, and several other areas to increase the number of word exposures that students are receiving daily.

In education, the goal of all educators is to provide students the best education possible in the least restrictive environment possible. The students involved in this study had spent Kindergarten in a general education classroom and had been moved into a 12-1-1 classroom for first grade, which is where they were when this study was conducted. It is common for students in 12-1-1 classrooms to need frequent adult support in order to stay on task and complete their work. For students with a classification of other health impaired, which often times is accompanied by a diagnosis of ADHD, the need for adult support can be even greater. Paula has a classification of other health impaired and is diagnosed as having ADHD. Throughout the three instructional sessions, which totaled 45 minutes, she needed to be redirected a total of 46 times. Paula was working in a small group with only one other student and was only able to maintain one word overall. The findings could imply that in this case, least restrictive placement is not appropriate. According to IDEA law

Removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (IDEA, 2016)

In the case of Paula, she was unable to succeed with the use of small group instruction, classroom aids, behavioral tools, and manipulatives. The data gained from this study supports the implication that Joanna may not have been in the most appropriate setting or may not have had everything she needed to succeed, which could be why she was unable to

maintain all of the words being taught. While it is possible that least restrictive environment is not the best fit, it is important for educators to always be working and collaborating to find new tools and supports for students who struggle.

Conclusion

This action research study was conducted to see if combining preferred student learning styles into instruction had any impact on student ability to recall sight words. The main research question for this study is how does instruction that incorporates a multitude of learning styles impact the achievement levels of students with special needs in regards to sight word instruction? The data for this study was collected through daily observations and recorded notes, interviews, student IEPs, and informal and formal assessment. After analyzing the data, three major themes were found. My findings suggested that learning styles increased student engagement, there was a connection between student preferred learning styles and their IEP classification, and sight word instruction in isolation is not enough to increase student reading abilities. This information indicates that learning style based instruction increased student levels of engagement, and therefore increased their sight word recognition abilities. The findings of this research present several implications for elementary education teachers. The first implication from the findings of this research is that teachers should attempt to incorporate learning styles throughout instruction in order to increase engagement and motivation. The second implication from the findings is that for some students, sight words taught in isolation are not as effective, even with the inclusion of learning styles. The third implication is that for some students, least restrictive placement is not an adequate setting for them to have all their needs met and to learn.

If I were to do this research again, there would be some changes that I would make to the study. First, I would have liked to have the students do running reading records periodically throughout the study to determine if their reading skills were improving in correlation to their sight word identification skills. Because the data collection only occurred over a three-day period, there wasn't adequate time to do this. Although the students were able to generalize and maintain new sight words, that skill was tested in isolation and it is unclear as to whether or not they would have been able to maintain the words in the context of a leveled text.

Another limitation of the study that I would like to change would be the number of students participating. When the study began I originally intended to have six students participate. After sending home consent forms and calling parents, I was only able to receive permission to have three students participate in my study. Not having the originally intended number of participants meant that the data I was able to gain was limited and not concrete. Having more students participate in the study would have allowed me to gather more data and get a clearer picture about the effects that learning styles can have on student achievement. It also would have allowed me to get a better comparison between my two instructional groups. Having only one student in a group was not overly effective and made it difficult to determine implications and findings from that one group. In relation to group size, I also would have liked to spend more time with my students. I originally wanted to have five instructional sessions that lasted over two weeks. More instructional sessions would have given me a better idea of whether or not the students were able to maintain the sight words over a long period of time.

After finishing the research and reflecting on how the study went, there are some questions that come to mind. The first question is, how can effective daily sight word instruction be incorporated into the school day? With the implementation of Common Core there is very little time for extra instruction in the school day, and the modules frequently do not meet student needs. Students with special needs have an even greater level of difficulty reaching the standards outlined by the modules. So as an instructor, how do you balance the requirements of Common Core with the needs of your students effectively? Another question that arises from this study is are the findings and implications of this study the same for students with special needs as they are for general education students? I think that it would be very interesting to conduct a study in the future comparing learning styles in instruction for students with special needs to students in general education. Students with special needs often times have a multitude of needs, whether it be different therapies, ADHD, behavioral needs, etc. Conducting this same study with a group of students who don't have severe needs may provide more insight as to whether or not learning styles in instruction are effective.

Sight word instruction plays a significant role in students' overall reading abilities. Sight word instruction can provide a foundation for students to build upon that can lead to success in fluency and reading comprehension. The findings from this study suggest that incorporating student preferred learning styles into instruction can promote active engagement, and in turn increase student success. I believe that sight word instruction is an incredibly important component of early literacy skills and can lead to future success both in and out of the classroom.

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Appendix A
Pre-Assessment

Name: _____

**Pre-Primer Sight Word
Assessment**

Read the following words to your teacher.

a	find	is	not	three
and	for	it	one	to
away	funny	jump	play	two
big	go	little	red	up
blue	help	look	run	we
can	here	make	said	where
come	I	me	see	yellow
down	in	my	the	you

Appendix B
Post-Assessment

Name: _____

**Pre-Primer Sight Word
Assessment**

Read the following words to your teacher.

a	find	is	not	three
and	for	it	one	to
away	funny	jump	play	two
big	go	little	red	up
blue	help	look	run	we
can	here	make	said	where
come	I	me	see	yellow
down	in	my	the	you

Appendix C

Daily Assessment

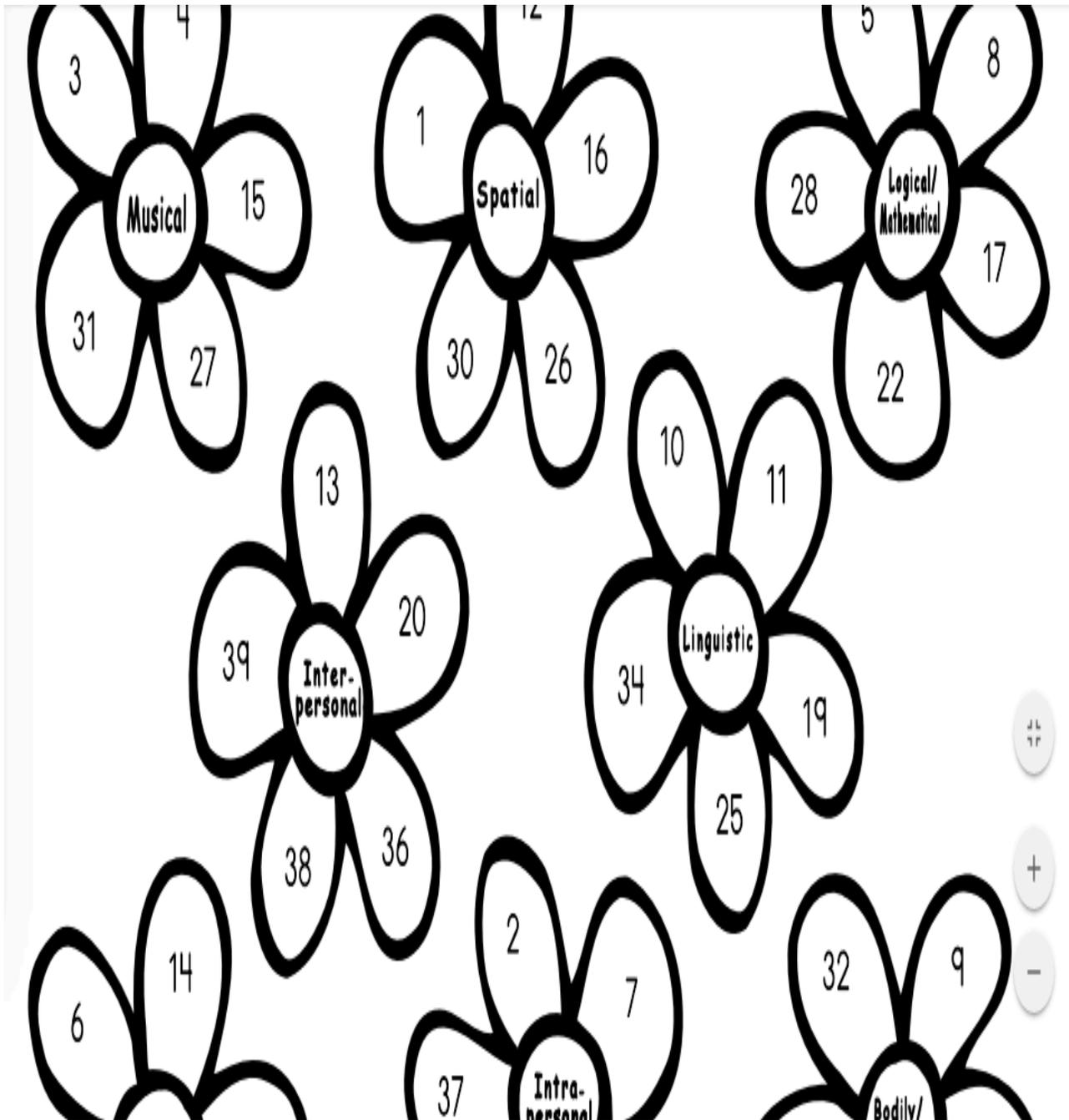
Student Name: _____

Assessment Dates: 1st _____ 2nd _____ 3rd _____

away
Red
It



Appendix D



ELEMENTARY MULTIPLE INTELLIGENCES PREFERENCE LIST**Directions:**

Step #1 Listen to each question. If your answer is yes circle the ☺.
If your answer is no circle the ☹.

Step #2 Use the flower petals page. Look at the answer you put for each number. Choose two crayons or markers, different colors. If you circled ☺ color the petal _____. If you circled ☹ color the petal _____.

1. Do you like to show people what you mean by drawing a picture or telling them with your words?
☺ ☹
2. If you are angry or happy, do you usually know why?
☺ ☹
3. Can you tell if a note in a song doesn't sound right to your ears?
☺ ☹
4. If you hear a song 1 or 2 times can you remember the words?
☺ ☹
5. Can you add and subtract just by thinking about the numbers in your head?
☺ ☹
6. Do you like to be outside in nature?
☺ ☹

7. Do your friends ever ask you for help when they have a problem?
8. Do you like to use the computer or play with calculators?
9. Can you learn a new dance quickly?
10. Is it easy for you to argue with someone if you think that they are wrong?
11. Are you good at word games like Scrabble or Boggle?
12. Can you always find North and South no matter where you're standing?
13. When you have a problem, do you like to ask your friends for help instead of solving it by yourself?
14. Can you tell the difference between different kinds of trees and flowers?
15. Are you good at keeping a beat by clapping or snapping to a song?

-
25. Are you good at spelling?
26. Can you look at something one way and then still see it if you turn it a different way?
27. Do you know how to sing a lot of different songs or hum to a lot of different tunes?
28. Do you like to make little science experiments?
29. Do you ever sit by yourself and think about your feelings?
30. Can you look at something with your eyes and remember things about it like its size, shape and color?
31. Are you good at playing musical instruments or do you want to learn how to?
32. Are you good at doing things like balancing on one foot, catching a ball, or running back and forth?
33. Do you like to learn about animals and how they live?

34. Do you ever read food boxes or signs that you see on the road?
35. Do you know when you're making a happy, sad or angry face?
36. Do you write in a journal or diary?
37. Do you like showing your friends how to do things?
38. Do you know when someone else is happy, sad, or angry?
39. Would you rather go and do things with your friends instead of staying at home?
40. Would you rather play outside instead of inside?