

Strategies and Approaches to Support Reading Instruction for Students with Severe and
Profound Disabilities

by

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Table of Contents

List of Tables	i
List of Figures	ii
Abstract	iii
I. Introduction	1
Overview	1
Statement of Problem	2
Hypothesis	2
Definition of Key Terms	2
II. Review of the Literature	4
Literacy Defined	4
Literacy in Education	5
Description of Students with Severe Special Needs	7
Reading and Literacy for Students Who Have Severe Special Needs	8
Barriers to Reading Achievement for Students with Severe Special Needs	10
Interventions and Strategies for Teaching Reading	11
Approaches and Strategies to Teach Specific Components of Reading	13
Summary	16
III. Methods	17
Design	17
Participants	17
Instrument	18
Procedure	19
IV. Results	21
V. Discussion	29

Implications of Results	29
Theoretical Consequences	31
Threats to Validity	32
Connection to Previous Research	32
Implications for Future Research	34
Conclusion	35
References	36
Appendix	38

List of Tables

1. List of Strategies	21
2. Percentage of Staff Response Rates for Effectiveness of Each Strategy	24
3. Percentage of Staff Response Rates for Frequency of Strategy Used	27

List of Figures

1. Prevalence of Reading and Writing Skills among Students with ID (ages 6-21)	9
2. Effectiveness Response Rates for Reading Strategies	23
3. Frequency Response Rates of Reading Strategies	26

Abstract

The purpose of this study was to determine which literacy strategies are believed to be most effective in supporting improved reading comprehension for students with severe special needs. The measurement tool for the study was a survey distributed to 15 teachers at a public-separate day school in Baltimore County. This researcher reviewed the results of the survey to infer findings about the most effective interventions, strategies, and techniques to facilitate achievement on reading comprehension. The results of the survey indicated that teachers strongly agree or agree that seven of the ten reading strategies increase reading comprehension achievement for students who have severe special needs. The results also indicated that teachers either frequently use or always use the strategies during instruction to increase achievement with reading comprehension. Further research should be conducted in order to best define and provide evidence for using additional modes of presentation during reading instruction, to support students who have severe and profound special needs.

CHAPTER I

INTRODUCTION

The purpose of this study was to determine strategies and interventions that best support reading and literacy instruction for students with severe special needs.

Overview

The United States public school system and Individuals with Disabilities Education Act (IDEA) ensure that all students are entitled to receive a free and appropriate public education, but the present resources and curriculum are not adequate to support the needs of those students who live with severe cognitive limitations and receive special education services. Currently there is not a specific and dedicated adapted curriculum available for special educators in public schools. Rather, teachers are instructed to modify the current grade-level curriculum using the Common Core standards. While it may be reasonable to adapt pre-school, kindergarten and first grade curriculum because it is already thoroughly differentiated, it becomes progressively more difficult to make modifications as the grade levels increase. Education at the secondary level contains content involving higher-level thinking, processes, and concepts. The standards, lessons, and materials cannot be easily modified and changed without impacting the validity of the overall concept. For example, although a student may be able to match sight words, that does not automatically mean that student is able to understand the definition of those words or comprehend them. Unfortunately, matching may be the highest-level cognitive skill that a student with severe special needs can achieve. The question is then how do we teach elementary, middle, and high school reading material to students who have a cognitive equivalence between six months to three years of age?

Statement of the Problem

The problem for this study is identifying the best approaches to teach reading skills for students with severe/profound special needs. Although this group of students with severe special needs only equates to a small percentage of the total number of students receiving special education services, the problem becomes ever more relevant as the number of children identified with autism and other cognitive disabilities rises. As a special educator responsible for teaching reading, mathematics, science, and social studies, the research recognizes that it is imperative that best practices are being implemented for students with special needs. Over the years, students at the study school have continued to struggle with the elements of reading comprehension as well as other aspects of literacy. Most of the students in the researcher's school will never be able to read a grade-level text without visual prompts and teacher assistance. Due to the barriers of cognition as well as language and communication, most fundamentals of reading (phonemic awareness, phonics, and fluency) are not achievable. The study school mainly focuses on vocabulary and reading comprehension, and assesses whether our students can identify vocabulary through matching or pointing, and answer basic "wh" (who, what, where, when, and why) questions after a story is read to students. The interest in this problem was generated by a desire to provide quality and meaningful instruction, that supports students with severe levels of need.

Hypothesis

Since this study used a survey research design that was descriptive in nature, no hypothesis was formulated.

Definition of Key Terms

IDEA, the Individuals with Disabilities Education Act established in 1990.

IEP, the Individualized Education Program.

Common Core, a set of standards implemented in Maryland to shape educational benchmarks at each grade-level in the subject areas of English Language Arts and Mathematics.

Students with Severe Disabilities, are students who have cognitive limitations that prevent them from participating in a general education setting, and require specialized instruction in a public-separate day school.

BCBA, a Board-Certified Behavior Analyst.

Likert Scale, a measurement instrument in which individuals respond to a series of statements by indicating where they strongly agree, agree, are undecided, disagree, or strongly disagree with each statement.

Picture Symbols, a set of symbols that represent words that are used to accompany an adapted text.

Survey, a list of questions aimed at extracting data from a particular group of people.

Wh Questions, comprehension questions such as “who, what, where, when, and why” that may be asked to gain understanding of the text.

CHAPTER II

REVIEW OF THE LITERATURE

Students with severe and profound disabilities need specialized instructional strategies and supports to enhance reading skills. Although the Individualized Education Plan (IEP) gives an outline of accommodations and supplementary aids, daily classroom instruction needs to include additional approaches. The first section of this review introduces and defines literacy, and applies concepts of literacy to the specific target population. The second section discusses how students with disabilities have barriers and limitations to acquiring literacy and reading skills. The third section proposes appropriate interventions and strategies that can better facilitate reading instruction, for students with severe special needs.

Literacy Defined

The definition of literacy has both evolved and been interpreted in many ways throughout history. The most current definition established by The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as “the ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials, associated with varying contexts” (United Nations Educational, Scientific, and Cultural Organization, 2018, slide 1). A more ambiguous definition from the European Literacy Policy Network (as cited in the United Nations Educational, Scientific, and Cultural Organization) states “literacy refers to the ability to read and write at a level whereby individuals can effectively communicate in all media (print or electronic), including digital literacy” (slide 3). Another definition proposed by Keefe and Copeland (2011) states that “A person who is literate can with understanding both read and write a short simple statement on his (her) everyday life” (p. 93). In summary, literacy can

appear differently based on social and cultural circumstances, and literacy allows the attainment of an individuals' ambitions. While these definitions help to clarify that literacy should be related to a person's needs for functioning in everyday life, the definitions do not specify how literacy is translated into education.

Literacy in Education

Education systems have adopted a structure to teach literacy to students based on a definition of the components of reading. A report from the NRP (National Reading Panel) organized their findings into five major components: a) phonemic awareness, b) phonics, c) reading fluency, d) vocabulary development, and e) comprehension strategies (Keefe & Copeland, 2011). This definition helps to lay the foundation for what skills need to be emphasized. Reading is an umbrella in which all five components must be present, but each element builds on one another.

In the primary grades, most reading instruction focuses on phonemic awareness, phonics, and fluency. This is typically referred to as the "learning to read" phase. In the intermediate grades, students learn vocabulary development, enhance fluency, and apply additional comprehension strategies. This is referred to as the "reading to learn" phase. As student's progress to middle and high school, comprehension, analysis, and written expression are the focus of reading. It has been suggested that teachers should continue to use the five components of reading with students who have disabilities, and make appropriate modifications and adaptations.

Ratz and Lenhard (2013) suggest using the Frith model to organize reading instruction, by dividing skills into three main phases; logographic, alphabetic, and orthographic. Each phase

is sequential and targets a specific ability. In the logographic stage, words are acquired through visual exposure and memorization. In the alphabetic stage, words and symbols are broken down into meaningful sounds, and specific phonics instruction is targeted. In the orthographic stage, words are broken into larger units that can be decoded, and letter groupings and words structure is vital (Ratz & Lenhard, 2013).

Educators can also adopt a sociocultural perspective to teaching reading and literacy. Keefe and Copeland (2011) summarize three perspectives proposed by Knoblauch (1990 as cited in Keefe and Copeland, 2011): functionalist (students learn literacy relative to what they need for daily life), culturalist (students learn literacy relative to their cultural heritage), and personal growth (students learn literacy relative to what will help them find enjoyment in life). These perspectives of literacy are often interwoven in social studies and science instruction, and may include units about health, hygiene, routines, traditions, holidays, communities, and safety. They are also present in special areas such as art and library where the focus is exposure to cultural learning. After reviewing multiple sources, a teacher's goal of literacy instruction should be to help students engage and develop within their community (Keefe & Copeland, 2011). It is imperative that teachers consider how literacy should be applied for students with special needs, in conjunction with students' futures. Each student is unique and needs an individualized assessment to determine the necessity of various literacy skills. For example, a student who will be working at Pizza Hut may need to learn vocabulary relative to the workplace (menu items or safety labels), as opposed to learning a primer Dolch sight word list. This student would also find more value learning how to read environmental print (bathroom, enter and exit signs), as opposed to phonics and the short vowel sounds. Teachers must set reasonable goals to match how students will need to be successful in their community.

Given all the information on literacy and its implications for students with severe special needs, the most important outcome of education is the “development of the child's personality, talents and mental and physical abilities to their fullest potential” (Keefe & Copeland, 2011, p. 94). This outcome should be considered when designing a literacy program for students.

Description of Students with Severe Special Needs

Students with severe special needs make up the smallest percentage of students receiving special education services, and therefore this population has specific qualities. There are several diagnoses such as an intellectual disability, specific learning disability, speech and/or language impairment, and autism, that present with delayed cognition. Many of these students also are diagnosed with multiple disabilities which could include an orthopedic, physical, visual, or hearing impairment. These students who are dually-coded are often excluded from typical state testing and examination because of limitations; it is therefore it is challenging to study general ability because of the variances in cognition. “Intelligence and language range from normal to severe disabilities, and many of the students cannot express themselves” (Ratz & Lenhard, 2013, p. 1741).

The most accurate and descriptive source of information about these students is gathered from the parents, related service providers, or the special educators that work closely with the student. Often when students with severe special needs are initially tested to determine or re-determine disability, the school psychologist or test administrator may not be aware of the best techniques used to elicit responses during testing. For example, some students have specific means of communication such as an eye gaze protocol. They may have a sequence of eye movements to indicate responses in a field of pictures, but the sequence is unique and specific to

that student. Other students may communicate or respond through exchanging picture symbols or photographs. The special educators, related service providers, and parents who work with this population of students have the most experience implementing educational strategies for students with exceptional needs, and have the knowledge of effective supports and intervention strategies. These teachers observe the students in multiple contexts throughout the classroom including small groups and individually. The teachers also understand any communication deficits, and build relationships with parents to better understand life outside of the school building. (Ratz & Lenhard, 2013). Not only are the teachers the most reliable form of information, but they have the strongest rapport and most involvement.

Reading and Literacy for Students Who Have Severe Special Needs

Now that the definition of reading and literacy has been explored, it is critical to analyze how reading and literacy instruction is implemented for students with severe disabilities. Ratz and Lenhard (2013) conducted a study from a sample of students with an intellectual disability, to determine the percentage of skills that students had in each of Firth's Reading and Writing stages. The study outlines what reading skills are most prevalent in students who are severe and profoundly disabled. The findings from the study suggest that students had the most percentage of reading skills in the orthographic and alphabetic stage, and the most writing skills in the alphabetic stage. It is noteworthy that a third percentage of the population did not have any skills in either reading or writing.

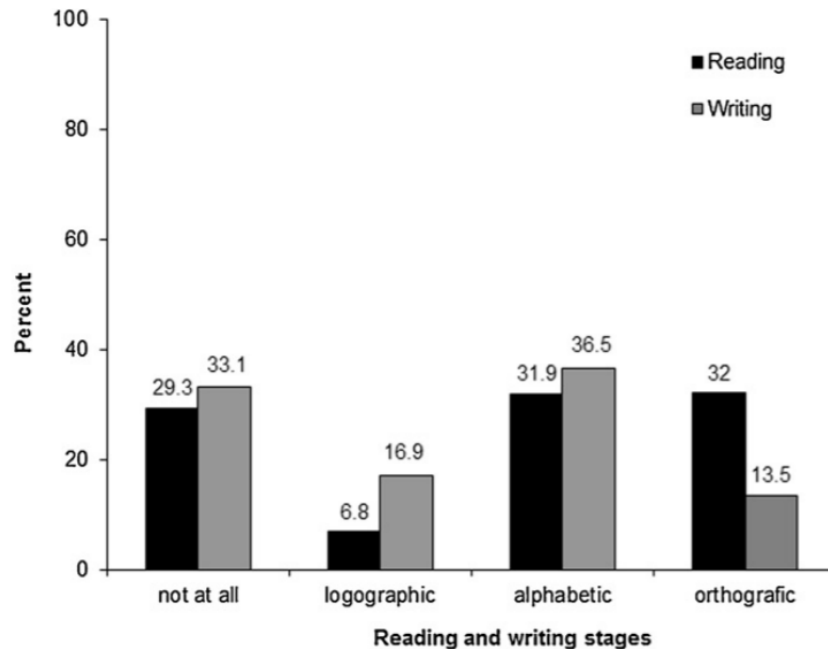


Fig. 1. Prevalence of reading and writing skills amongst students with ID (aged 6–21).

Figure 1. (Ratz & Lenhard, 2013, p. 1744)

The study gives information on the strengths and weaknesses of students diagnosed with a severe disability (intellectual), and which areas should guide further instruction. Many of the students from the study have acquired reading skills in the alphabetic stage, meaning they have learned letter sounds and phonics instruction, and the orthographic reading stage, meaning they have learned words organized by letter groupings. These students did not have many skills in the logographic stage, therefore learning through visual memorization and the study of word structure is not recommended. The study also shows that many students with an intellectual disability are so severely impaired that they do not have any reading skills.

The most unsettling statistics from the Ratz and Lenhard (2013) study indicate the percentage of students with an intellectual disability who had no reading or writing skills. The reality is, some students with severe special needs will never be able to attain reading skills.

Cognitive limitations, such as an age equivalency of 12 months, make traditional literacy an unrealistic and unreasonable goal for certain students. Afacan, Ruppar and Wilkerson (2018) support these notions by stating that four in five students with an intellectual disability do not achieve minimum levels of proficiency in word recognition, narrative reading comprehension, phonemic awareness, and writing vocabulary.

Barriers to Reading Achievement for Students with Severe Special Needs

There is no question that students with severe disabilities face challenges with academic performance. These students have disabilities that potentially disrupt cognition, processing, memory and attention, and therefore cause barriers to traditional learning. Most typical developing students begin reading by learning phonemic awareness and phonics. Research from Channell, Loveall, and Conners (2013) have found shortfalls in aspects of phonological memory for students with an intellectual disability, compared to mental-age or skill-level matched peers. Because memory is crucial to many aspects of education, this deficit presents a difficulty for reading achievement.

Based on word recognition, Channell et al. (2013) found that students with an intellectual disability did not perform as well on a word recognition subtest, even when the comparison group had fewer years of schooling. This result could lead to the conclusion that “intellectual disability creates cognitive barriers to reading acquisition that are more challenging than we might expect” (Channell et al., 2013, p. 783). Many students with severe needs are unlikely to develop and acquire vocabulary due to deficits in communication and language. Students who are nonverbal need support using assistive technology to provide a mode of expressive communication. Expressive communication devices are also challenging and difficult for

students to manage independently. Students must have adequate fine motor skills to manipulate the technology, and if they do not, they are limited to simpler systems which limit expression.

Interventions and Strategies for Teaching Reading

Given the increasing number of students with severe special needs, there has been extensive research on reading, and education, and targeted interventions and strategies that foster successful learning environments.

Lemons, Allor, Al Otaiba, and LeJune (2016) provide an outline of ten suggestions for enhancing literacy instruction for students with an intellectual disability. Lemons et al. list the following tips: a) keep the big picture goals in mind (plan for the future), b) have an understanding of the students' current level of functioning and set meaningful and measurable goals, c) provide systematic reading instruction, provide instruction with intensity so goals can be met, d) participate in professional development opportunities when available, e) keep in mind that language abilities are the foundation for reading skills, f) scaffold and support working memory, g) target specific parts of the scope and sequence to focus instruction, h) use data to drive further instruction and planning, i) involve family and service providers in decisions. With this basic skeleton, it is easier to determine a plan for reading instruction. One of the most important takeaways from Lemons et al. is to identify the students' current level of functioning, and determine whether more time should be spent on increasing reading independence, or focusing on transition outcomes (such as communication, functional reading, self-care etc.).

Fenlon, McNabb and Pidlypchak (2010) discuss interventions for teaching reading to students with multiple disabilities. Fenlon et al. suggest that classrooms define a literacy framework, and design coherent and thoughtful instruction. The literacy routine should be clear and predictable so that students understand the expectations of a lesson. Fenlon et al. also

maintain that reading instruction should parallel the practices of typically developing students, meaning that there should be exposure to “print concepts, familiar or self-selected reading, word/letter work (phonics/phonemic awareness) and vocabulary development, guided or structured shared reading including instruction in reading strategies and text comprehension, and writing for authentic purposes” (p. 44). All these areas of reading may not be appropriate for a student given the severity of his/her disability, but the targeted skills should be organized purposefully. Fenlon et al. also suggest using accessible texts with modifications for students with fine motor inadequacies. Books can be adapted with page turners for ease of access, or visual supports to enhance comprehension. Many texts can also be accessed digitally through web resources. Fenlon et al. state the importance of using voice-output devices during shared reading to facilitate student participation and responding, or providing choices through picture symbols for answering questions.

Courtade, Test, and Cook (2014) identify evidence-based practices for teaching the components of reading to students with severe intellectual disabilities. These evidence-based practices are specific strategies applied by the teacher, not necessarily modifications made to the materials or delivery of instruction. Many of the evidence-based practices are best suited for students being serviced individually, during a pull-out, or independent work station. The six evidence-based practices by Courtade et al. include: a) vocabulary and sight word identification through massed trial training, b) time delay, and systematic prompting, c) vocabulary and picture identification through massed trial training and systematic prompting, d) comprehension through massed trial training, e) systematic prompting, use of pictures, and use of sight words during functional activities, and f) fluency through a time delay. Afacan et al. (2018) agrees with many of the evidence-based practices, and found that integrating direct instruction, time delay,

repeated trials, and read aloud into a multicomponent program would be most beneficial to students with an intellectual disability. Additional evidence-based practices identified by Courtade et al. include using backward chaining, community-based instruction, least-to-most prompting, constant time delay, response prompting, and video modeling.

Approaches and Strategies to Teach Specific Components of Reading

The initial components of reading are phonemic awareness and phonics. Seward, O'Brien, Breit-Smith, and Meyer (2014) state that traditional methods for teaching phonemic awareness and phonics include: direct instruction, verbal repetition, drills, worksheets and games. While this method of instruction is beneficial and convenient for most learners, learning has evolved, and students have become more complex, especially those with disabilities. Seward et al. recommend that early reading should include a multi-sensory approach such as a tactile component, the use of manipulatives, or body tapping. Brain breaks and physical exercise are increasing in popularity to better engage students during instruction. Seward et al. base their research off Howard Gardner's Multiple Intelligence theory, which suggests that memory is enhanced with the use of several senses. Seward et al. mentions the "See Word Reading tool" as a support to help students with success in phonics. The tool uses a multi-sensory approach and targets letter-sound correspondence and word building for struggling readers.

To best address and teach vocabulary acquisition to students with severe special needs, it is beneficial for teachers to target specific words pertinent to their present levels of performance. Explicit sight word instruction is a teaching strategy used to assist students with gaining literacy skills. Spector (2011) identified studies that used a sample population of children diagnosed with autism, and analyzed the similar evidence-based practices implemented. Spector found that sight word interventions featured the following evidence-based practices: massed trials approach,

student response to a succession of items, systematic prompting, differential positive reinforcement, use of least intrusive prompting, adult directed intervention, and use of visuals.

Comprehension is another component of reading that can be addressed with several interventions. It is helpful for teachers to implement additional accommodations and modifications during a literacy routine. Adapted shared reading is a beneficial teaching strategy to target student comprehension. Mucchetti (2013) defines shared reading as an activity in which an adult reads aloud, inviting students to interact through discussion and questioning. Shared reading can be performed by educators or parents and takes place in a group or individualized setting. Mucchetti conducted a study on shared reading with minimally verbal students diagnosed with autism, and all students demonstrated higher story comprehension and task engagement during the intervention, compared to the initial baseline. Additional adaptations to the shared reading intervention included a simplified text, visual supports, tactile objects, and picture symbol support for vocabulary. The students were provided with a response board to help with answering comprehension questions. Erickson (2017) supports the concept of teachers doing shared writing activities with students to help foster connections between printed words and language. One suggestion made by Erickson is to use predictable writing charts, in which “the adult and students work together to compose a chart with each student contributing at least one idea” (p.196). This activity can be scaffolded so that students are making choices to help compose their own unique idea.

Not only is shared reading an appropriate strategy for teaching students with severe special needs, but Erickson suggests that these students also participate in independent reading. Erickson states that independent reading helps emergent readers practice book handling skills, as well as becoming familiar with concepts of print. Based on the severity of the disability, this may

initially require more prompting and modeling. For some students, Erickson suggests making the appropriate accommodations based on the severity of the disability, which may involve using an electronic book. This can also assist students with reading fluency. If students are practicing book handling skills and routines, they will be more prepared as readers when oral skills are addressed.

Another suggested strategy to enhance fluency and comprehension is the use of technology. Stetter (2018) focuses on the use of screen readers or text to speech devices, read aloud tools, computer applications that assist with visual imagery and advanced organizers. Stetter says “using computerized graphic organizers helps students with special needs with comprehension” (p. 4). Stetter also stated that students improved comprehension scores after filling out short story maps online. Carnahan, Hollingshead, Israel, and Williamson (2012) also support using technology in a balanced literacy model for students with special needs, and recommend that teachers select high-interest materials for students. One way to do this is to use PowerPoint books to make unique and individualized texts (Carnahan et al., 2012). There are also many resources for online books and materials, such as TumbleBooks, Boardmaker Share, and PBS stories.

Lastly, Carnahan et al. (2012) indicate the value in engaging students with significant disabilities in writing and word study activities. There are many examples of alternative writing tools for this population of students including “eye gaze, frames, print flip charts, Braille flip charts, alphabet Intellikeys overlays, and a variety of switches” (Carnahan et al., 2012, p. 25). Students can construct sentences by making choices and manipulating picture symbols rather than conventional writing. These students may be able to express ideas through pictures, sentence frames that allow for choice words/pictures, or matching (Carnahan et al., 2012). Many

of these choices can also be formatted using computer software such as Boardmaker Studio and Clicker Five. Students can enhance word knowledge by sorting, filling in the blanks, matching, or creating sentences (Carnahan et al., 2012). Most word wall activities can also be adapted using technology and interactive white boards.

Summary

In conclusion, three important concepts regarding reading and literacy for students with severe special needs have been identified in this paper. First, literacy has been defined and applied to the target population. Secondly, the barriers to reading and literacy achievement for students with severe special needs have been explained. Lastly, the appropriate interventions and strategies have been identified and described.

CHAPTER III

METHODS

Design

The design of this study was descriptive. A two-part question survey was administered to 15 teachers at a public-separate day school in Baltimore County with the goal of determining the most effective reading strategies and interventions for students with severe special needs. The first part of the survey used a Likert scale to rate the perceived effectiveness of various reading interventions/strategies on the reading abilities of students with severe special needs. The scale included response choices of *Strongly Agree*, *Agree*, *Neutral*, *Disagree*, *Strongly Disagree*, and *Not Applicable*. The second part of the survey used a scale to rate the frequency of various reading interventions/strategies used by the same teachers during instruction. The scale for the second part included the numerical response choices of 0- never used, 1- frequently used, or 2- always used. Data collected from the survey was analyzed to determine both the perceived effectiveness and frequency of various reading interventions/strategies used when working with students with severe special needs.

Participants

Convenience sampling was used when conducting this study at a public-separate day school in Baltimore County, Maryland. The public-separate day school services students with severe special needs, who graduate at the age of 21 with a certificate of attendance as opposed to a diploma. The 15 teachers surveyed ranged in teaching grades pre-school through transition. Transition age is defined as students who are older than 18, and are continuing to pursue a certificate of completion at the age of 21. These students are learning the life and functional skills necessary to increase employment opportunities after graduation. The 15 teachers are

divided into four major teams within the school. The Minnows team (three teachers) is responsible for Grades pre-school through first. The Starfish team (four teachers) is responsible for Grades 2-5. The Rainbow Fish team (four teachers) is responsible for Grades 6-8. The Beach Club team (four teachers) is responsible for Grades 9-12, and includes students above Grade 12 who remain in school until the age of 21. All teachers are responsible for literacy instruction for students ages 3-21, depending on what grade-level is taught. All teachers implement Baltimore County's English Language Arts curriculum using the Maryland Common Core Standards. The students who attend this public-separate day school will graduate with a certificate of attendance as opposed to a traditional diploma.

Instrument

The instrument used in this study was a survey (see Appendix) that included ten reading intervention strategies commonly used during reading instruction at a school for students with severe special needs. Many of the strategies listed in the survey are commonly included on I.E.P.'s under the supplementary aids and services section. The survey questions were designed to gain insight on the effectiveness of various strategies for students with severe special needs, and the frequency that the targeted intervention was being used during instruction. Two different scales were used to determine effectiveness and frequency on each part of the survey. Both the scales clearly defined potential responses to increase the reliability and validity of the research findings. The first part of the survey listed the following ten reading intervention strategies:

1. visual prompts
2. props or kinesthetic representations
3. picture symbol support and translation
4. vocabulary review prior to reading

5. audio books versus paper books
6. videos shown prior to reading
7. facilitating communication using core words during reading
8. picture walk prior to reading
9. questioning (using “wh” such as who, what, where, when) during reading
10. using graphic organizers during reading.

Staff were asked to rank the intervention strategies on a Likert scale of *Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree*, and *Not Applicable*. On the second part of the survey, the same ten reading intervention strategies were listed, and staff were asked to use a numerical response scale with choices of 0- never used, 1- frequently used, or 2- always used. The goal of the two-part survey was to determine the perception of reading intervention strategies, and the frequency of the specific strategy for students who have severe special needs.

Procedure

In spring of the 2018-19 school year, the administrative and school improvement team began reading *Focus, Elevating the Essentials to Radically Improve Student Learning* by Mike Schmoker as a book study. During leadership team meetings, the staff discussed the need for increased literacy achievement for students with severe special needs, and the need for implementing new approaches and interventions to promote success. As a result, in the fall of the 2019-20 school year, teachers and paraeducators attended a session of professional development on using applied behavior analysis to facilitate teaching specific skills to students with severe special needs.

In order to gather information on the best practices for reading instruction specific to students with severe special needs, a two-part survey was administered to teachers at a public-

separate day school in Baltimore County. An opening letter was included with the survey to describe the purpose and procedure. The researcher administered the survey during the first quarter of the 2019-20 school year. The data was collected, organized, and analyzed to determine the effectiveness and frequency of reading intervention strategies for students with severe special needs. The research findings are presented in Chapter IV.

CHAPTER IV

RESULTS

Below, are a series of tables and graphs that represent the teacher response data broken down by teacher perception of the effectiveness of the strategy, and frequency of the strategy being used in the classroom. The perceived effectiveness of the strategy is specific to increasing reading achievement in comprehension. Table 1 shows the strategies selected for the reading intervention survey.

Table 1

List of Strategies

Strategy 1	Visual prompts during reading to focus attention
Strategy 2	Using props or kinesthetic representations of content during reading
Strategy 3	Picture symbol support/translation for the written text
Strategy 4	Vocabulary review prior to reading with picture/photograph visuals
Strategy 5	Audio books versus paper books
Strategy 6	Videos shown prior to reading to build background knowledge
Strategy 7	Facilitating communication using core words during reading
Strategy 8	Picture walk prior to reading to provide prediction opportunities
Strategy 9	Questioning (using “who/what/where/when/why” during reading instead of after
Strategy 10	Using graphic organizers during reading

Reported in Figure 2 is the combined number of teachers responding strongly agree, agree, neutral, not applicable, disagree, or strongly disagree, with respect to strategies 1-10. Figure 2 shows the largest number of teachers strongly agreed with Strategy 1 (visual prompts to

focus attention) and Strategy 2 (using props or kinesthetic representations of content during reading), as being most effective at increasing reading comprehension achievement. Both Strategy 1 (visual prompts to focus attention) and Strategy 2 (using props or kinesthetic representations of context during reading) scored a “strongly agree” response from 12 out of 15 teachers. Strategy 3 (picture symbol support/translation for the written text) received 10 strongly agree responses, followed by Strategy 7 (facilitating communication using core words during reading) with 7 strongly agree responses. Figure 2 shows the largest number of teachers agreed with Strategy 8 (picture walk prior to reading to provide prediction opportunities) and Strategy 9 (questioning using “who/what/where/when/why” during reading instead of after). Figure 2 shows the fewest number of teachers strongly disagreed with Strategy 5 (audio books versus paper books) Strategy 10 (using graphic organizers during reading). Only one teacher strongly disagreed with Strategy 5 (audio books versus paper books) and Strategy 10 (using graphic organizers during reading). The data show that both Strategy 5 (audio books versus paper books) and Strategy 10 (graphic organizers during reading) generated five neutral responses. Both Strategy 5 (audio books versus paper books), and Strategy 10 (graphic organizers during reading) generated one not applicable response.

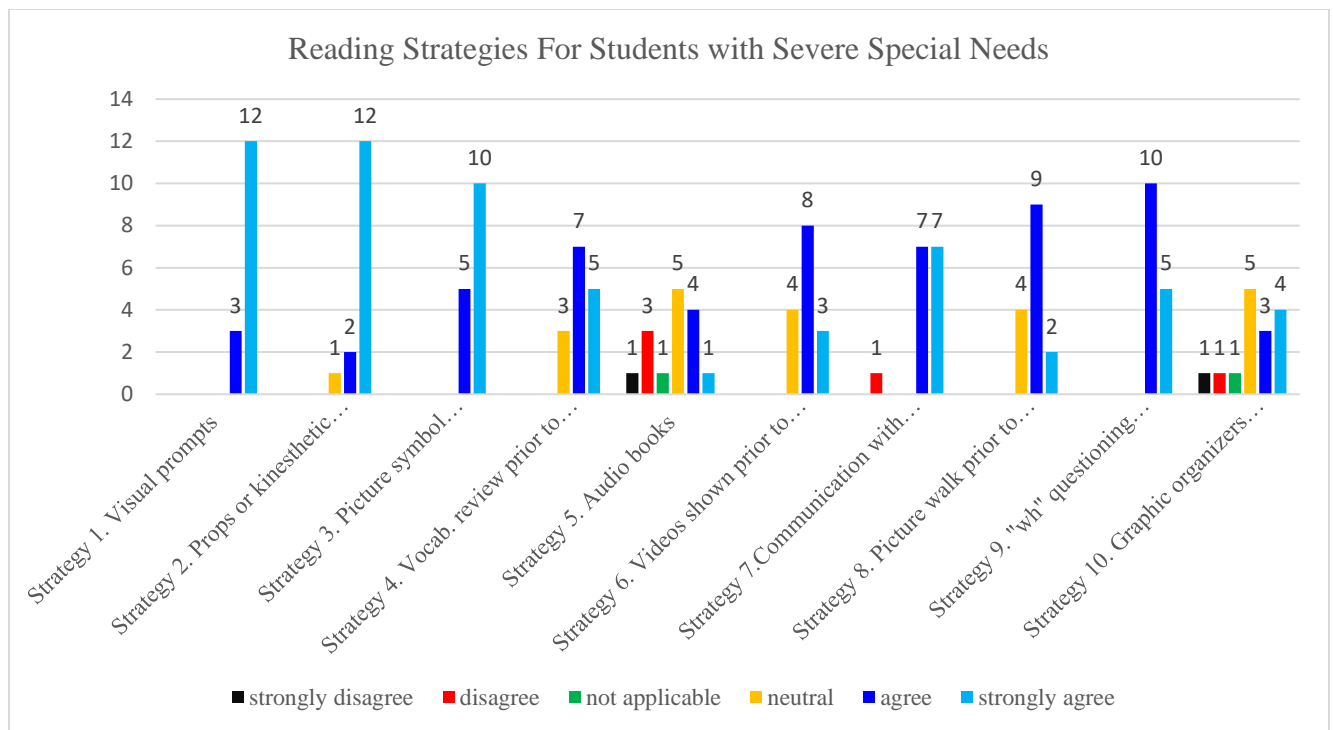


Figure 2

Effectiveness Response Rates for Reading Strategies

As shown in Table 2, the results of the reading intervention survey are organized by strategy number, and the percentage of staff who responded with the choices of strongly disagree or disagree, neutral or not applicable, and strongly agree or agree. The data collected from part-one of the survey showed that the highest percentage of staff strongly agreed or agreed with Strategy 1 (visual prompts during reading to focus attention), Strategy 3 (picture symbol support/translation of text), and Strategy 9 (“wh” questioning during reading instead of after). Strategy 1 (visual prompts during reading to focus attention) Strategy 3 (picture symbol support/translation) and Strategy 9 (questioning during reading), respectively resulted in a 100 percent strongly agree or agree response rate from staff. The majority also strongly agreed with Strategy 2 (props or kinesthetic representations of content), Strategy 4 (vocabulary review prior

to reading), Strategy 6 (videos shown prior to reading), Strategy 7 (core words to facilitate communication during reading) and Strategy 8 (picture walk prior to reading). Strategy 2 (using props) and Strategy 7 (picture walk prior to reading) resulted in a 93% strongly agree or agree response rate. Strategy 4 (vocabulary review), resulted in an 80% strongly agree or agree response rate. Strategy 5 (audio versus paper books) and Strategy 10 (using graphic organizers) did not show a majority percentage for strongly agree or agree. Forty percent of staff gave a neutral or not applicable response for Strategy 5 (audio versus paper books), and Strategy 10 (using graphic organizers).

Table 2

Percentage of Staff Response Rates for Effectiveness of Each Strategy

	Strongly Disagree or Disagree	Neutral or Not Applicable	Strongly Agree or Agree
Strategy 1 Visual Prompts during reading to focus attention	0%	0%	100%
Strategy 2 Using props or kinesthetic representations of content during reading	0%	7%	93%
Strategy 3 Picture symbol support/translation for the written text	0%	0%	100%
Strategy 4 Vocabulary review prior to reading with picture/photograph visuals	0%	20%	80%
Strategy 5 Audio books versus paper books	27%	40%	33%

Strategy 6 Videos shown prior to reading to build background knowledge	0%	27%	73%
Strategy 7 Facilitating communication using core words during reading	7%	0%	93%
Strategy 8 Picture walk prior to reading to provide prediction opportunities	0%	27%	73%
Strategy 9 Questioning (using “who/what/where/when/why) during reading instead of after	0%	0%	100%
Strategy 10 Using graphic organizers during reading	13%	40%	47%

As shown in Figure 3, the data captures the results of the second-part of the survey which measured the frequency of each reading strategy used in the classroom. The staff were asked to rank each reading strategy on a numerical scale of 0-2. For the scale, a 0 represented never using the strategy, a 1 represented frequently using the strategy, and a response of 2 represented always using the strategy. Figure 3 showed that Strategy 3 (picture symbol translation), Strategy 7 (facilitating communication with core words), and Strategy 9 (questioning during reading), generated the largest number of “always use” responses. The data show that 10 out of 15 teachers responded with always use for Strategy 3 (picture symbol support and translation), 10 out of 15 teachers responded with always use for Strategy 7 (facilitating communication through core words), and 12 out of 15 teachers responded with always use for Strategy 9 (“wh” questioning during reading instead of after). Figure 3 also showed that Strategy 4 (vocabulary review prior to reading), Strategy 8 (picture walk prior to reading) and Strategy 6 (videos shown

prior to reading) generated the greatest number of “frequently use” responses. Strategy 5 (audio books versus paper books) drew the largest number of “never use” responses. The data show that six out of 15 teachers responded with never use for Strategy 5 (audio books versus paper books). Both Strategy 3 (picture symbol support and translation) and Strategy 7 (facilitating communication through core words) received 10 “always use” responses. The data show that 12 out of 15 teachers responded with always use for Strategy 9 (“wh” questioning during reading instead of after).

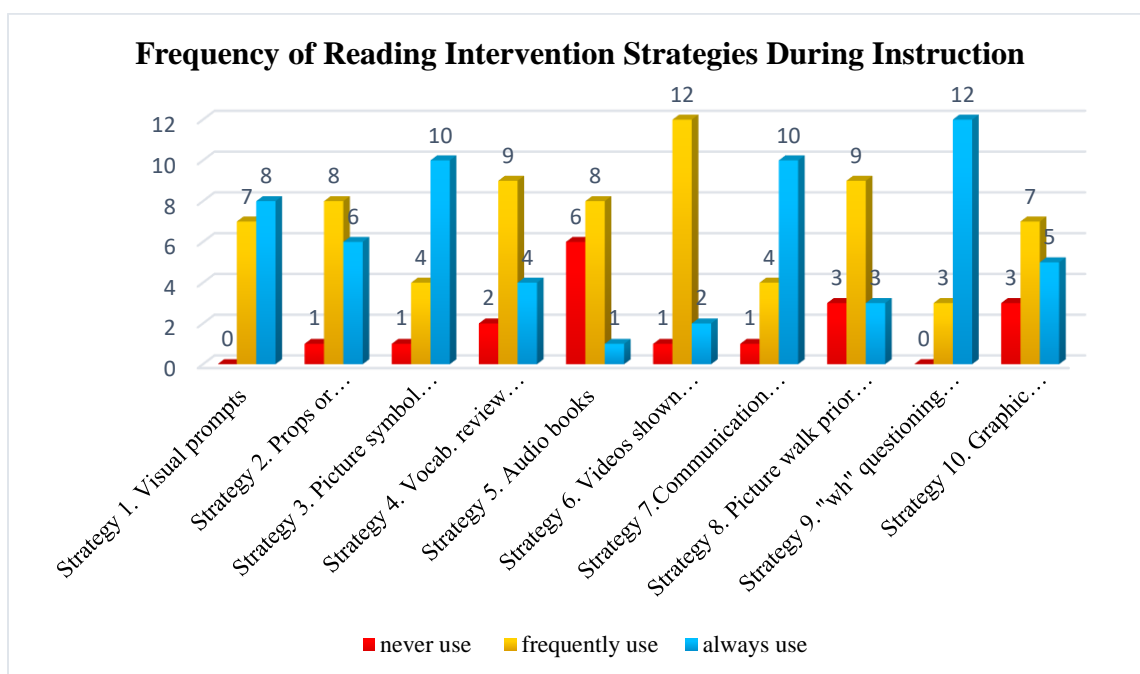


Figure 3

Frequency Response Rates of Reading Strategies

As shown in Table 3, the results of the reading intervention survey are organized by strategy number, and the percentage of staff who responded with the choices of always use, frequently use, and never use. The data collected from part two of the survey reflect that 80% of staff always use Strategy 9 (graphic organizers). The data collected also reflect that 80% of staff

frequently use Strategy 6 (videos shown before reading). Lastly, the data collected reflect that 40% of staff never uses Strategy 5 (audio books instead of paper books). The data in the table show that a majority of staff frequently use 4 out of the 10 strategies, and always use three out of the ten strategies. Table 3 shows that none of the strategies resulted in the majority of staff responding with “never used”.

Table 3

Percentage of Staff Response Rates for Frequency of Strategy Used

	Never used	Frequently used	Always used
Strategy 1 Visual Prompts during reading to focus attention	0%	47%	53%
Strategy 2 Using props or kinesthetic representations of content during reading	7%	53%	40%
Strategy 3 Picture symbol support/translation for the written text	7%	26%	67%
Strategy 4 Vocabulary review prior to reading with picture/photograph visuals	13%	60%	27%
Strategy 5 Audio books versus paper books	40%	53%	7%
Strategy 6 Videos shown prior to reading to build background knowledge	7%	80%	13%
Strategy 7 Facilitating communication using core words during reading	7%	26%	67%

Strategy 8			
Picture walk prior to reading to provide prediction opportunities	20%	60%	20%
Strategy 9			
Questioning (using “who/what/where/when/why) during reading instead of after	0%	20%	80%
Strategy 10			
Using graphic organizers during reading	20%	47%	33%

These findings and their connection to prior research, current practices, and future implications for education will be discussed in Chapter V. The results of the data collected indicate that further research is necessary in the area of reading strategies for students who have severe special needs.

CHAPTER V

DISCUSSION

The purpose of this study was to determine both teacher perception with regards to effective reading strategies to increase achievement on comprehension for students with severe special needs, and the frequency with which these specific strategies are being implemented in the classroom. To assess the effectiveness and frequency of the strategies, a two-part survey was administered to teachers at a public-separate day school. This descriptive study utilized a ten-question survey with a six-point Likert Scale to prompt teacher responses. Based on the data collected, quantitative results are presented, interpreted, and discussed. Due to the nature of the descriptive research method, there was no hypothesis tested in this study.

Implications of Results

The findings of this study indicate that the most effective reading strategies for students who have severe special needs include visual prompts during reading instruction to focus attention, picture symbol support or translation, and using “wh” questioning during reading. These three strategies received a 100% response rate of strongly agree from the staff surveyed. This data indicates that teachers perceive these three strategies as being most likely to increase achievement on reading comprehension. The findings of this study also indicate that the most frequent reading strategy being used during instruction for students who have severe special needs is “wh” questioning during reading. This strategy accounted for an 80% response rate of “always used” from the staff surveyed. In conclusion, the survey results suggest that teachers perceive “wh” questions during reading as being the most effective and frequently used strategy to increase reading comprehension for students who have severe special needs. This strategy is

most likely perceived as being effective by teachers because of the amount of visual support required to support students with severe special needs. Due to attention deficits, difficulty with making connections and meaning, processing delays, and intellectual capacity, it is beneficial for teachers to ask “wh” questions during reading as opposed to after reading to help bridge the gap in time between question, visual support, and response.

The findings of this study also indicate that over 50% of staff perceive eight out of the ten strategies presented in the survey to be effective with increasing reading comprehension achievement for students who have severe special needs. Teachers perceive that visual prompts during reading, props and kinesthetic materials as representations of content, picture symbol support, vocabulary review, videos prior to reading, facilitating communication during reading, picture walk prior to reading, and questioning during reading, are all effective strategies to increase reading comprehension achievement. Therefore, it can be inferred that when teaching reading to students who have severe special needs, teachers favor using each of the eight specific strategies in isolation and in conjunction with one another as the combination will have a positive effect on reading comprehension achievement.

The findings of this study also indicate teacher perceptions of ineffective reading strategies for students who have severe special needs. The data show the highest percentage of staff gave a “strongly disagree” or “disagree” response to using audio books over paper books. This suggests that the strategy of using audio books instead of paper books does not have a positive effect on reading comprehension achievement for students who have severe special needs. These findings suggest that teachers are most effective with increasing reading achievement when the book is read to students with severe special needs, as opposed to having

the student listen to an audio version. This perception leads to the belief that relationships between the student and teacher help to facilitate engagement and listening skills during reading activities.

Theoretical Consequences

There were several theoretical consequences to the research findings from this study. The current research study showed the teacher perception on the effectiveness of graphic organizers during reading. Only 47% of teachers strongly agreed that graphic organizers were a beneficial reading strategy, and 13% of teachers strongly disagreed that graphic organizers were an effective reading strategy. This contradicts the research by Erickson (2017) which suggested using predictable writing charts, in which “the adult and students work together to compose a chart with each student contributing at least one idea” (p. 196). The current research in this paper also challenges Stetter (2018) who supports the use of computerized graphic organizers to help students who have special needs with comprehension. Stetter also stated that students improved comprehension scores after filling out short story maps online.

Another theoretical consequence to the current research related to the use of audio books and technology. In prior research Erickson (2017) proposed making the appropriate accommodations based on the severity of the disability, which may involve using an electronic book. The current research and findings from this paper showed that 27% of teachers strongly disagreed with using audio books over paper-based books, which is a contradiction to Erickson. The current research findings show that only 33% of teachers perceive that using audio books will increase reading achievement with students who are severely disabled. The current research

also showed the highest “neutral” or “not applicable” response rate of 40% connected to the strategy of audio books instead of paper-based books.

Threats to Validity

There are several limitations to this study’s validity. The first limitation is the teachers’ understanding of the terminology for the survey. For example, several teachers were confused about whether *always used* meant that this reading strategy was implemented for each individual reading comprehension lesson, or if it meant that this strategy was *always used* in the span of a week of lessons. One teacher specifically commented that he or she uses all the strategies listed, but not all at the same time. Therefore, internal validity may have been threatened due to the semantics of the frequency scale on part two of the survey.

Another threat to validity was the teachers’ understanding of the terminology for one of the listed strategies. The term “audio books” was not clearly defined in the survey which could have led to some confusion. It was the perception of the researcher that an “audio book” was the same as a “digital book,” and the distinction of the strategy for the survey was examining whether an alternate form of text (played on a computer screen or video-tape) was more effective than reading the book in its paper form, to a student with severe special needs. Therefore, internal validity may have been threatened due to the semantics of the reading strategy listed on parts one and two of the survey.

Connections to Previous Research

The findings from this study are supported and connected to prior research about reading instruction for students who have severe special needs. The current study determined the most frequent and effective reading strategies perceived by teachers at a public-separate day school for

students who have severe special needs. The results from the study include using strategies such as “wh” questions during instruction and reading opportunities to increase reading achievement, using picture symbol translation and support, and using additional visual prompts to focus attention. Lemons et al. (2016) proposed that students with severe special needs require additional scaffolding to support working memory. The findings from this research correspond to support working memory by providing additional visual prompts and questioning throughout instruction to enhance reading comprehension achievement.

Fenlon et al. (2010) emphasize the importance of using voice-output devices during shared reading to facilitate student participation and responding, or providing choices through picture symbols for answering questions. The findings presented in this research paper show that 93% of teachers perceive using communication throughout reading instruction will increase reading comprehension achievement for students who have severe special needs. This corresponds to Fenlon et al. because it demonstrates that reading instruction should include opportunities for communication in order to make the text meaningful, and help students to make stronger connections and understanding.

Courtade et al. (2014) also identify evidence-based practices for teaching the components of reading to students with severe intellectual disabilities. The findings from this research show that 80% of teachers perceive doing a vocabulary review prior to reading will increase reading comprehension achievement for students who have severe special needs. This corresponds to Courtade et al. proposing to implement vocabulary and sight word identification through mass-trial training. The findings from this research paper also show that 73% of teachers perceive picture walks prior to reading increase the likeliness of improved reading comprehension or

students who have severe special needs. This strategy relates to building the prior knowledge and vocabulary that was suggested by Courtade et al.

Lastly, Seward et al. (2014) identify several strategies to help teach reading to students with severe special needs such as opportunities for a multi-sensory approach. The findings from this research suggest that 93% of teachers perceive that using props and kinesthetic manipulatives to represent content during reading will increase comprehension achievement. This strategy corresponds to the recommendation by Seward et al. stating that early reading should include a multi-sensory approach such as a tactile component, the use of manipulatives, or body tapping.

Implications for Future Research

Several recommendations can be made based on the data that was collected and analyzed. The data demonstrate the perception of reading strategies that support reading comprehension achievement for students who have severe disabilities. The limitations of the research include the variance of disability within the population of students who are categorized as severely disabled. It was not appropriate to conduct experimental research in order to protect student anonymity. The results of experimental research would also threaten validity because of the cognitive range between students. One classroom within a public-separate day school could have students who range in cognitive skills from six months to three years. Therefore, certain strategies would be appropriate for one student, and not another. These students would also vary in academic goals and instruction based on their cognitive functioning, which would jeopardize the validity of the study.

Furthermore, the research is limited to using teacher perception of effective and frequent reading strategies in order to maintain validity for the study. Future research should begin to determine which strategies are most effective with increasing reading achievement. This future research should group students by cognitive ability in order to maintain consistency of results. While the teacher perception of strategies is helpful and practical data, the research did not examine effectiveness based on student achievement results.

Conclusion

The researcher found the results of this study to be beneficial and practical. The goal of the research was to determine which reading strategies are effective at increasing reading comprehension for students who have severe special needs. The research also provided insight about the most frequent reading comprehension strategies that are being implemented in the classroom. Based on this study's findings, teachers perceive that additional visual support, prompting, communication, and questioning techniques are effective strategies to increase reading achievement for students who have severe special needs. It can also be implied that many of the listed strategies are either always used during instruction, or frequently used. The research supports that students with severe special needs require additional accommodations in the form of in-class supports and strategies in order to increase reading achievement. Further research is necessary to determine which reading strategies yield the best results in comprehension achievement for students with severe special needs.

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Appendix

Reading Intervention Strategies for Students with Severe Special Needs Survey

Please rank the following reading intervention strategies for **increasing achievement with comprehension** using the following scale ranging from SD-SA;

SD-strongly disagree that the strategy facilitates comprehension

D-disagree that the strategy facilitates comprehension

N/A- not applicable for this population of students with severe special needs

N-neutral (not making a significant difference)

A-agree that the strategy facilitates comprehension

SA- strongly agree that the strategy facilitates comprehension

_____ Visual Prompts during reading to focus attention

_____ Using props or kinesthetic representations of content during reading

_____ Picture symbol support/translation for the written text

_____ Vocabulary review prior to reading with picture/photograph visuals

_____ Audio books versus paper books

_____ Videos shown prior to reading to build background knowledge

_____ Facilitating communication using core words during reading

_____ Picture walk prior to reading to provide prediction opportunities

_____ Questioning (using “who/what/where/when/why) **during reading** instead of after

_____ Using graphic organizers during reading

Reading Intervention Strategies for Students with Severe Special Needs Survey

Please rank the following reading intervention strategies for **frequency** used during reading instruction in your classroom;

On a scale of 0-2

0- Never use this strategy 1- Frequently use this strategy 2- Always use this strategy

how would you rate the following;

____ Visual Prompts during reading to focus attention

____ Using props or kinesthetic representations of content during reading

____ Picture symbol support/translation for the written text

____ Vocabulary review prior to reading with picture/photograph visuals

____ Audio books versus paper books

____ Videos shown prior to reading to build background knowledge

- ___ Facilitating communication using core words during reading
- ___ Picture walk prior to reading to provide prediction opportunities
- ___ Questioning (wh) during reading (instead of after)
- ___ Using graphic organizers during reading