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Literacy Instruction Best Practices for Students with Disabilities

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LITERACY INSTRUCTION BEST PRACTICES FOR STUDENTS WITH DISABILITIES

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ABSTRACT

The literacy instruction of students with developmental disabilities often looks different from the instruction of students without disabilities. In a world where knowing how to read is pivotal in order to function independently, it is crucial for *all* students to know how to read and receive the best literacy instruction provided by their classroom teacher. Special education teachers who have the opportunity to instruct this student population should have the most up-to-date research and evidence-based best practices to implement into their literacy lessons and classroom environment. As students with developmental disabilities only began attending mainstream schools with their general education peers in the last forty years, there is a lack of research in this area. This literature review will discuss why there is a lack of research and uncover what research is currently published; readers will develop an understanding of what evidence-based best practices exist and how to implement these strategies into their own classroom.

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CHAPTER I: INTRODUCTION

Prior to 1975, the majority of people with developmental disabilities were not attending school and did not have an equitable chance to learn. When the Individuals with Disabilities Education Act (IDEA) was enacted in 1975, students with disabilities were then given the opportunity to a free and appropriate public education (FAPE). Forty years later, students with disabilities are able to attend schools with their same-age general education peers and are provided accommodations and modifications to their learning in order to meet their needs. The research on the instruction of this student population, specifically the literacy instruction, is fairly new, and it is still currently being examined. It is crucial for special education teachers to be aware of the best practices known for providing literacy instruction in the classroom. This literature review asks the question: "What are the best practices in teaching literacy to students with developmental disabilities?" The review will answer this question by identifying the lack of research on this subject and the reasons for this, investigate the current research that exists, and describe how teachers can best implement these practices into their literacy lessons and classrooms.

Definition of Terms

There are various terms listed throughout this literature review that will be helpful to understand prior to reading. These acronyms are necessary to know in order to fully understand the topic being discussed. Most of the terms in this review are centered around disability names and assorted language focused on special education.

Three disability terms that will be commonly used throughout the review include ID, which is short for Intellectual Disability that a student may be diagnosed with that would likely inhibit their ability to access general education curriculum in schools. Similar to this, people can

also be diagnosed with DD, which means a Developmental Disability or DCD, meaning a Developmental Cognitive Disability. This literature review focuses in general on students with disabilities and their ability to learn literacy. Because of this, some other terms that will be necessary to know is NRP, standing for the National Reading Panel. The NRP identifies the five components of literacy (phonics, phonemic awareness, fluency, vocabulary, comprehension) that will be discussed frequently. Three other terms that will be important for readers to know include an IEP, which is an Individualized Education Program. Students who receive special education services in the school system are put on an IEP, a legal contract that outlines the services they require provided by various providers, along with goals and objectives for the school year and identifying factors that the student is in the appropriate setting. IDEA stands for the Individuals with Disabilities Education Act that originated in 1975. IDEA ensures that children with disabilities have access to FAPE, a Free and Appropriate Public Education. This law has been revised over the years and was most recently reauthorized in 2004. As the review will briefly discuss the history of special education and primarily discuss what it looks like now in regard to literacy instruction, readers will benefit from having an understanding of these six terms.

Historical Background

In 1975, the Individuals with Disabilities Education Act was created in order to ensure that all students, whether or not they had a disability, were able to attend public school. Furthermore, this act was originally named the Education for All Handicapped Children Act; while it ensured that students with disabilities would be able to attend public school, it also provided services for students from ages three to twenty-one, identified the Least Restrictive Environment (LRE) that students could be in while at school, and provided supplemental services. During this time, students with disabilities were becoming more accepted into public

schools, and parents were getting more say in their child's IEP. Since then, there has been a slow growing overall acceptance towards people with disabilities and their place in public schools. For example, in 1990, President George W. Bush signed the Americans with Disabilities Act into law. This act states that people with special needs have the same rights as everyone in both schools and the workplace. It also states that those with exceptionalities cannot be discriminated against in schools, the workplace, or the community. This time shows that others have developed empathy towards people with disabilities and understand that they should be treated equally despite the differences they may face.

Since the Special Olympics was founded in 1968, the mission has grown immensely to not only increase those with disabilities involvement in sports but also to engage all school-age students in inclusion. Inclusion is something that schools have been moving toward more recently as it provides opportunities for special education students to participate in general education classes with their same-age peers. The Special Olympics organization helps schools around the United States create these opportunities for their special education population, and it is something that has been greatly beneficial to both general and special education students. The work that Special Olympics has been doing displays how far our country has come in terms of being empathetic and accepting of others that have differences.

In regard to literacy instruction, the research on this topic for students with disabilities has grown in the previous ten years. Previous to that, there was little research conducted on this particular subject. Research limitations identified that the lack of information on the literacy instruction of students with disabilities could be due to varying reasons. One of the reasons is that most studies centered on the best practices of literacy instruction only focus on general education students rather than students with exceptionalities. It is important for educators to

know that teaching literacy to students with disabilities is much different than teaching literacy to students without them and research on the subject is needed in order for students to be as successful as they can be. Another reason why there is less research concerning this could be due to the assumption that students with disabilities are incapable of learning to read. While this is an incorrect assumption, it serves as a potential explanation as to why there is fewer research and studies surrounding this topic.

In the past ten years, the research has expanded, and there is now more information on teaching students with disabilities than there ever has been. Our country has shown true growth toward the acceptance of those with disabilities in the past fifty years since IDEA was first enacted.

Research Question

This literature review asks the question: 'What are the best practices in teaching literacy to students with developmental disabilities?' It compiles the discussion of why there is currently a lack of research on this particular topic, identifies what the best practices are for teaching literacy to students with disabilities, and how teachers can practically implement that information into their classrooms today.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

The search procedures that were used as a basis for this literature review were derived from EBSCOhost database. In order to locate the literature for this thesis, searches were conducted using the EBSCOhost database and specifically the Education Resource Information Center (ERIC). The amount of peer-reviewed, published research articles were narrowed in order to discover publications from years 2000 to 2020. The key words that were used in conducting this research included "literacy instruction," "reading instruction," "developmental disabilities," "intellectual disabilities," and "special education." The structure of this chapter is to review the best practices of literacy instruction for students with disabilities, why they may be difficult to find, and how teachers and service providers can implement these practices.

Why is there a lack of research on this topic?

Literacy is a multifaceted, crucial component of one's education that affects all areas of life. Literacy instruction can begin as early as age two; whether access to literacy is provided by parents, guardians, siblings, service providers, or teachers, the quality of instruction that the learner receives has a lasting impact on the student's life. Literacy skills, or the lack of, can influence a person's ability to excel in school, their confidence, whether they get accepted to college, whether they get a job, how they socialize with friends and family, and how they contribute to their community. The National Reading Panel (NRP) defines literacy by five components that include phonemic awareness, phonics, vocabulary, fluency, and comprehension. Literacy is not just a complex skill to learn but a complex skill to teach. For neurotypical students who are primarily in general education classes and who do not have a disability diagnosis, learning to read and comprehending what is read generally comes naturally and at a

similar time that same-age peers are learning this skill as well. However, for students who do have a diagnosed disability or have an exceptionality of some form, whether cognitive or physical, the task of reading does not always come naturally or easily.

There are many studies, articles, and research based on the literacy instruction of general education students; however, the research is somewhat lacking on the literacy instruction of students with disabilities in special education. With these students, there is a need for a slower instruction pace, a smaller teacher-to-student ratio, and an individualized curriculum that meets them where they are at in their educational journey. Typically, students with disabilities are not performing at grade level or at the level as their same-age peers in general education. Because of this, students are placed in special education based on their unique needs and where they are performing academically. In the special education setting, a smaller group learning environment can be achieved as well as an individualized curriculum. As special education teachers are working on teaching their students to read, it is imperative that they know the best practices, which strategies and interventions work, and which do not. Currently, there is a lack of research published on the literacy instruction of students with disabilities versus students without disabilities. It would be an inaccurate assumption to say students are unable or incapable of learning to read due to their disability. Browder et al. (2009) explain that some simply may not see literacy as a top priority for students with disabilities. Potential explanations for the perceived lack of importance on reading instruction for students with disabilities can include that it "may stem from a cultural denial of competence historically associated with marginalized groups…the assumption that the population can only acquire some functional sight words versus learning decoding…that students' deficits in language and communication may seem to preclude reading instruction" (Browder et al., 2009, p. 270). It is important for all teachers and staff in

school settings to take the education of their students seriously, whether or not they have a disability. Since the Individuals with Disabilities Education Act (IDEA) that allowed for those with disabilities to a free and appropriate public education (FAPE) was put into place in 1975 and revised in 2004, students in special education are still working for an overall general acceptance in their learning environments. Due to this act being signed into law a recent forty-five years ago, this is a likely reason for negative assumptions that some may have about students with disabilities and their ability to learn as well as the reason for the lack of research on the subject of literacy instruction for this group of students.

The difficulty in finding adequate research about reading instruction for students with disabilities can stem from inaccurate assumptions about these students and their abilities to learn, the continuous development of these students getting access to free and appropriate public education, and the fact that special educators may not get the proper training in how to teach reading. In order to become an effective special education teacher, there needs to be effective special education teacher training. Educators have the ability to make a profound impact on their students' educational experience; whether they are advocating, creating inclusive opportunities, or discovering interventions that will work for students' unique needs. In order for a teacher to do these acts and make differences in their classroom, they need the training and education in order to do so. Similarly, with the lack of reading instruction for students with disabilities, there is also a lack of research on preparation programs for special education teachers and the differences that these can make. A study conducted by Hughes and Braun (2019) identified four major themes that positively impacted the teaching practices of 47 pre-service educators after receiving a 15-hour classroom learning experience and being part of a master's special education preparation program. More specifically, these pre-service special educators were enrolled in a

literacy methods course that emphasized: “the components of designing, implementing, and assessing literacy instruction for elementary students with disabilities” (Hughes & Braun, 2019, p. 95). Once the teachers completed the program and their experiential learning experience, the findings resulted in four themes that showed evidence that the pre-service special educators developed positive, evidence-based teaching strategies. These learned strategies “a) increased their instructional knowledge; b) changed their practice; and c) shifted their beliefs…and had d) continued challenges” (Hughes & Braun, 2019, p. 96). Not all educators, or specifically special educators, have the opportunity for this type of education along with the experiential learning component. With the obvious benefits that this experience can have on teachers and their ability to teach literacy to their special education students, all teachers should have these learning opportunities. In addition to the four outcomes from this study previously listed, an additional finding stated that teachers also learned the importance of building relationships with students and making this a priority above giving the students literacy inventories. Teachers can learn much more about their students and their present levels by relationship building versus providing various types of inventories.

Similar to the issue of lack of teacher training, it is possible that there is also a lack of the history of special education and literacy instruction included in current educator professional development training. For example, an article published by Sayeski, Earle, Davis, and Calamari about Orton and Gillingham discuss two teachers that were unaware of these two men that originated the Orton-Gillingham (OG) Approach. Orton (1897-1948) was a neuropsychiatrist and pathologist who studied causes of reading failure and related language-processing difficulties. Gillingham (1878-1963) was an educator and psychologist. Orton and Gillingham had a “…mutual interest in the structure of language and how this structure is internalized by

individuals in order for reading to occur" (Sayeski et al., 2018, p. 241). These two worked together to develop an approach to reading that taught students the elements of language as well as the ability to apply that knowledge to their reading. "Their approach to reading instruction was based on breaking down the components of language into individual and overlapping skills and then creating instructional activities designed to promote mastery and automaticity of those skills for students with dyslexia" (Sayeski et al., 2018, p. 241).

Together, these two created what is known as the Orton-Gillingham (OG) Approach to teaching literacy to students who may struggle to do so, specifically to students with Dyslexia. There is also an Academy of Orton-Gillingham Practitioners and Educators and the Institute for Multi-Sensory Education, where professionals can become certified in designing lessons based on the OG Approach. Not only is it important for teachers to have training focused on the best practices of instruction but also for educators to learn the history and where original approaches to teaching certain subjects come from. Not all teachers are aware of the OG Approach and its concentration of cumulative lessons, cognitive explanations, diagnostic methods, and multisensory engagement, and overall, the positive impact that it can have on students' ability to learn to read.

In addition to the assumptions that some may have about students with disabilities and their abilities and the lack of teacher training, there is another potential reason for the lack of research surrounding literacy instruction for students with disabilities. Another possible reason is that literacy can sometimes not be seen as a top priority for students with complex disabilities. Students with multiple disabilities can have various impairments that may prevent them from seeing, hearing, speaking, walking, or moving in space the same way that their peers do. It is possible that these exceptionalities can become the focal point to doctors, teachers, and/or care

providers so much so that it would not seem as important for these students with multiple disabilities to make literacy a priority. It is important for all people who work with people with disabilities to know their high potential and multitude of capabilities despite the difficulties they face each day. Problems do not derive solely from physical impairments but severe speech impairments as well. Koppenhaver, Hendrix, and Williams (2007) were three researchers that discussed how students with severe speech and physical impairments (SSPI) encounter a decreased amount of emergent literacy experience. Koppenhaver states that "Families and early interventionists may not necessarily share the same goals or hold the same expectations for children with SSPI (Koppenhaver et al., 2007, p. 80). For example, this can mean that these students "…were less likely to engage in writing and drawing activities than nondisabled children, probably because of accessibility issues, and were more likely to use the computer when they did write or draw" (Koppenhaver et al., 2007, p. 82). The severe speech and physical impairments that some students exhibit can hinder them from getting the special instruction that is necessary for their development. Because of this, there can be a lack of emphasis on their instruction, specifically literacy instruction. Those who work with students with disabilities need to be able to look beyond the impairments and hold high expectations and believe in their ability to learn. When people are not able to do this, wrongful assumptions can be made about students' abilities. These presumptions are a contributing factor as to why there is limited research on the literacy instruction of students with disabilities.

While some may view that literacy is not a high priority for students with multiple disabilities due to the focus on their physical impairments, others believe that teaching functional skills to these students is of higher importance. While literacy is part of the curriculum, for students with multiple disabilities, it takes a functional approach due to the assumption that these

students are not able to learn comprehensive literacy skills. "…their curriculum focused on 'functional' vocabulary instruction associated with the development of functional skills to increase the students' independence and participation in home, school, and community living" (Hunt et al., 2020, p. 330). The functional approach to literacy has been a historical pattern in the creation of literacy curriculum for students with disabilities. With federal policies adjusting and acts such as No Child Left Behind (NCLB) of 2002 and Individuals with Disabilities Education Improvement Act of 2004, the research on this topic has been progressing over the past 20 years. These federal policies have mandated that all students, including students with disabilities, will have access to the general education curriculum. Concerning the acts and federal policies surrounding this topic, Hunt and her fellow researchers state, "This increased emphasis on scientifically based literacy instruction has been associated with an emerging body of research documenting the effectiveness of literacy instruction for students mildly to severely affected by intellectual disabilities and autism" (Hunt et al., 2020, p. 331).

Research about the literacy instruction for students with disabilities has increased in the past 20 years due to the gaining knowledge that these students require and are capable of more than functional literacy skills. The lack of research prior to the early 2000s is a contributing factor as to why there is not a depth of information and research about the literacy instruction of students with disabilities. It is only within the last 20 years that this information has been sought after, studied, and published. The study of the instruction in which students with varying disabilities have the right to access is a topic that has just begun being researched and will continue to grow in its depth of knowledge. There is a multitude of reasons for this topic having a lack of research and studies; some of which being that most studies about the best practices of literacy instruction are completed on general education students, the insufficiency of special

education teacher training, inaccurate assumptions surround the capabilities of students with disabilities, and the emphasis of functional literacy skills as opposed to equal access to general education curriculum. In addition, much of the research that has been conducted is on students with disabilities but not on students diagnosed with a moderate to severe disability.

Hunt et al. (2020) are among the researchers who have conducted a study and contributed to the research concerning students with severe disabilities and their literacy instruction. This particular study was conducted across 16 schools and 11 school districts, displaying participants with varying socio-economic and cultural backgrounds. The focal students in this study had a moderate to severe intellectual disability and/or Autism, were between the grades of Kindergarten through 4th, were below a first-grade reading level, spoke English, and had adequate hearing and vision. Students were tested in September (to gather baseline data), as well as November, January, March, May, and June. Researchers were attempting to find the efficacy of ELSB (Early Literacy Skills Builder) "when it was implemented in small-group contexts in general education classrooms with peers participating in the lessons" (Hunt et al., 2020, p. 343). The intervention group was the students receiving ELSB instruction, and the control group received BAU (Business as Usual) instruction. Throughout the school year, students in the ELSB intervention group made greater gains in foundational literacy skills, including phonics, phonological awareness, comprehension, and the conventions of reading and print awareness. "The results of our study suggest that the effects of ELSB instruction may be generalized to integrated, small-group instructional contexts in general education classrooms in which students with and without disabilities participate in lessons together" (Hunt et al., 2020, p. 344). This finding shows that inclusion models can have the ability to not only increase literacy skills in students with moderate to severe disabilities but also provide opportunities for peer modeling,

positive interactions for students with and without disabilities, and positive changes in perceptions of students with disabilities. This is newer research available to educators, showing success for not only inclusion models but also the fact that students with moderate to severe disabilities have the ability to be successful in learning academic literacy skills in the classroom.

As previously discussed, the abundance of research surrounding literacy instruction primarily concerns general education students. A parent/guardian can research emergent literacy practices in order to best prepare their student for phonemic awareness, phonics, vocabulary, fluency, and comprehension and they would likely find information pertaining to typical children without exceptionalities. When taking into consideration students that do have disabilities, it is important to recognize how their emergent literacy experiences are going to be different from typical children. Koppenhaver et al. (2007) discuss how characteristics of disabilities bring up potential issues that make it difficult for parents to implement emergent literacy experiences. One of these characteristics being SSPI (severe speech and physical impairment). As disabilities come in all forms and no two people are the same, many people with exceptionalities have speech and/or physical impairments. SSPI can decrease the amount of emergent literacy experiences such as writing, drawing, reading, communicating, etc. a child with a disability has compared to a non-disabled child. Examples of this identified by Koppenhaver, Hendrix, and Williams reveal that children with SSPI "…were less likely to engage in writing and drawing activities than nondisabled children, probably because of accessibility issues, and were more likely to use the computer when they did write or draw" and "…relied more on unintelligible vocalizations and facial expressions for other communications" (Koppenhaver et al., 2007, p. 82). These same researchers, who examined case studies and interventions of students with disabilities as well as SSPI, found various evidence-based research practices for parents,

clinicians, specialists, educators, etc. that take a unique approach specific to the student and the environment in how to identify problem-solve interventions that may or may not be appropriate for the child. A:

> Cost-benefit-probability analysis (e.g., costs in money, time, effort, and emotional investment; benefits to student learning, independence, communication, increased caregiver or practitioner knowledge); individual-specific hypothesis testing (i.e., trial and error); and single-subject experiments (i.e., inferring from specific studies of individuals what might reasonably be attempted with a particular and similar child). (Koppenhaver et al., 2007, p. 87)

When it comes to emergent literacy practices and exposing children to reading, the necessary approach is not a one size fits all. There are various practices that educators should be implementing, and, in some circumstances, they should be using a multitude of diverse options in how to best serve students with disabilities. This study shows the importance of educators and service providers looking at the whole picture when addressing the needs of their students.

Hunt et al.'s (2020) study discusses the lack of research on the instruction of students with disabilities and how much of the research published today has been conducted on general education students. Browder et al. (2009) expand on this in their research and identify that there is an overall lack of information about literacy instruction for students with disabilities. This shows that the available knowledge about the instruction of these students is not only conducted on general education students, but there is insufficient information about the literacy instruction. In the exploration of literacy instruction best practices for students with developmental disabilities, there are three potential explanations as to why reading instruction may not be made a top priority in the education of these students. Browder et al. state that "…resistance to

teaching literacy to this population may stem from a cultural denial of competence historically associated with marginalized groups…" (Browder et al., 2009, p. 270). There is a high probability that people with disabilities are wrongly judged on their capabilities and it is assumed that they are unable to learn. Another potential explanation is that this group of people is only able to learn functional sight words rather than the decoding skills necessary in order to read. In addition to these, "…students' deficits in language and communication may seem to preclude reading instruction. Nearly all early reading programs assume participating students have some entry language skills" (Browder et al., 2009, p. 270). The explanations that these researchers identify have to do with incorrect assumptions about what it means to have a disability and that person's capacity to access instruction and be successful in the classroom.

Browder et al. (2009) created models based on the theme of increasing access to literature for students with disabilities. The first proposed model shows various ways that students can increase opportunities and instruction to access literature as well as increased independence as a reader that included adapted books, time for literacy, readers, technology to access text, task analysis for read aloud, text awareness, vocabulary, listening comprehension, phonemic awareness, phonics, comprehension, vocabulary, fluency, text applications, functional activities, and writing. The second proposed model shows that putting more emphasis on functional reading with both narrative and informational literature will allow students of all ages to learn to decode words and read. The models have specific outcomes in order to increase the success of reading in students with disabilities. The two Researchers of this article offer qualitative information that service providers and educators can use to best instruct and help their students access literacy. The outcomes of the models and information provided in the research focus on two outcomes that include teaching students to gain meaning from text that is read aloud and teaching students

to become independent readers. This research conducted by Browder et al. (2009) provide both explanations as to why there is an absence of research in the instruction of literacy with students with disabilities as well as knowledge as to how to implement skills and tactics to best teach these students in the classroom.

Literacy is a multifaceted, crucial component of one's education that affects all areas of life. In regard to the research concerning literacy instruction in the education system, the majority of information that has been researched and studied is about general education students. This means that there is a major lack of information about how to best teach literacy to students with developmental disabilities. This can be due to inaccurate assumptions regarding these students' competence and academic potential as well as the lack of training to special education teachers. Now that potential explanations as to why there is a currently lack of information and research on this subject have been discussed, the following paragraphs will focus primarily on what research-based tactics special educators can implement in their own classroom based on the information that has been published from years 2000-2020.

Application of Research-based Best Practices

The research considering the literacy instruction of students with disabilities got its start primarily in the early 2000s due to federal policies stating that these students require equal access to the general education curriculum. Since the 2000s, the research has acquired information that is crucial for both new and experienced teachers to learn as they teach this population. There are useful, research-based tips and recommendations available for teachers that will be compiled in the following pages. These recommendations come from various studies, case studies, and scholarly articles. While most of the following information pertains to K-12 students with developmental disabilities, some of the research derived in this literature review

consists of students with Intellectual Disabilities (ID), physical impairments, and Autism Spectrum Disorder (ASD).

Browder et al. (2009) published findings of potential explanations as to why there is a lack of research conducted on the literacy instruction of students with developmental disabilities as well as two models in which teachers can follow in order to enhance their own teachings to this population. The outcomes of this research are meant to provide "…(a) enhanced quality of life through shared literature and (b) increased independence as a reader" (Browder et al., 2009, p. 269). Educators can enhance the quality of life through shared literature by making sure all students have access to literature, whether this simply means time for reading or incorporating the modifications necessary such as adapted books. The research also notes how and what instruction is delivered based on student age makes an impact on how the student will learn. For example, learning how to read would be more beneficial with elementary school-age children versus secondary-age students. It is also important for teachers to introduce age- and grade-appropriate literature to their students in order to maintain interest levels in reading. Lemons, Allor, Otaiba, and Lejeune (2016) reviewed Browder et al.'s proposed models for literacy instruction for students with disabilities and compiled ten research-based tips for educators, parents, and/or service providers to apply when working with these students. These tips include:

1. Keep big picture goals in mind
2. Ensure you have a clear picture of the student's current level of functioning and set meaningful, measurable goals
3. Provide explicit, systematic reading instruction
4. Provide instruction with sufficient intensity to accomplish goals

5. Seek out professional development opportunities to deepen understanding of the complex process of learning to read
6. Remember that language abilities are the underlying foundation for reading skills
7. Scaffold working memory with images, objects, letters, and words
8. Target specific parts of a scope-and-sequence to focus instruction
9. Use data to guide instruction and adaptation
10. Involve service providers and family members (Lemons et al., 2016, p. 19-27).

As previously discussed, Hughes and Braun's (2019) research identified a lack of special education teacher training. A new teacher that may be overwhelmed or unsure of where to start in how to teach literacy to their students with disabilities can read this list of ten research-based tips and begin making plans based on these best practices. Lemons et al. (2016) were able to create a compact list of substantial guidelines that any teacher could apply to their work in order to enhance learning for their students.

Emergent literacy instruction is a crucial component for students to develop the skills required for reading. For students with disabilities, these first skills taught are arguably most important as it is evidenced that these students' "…learning may be slower…and that instruction may need to be provided for a longer period of time or at a greater level of intensity, or both" (Reichow et al., 2019, p. 10). Teachers should be using research-based tactics and best practices in order to guide their teaching. Not only could teachers ranging from new to experienced read the top ten research-based tips for enhancing literacy instruction for students with disabilities listed above, but also look at the research of Reichow et al. (2019) as well. These four researchers analyzed seven studies that included 352 children across the world pertaining to students with intellectual disabilities and their reading instruction. Based on these studies, they

determined the effect size of various early reading skills that are typically implemented in the classroom with students with disabilities. Reichow et al. (2019) found that phonological awareness, word reading, and expressive and receptive language had a moderate effect size when teaching students with disabilities how to read. Skills such as oral reading fluency and decoding were evidenced to have a low effect size. This information tells us that students with disabilities are likely to benefit more from being taught phonological awareness, word reading, and expressive and receptive language skills versus oral reading fluency and decoding. In order for students to be as successful as they can be when learning literacy at an early age, Reichow et al. (2019) informed teachers to focus on phonics instruction by helping students understand that "…spoken language consists of units (e.g., words, syllables, and phonemes) that can be broken apart and manipulated and associating these spoken units with the graphic units used to represent them in speech" (Reichow et al., 2019, p. 10). This information is incredibly valuable to educators so that they can focus more of their lesson planning on phonemic awareness rather than decoding since this is proven to be more effective in the literacy instruction of students with disabilities. Reichow et al. (2019) reported that they were only able to analyze seven studies for their literature review, and it is important to note how the effect size could change if there were more studies included for them to evaluate. While phonological awareness, word reading, and expressive and receptive language showed a moderate effect on students with disabilities versus fluency and decoding, there is a possibility that these three components could have an even stronger effect size given that additional studies were involved in this literature review.

Literacy is arguably one of the most important skills that a student is taught at an early age. Reading instruction should be introduced as early as preschool age. Green, Terry, and Gallagher (2013) stated that "Preschoolers who exhibit well-developed emergent literacy skills

typically have better success in all academic areas from elementary through high school" (Green et al., 2013, p. 249). It is important for all students, and specifically students with disabilities, to be immersed in a literacy-rich learning environment in their first years at school; this could be considered an Early Reading First (ERF) classroom. Green et al. (2013) studied the importance of preschool-age children with identified disabilities receiving high quality literacy instruction in an inclusive classroom with students that do not have disabilities and whether there was a narrowed achievement gap in these two groups of students while in the same ERF learning environment. This particular study took place throughout the fall and spring of one school year, involved 652 total children who learned in an ERF preschool classroom; 77 of these students were identified to have a disability and were on an Individualized Education Program (IEP). The study measured alphabet knowledge, beginning sound awareness, print and word awareness, and rhyme awareness. Green et al.'s (2013) study displayed results showing that "…children with disabilities made significant progress in emergent literacy skills, mirroring the gains of their typically developing peers" (Green et al., 2013, p. 254-255). However, the results also show that from the fall to the spring, the students with disabilities scored lower than their same age peers without disabilities on the literacy tasks despite being taught in the same ERF classroom. Despite there being an achievement gap between these two groups of students, there was an overall positive amount of growth in how much the students learned throughout the school year. It is important for teachers to provide inclusive and literacy-rich environments for all students because it has a large potential to increase the growth in student's literacy skills, students with disabilities in particular.

In addition to creating an Early Reading First learning environment for young learners, there are other components to take into consideration when teaching early literacy skills to

students with disabilities. Browder, Ahlgrim-Delzell, Flowers, and Baker (2012) conducted research concerning the evaluation of early literacy programs for students with disabilities. The components of the early literacy programs that they studied were primarily centered around phonics and phonemic awareness. In this particular study, there were 93 students involved of ages ranging from Kindergarten to 4th grade. Browder et al. (2012) discuss two major limitations occurring with studies concerning sight word interventions and instruction, these being that the studies rarely include information regarding reading comprehension. "Students may simply learn to name a word without necessarily understanding or applying it" (Browder et al., 2012, p. 237). The second limitation being that sight word instruction only will not teach the student to learn to read. In this particular study, the intervention that was implemented in the treatment group was the Early Literacy Skills Builder (ELSB) that targets vocabulary, comprehension, phonemic awareness, and early phonics. ELSB was compared to Edmark program curriculum, which was applied to the control group of this study. The results found that the students who received the multicomponent approach of ELSB showed higher mean values for phonic skills and conventions of reading (CVR), stating that the experiential curriculum "…outperformed students who had a sight word approach on measures of phonemic awareness and phonics" (Browder et al., 2012, p. 243). The National Reading Panel (NRP) identifies the five components of literacy as vocabulary, fluency, comprehension, phonemic awareness, and phonics. The research shows the importance of using a multi-component literacy approach that targets all five components of literacy that the NRP has identified. This would be a preferred approach instead of focusing strictly on sight word reading. Students with disabilities are more likely to understand what they are reading and increasing their comprehension when receiving a multicomponent approach with an emphasis on decoding.

In addition to using a multicomponent approach to literacy instruction for students with disabilities, it is important to take into consideration how to instruct nonverbal students or students that may show their learning in a different way. Researchers Baker, Spooner, Ahlgrim-Delzell, Flowers, and Browder (2010) created a study in which to understand the processes of the Nonverbal Literacy Assessment (NVLA). The NVLA was initially designed to measure the literacy skills of students with developmental disabilities "who were not able to respond to the standardized administration procedures of the available literacy measures" (Baker et al., 2010, p. 502). Students with varying disabilities often have characteristics that interfere with their ability to show their knowledge, whether this is a physical, sight, speaking, or hearing impairment. It is important for educators and service providers to provide equal learning opportunities for all students, no matter the characteristics of their disability. There has been shown to be a difficulty with finding adequate measures of literacy ability with this student population because of "…lack of test-taking skills and the need for augmentative communication systems" (Baker et al., 2010, p. 501). The NVLA has the ability to assess the early literacy skills of students with more significant disabilities who are also nonverbal. In this study, there were 207 student participants that were diagnosed with both a Developmental Disability and Autism Spectrum Disorder. In addition to this, participants in the study qualified by having an IQ score lower than 55 and were of ages ranging from Kindergarten to 4th grade. The Nonverbal Literacy Assessment (NVLA) uses a receptive response format that provides students with options to show their knowledge. Students taking this assessment can respond by either finger pointing, eye gazing, manipulating Velcro cards, or pulling the corresponding response. Unlike typical standardized tests, the NVLA has options for students with exceptionalities to respond to a question and display what they know through varying outlets. Given the evaluation of NVLA, it was found

that “all of the latent constructs and parcels appeared to be highly correlated in all of the tested models” (Baker et al., 2010, p. 509), showing that NVLA is an appropriate assessment for measuring literacy skills of students with disabilities that are nonverbal. In addition to stating their findings, Baker et al. (2010) also noted that incorporating a balanced approach when teaching literacy is most beneficial for students with disabilities and that students are more likely to be successful in both gaining and showing their knowledge when they are taught the multiple components of literacy.

“Emergent literacy has been defined in a variety of ways but is usually conceptualized as the continuum of knowledge, skills, and attitudes that develop from infancy through about age five, and support the later development of conventional literacy when formal schooling begins” McDonnell et al., 2014, p. 496). The following information provided was collected by researchers McDonnell et al. (2014) through a national survey via U.S mail. Children with disabilities or any kind of communication, language, or speech difficulties are at a high risk of being unable to read. Some of the strategies that have been identified to help these students include positioning the child for optimal performance during activities, stabilizing emergent literacy materials (i.e., Velcro), providing alternative ways for the child to communicate, using switches, providing adapted utensils, positioning items mindfully for accessibility. This study’s data was based on surveys that were mailed to a random sample of Head Start preschool programs (McDonnell et al., 2014). The sample of teachers that were surveyed was based on teaching students under the age of five years of age living in the nine regions in the 2000 U.S Census. Teachers were given a variety of strategies and disclosed how often they use these strategies in their classrooms. Teachers showed that they were most likely to use providing visual cues for speech and story, positioning children for optimal seating, embed language

learning into classroom routines, and use gestures, movements, or facial expressions to generate meaning.

People with Intellectual Disabilities have a significantly lower Intelligence Quotient (IQ) than those that develop typically. The American Association of Intellectual and Developmental Disabilities (AAIDD) state that this lower IQ level is the predominant factor that contributes to the difficulties this population faces when learning to read. Previous research has shown three traditional types of instruction for students with ID that include developmental reading, functional reading, and remedial reading as well as Language Experience Approach (LEA), whole language approach, and basal reading approach. The method of this systematic review research article focused on various designs, including experimental studies with two groups, single subject design, descriptive study, and literature review. Researchers analyzed 128 studies and found that most of these studies focused on vocabulary and acquisition of sight words. From these studies, researchers state that special education teachers teaching students with ID or DD should give explicit/direct instruction, a long time should be dedicated to teaching students reading skills, a systematic order of practices or program is recommended, and the idea that student with ID or DD "…need to be exposed to extremely intense practice and instruction in order to learn to read" (Alnahdi, 2015, p. 85). In more recent findings in 2020, Alquraini and Rao completed a systematic review of literature surrounding the reading interventions for students with intellectual and developmental disabilities. This particular review consisted of 12 studies and 167 participants that included evidence-based strategies for effective reading at both elementary and secondary levels. Alquraini and Rao identified the three purposes of learning to read being: reading for survival, reading for information, and reading for pleasure. In addition to this, the researchers also identified that reading curriculum is primarily based on the National

Reading Panel (NRP) and the National Institute Child, Health, and Human Development (NICHD) and what they classify as the five components of literacy. When educators are focusing on the phonological awareness, phonics, fluency, vocabulary, and comprehension components, the following effective strategies were identified during this literature review. Researchers state that "Read-aloud strategy was used successfully by five of the 12 of reviewed studies…[and]…designs to enhance sight-word recognition using 2-part phonics instruction sequence using direct instruction approach, sight words with connected text; and instruction flashcards system…" (Alquraini & Rao, 2020, p. 101-102). This shows that when special educators encompass the five literacy components identified by the NRP and NICHD, the interventions that will be most beneficial to their students in learning how to read include reading aloud, phonics instruction, connecting text to sight words, and incorporation flashcards. Alquraini and Rao's literature review in 2020 included a particular study in 2013 by Lundberg and Reichenberg that included further information about how students with disabilities can increase their comprehension skills and make meaning from text. Comprehension, a key component to literacy, was the focus of this intervention study and the use of Reciprocal teaching (RT) was implemented to the control group as the intervention. Reciprocal teaching is an educational technique in which the student and teacher essentially switch roles and the student is chosen to lead the classroom discussion, read text to the class, etc. It is thought that comprehension and understanding text can be increased in students with disabilities through a social context; the social context provided for this intervention study consisted of the reciprocal teaching tactic. Lundberg and Reichenberg (2013) wanted to discover and prove whether this particular learning opportunity could make a positive difference in students' literacy abilities. The results of this 2013 study derived from pre- and post-assessments showed that given RT,

students' performance in the areas of word recognition, sentence reading, fluency, reading comprehension, and listening comprehension increased overall. It allowed for students to both improve their scores and participate in text talks that these students would not typically do if not for the participation in reciprocal teaching. This was a major finding concerning the literacy instruction of students with disabilities that contributed to the findings of Alquraini and Rao's 2020 study.

A majority of schools are beginning to or already have incorporated the use of technology into students' literacy education. As we continue to discuss the best practices of reading instruction for students with disabilities, it is important to take into consideration how students need to learn self-monitoring. Self-monitoring is not only important for students to learn when it comes to technology but also for increasing their independence as they grow. Melissa Hudson conducted a study in 2019 surround three male students that had an intellectual disability diagnosis. The three students in this study were nominated by their teacher for showing a need to increase their literacy skills; these students had an IQ of 55 or less, were between the ages of 13-16 years (6th through 8th grade), had vision within normal limits, were unable to read text independently, had an IEP goal connected to reading, were able to make gestures or point to show understanding, and had regular school attendance. Hudson implemented an iPad-delivered intervention organized into seven levels that addressed 14 literacy objectives. The 14 literacy objectives that the iPad-delivered instruction addressed included: reading sight words, point to sight words to complete sentences, point to text as it is read, say and/or point to a word to complete a repeated story line, respond to questions about a story, demonstrate understanding of a syllable segmentation by clapping out syllables in words, demonstrated understanding of phoneme segmentation by tapping out sounds in VC and CVC words, identify letter-sound

correspondences, point to and/or say the first/last sounds in words, identify pictures that begin/end with given sounds, point to letter sounds in words, blend sounds to identify pictures, point to pictures/words representing new vocabulary, and use new vocabulary words and personal information to create a story. Students also used self-monitoring sheets to record their own progress on the iPad-delivered lessons. As the lessons were completed independently, students could continue moving up in the lessons on the iPad. Results showed that two of the three participants had an "increasingly higher percentage of independent correct responses" (Hudson, 2019, p. 189). It is important to note that this study allowed the students to be involved in their own learning as they were expected to record and monitor their literacy progress. "Self-monitoring is an important self-determination skill that students with developmental disabilities often need to be taught" (Hudson, 2019, p. 194). While self-monitoring can increase self-determination, it is also an important tool for secondary level learners to use as it can increase engagement, independence, and confidence in their work effort. Hudson noted that learners at this age level are more likely to find instruction delivered through technology more engaging, potentially even more so if the learners have an intellectual disability or are nonreaders. As we discuss the importance of self-monitoring from Hudson's study and the value of including students in their own education, an article published in the *Research & Practice for Persons with Severe Disabilities* journal in 2011 provides a perspective of two individuals and their experience learning literacy. This article is written from the perspective of two adults: one with an Intellectual Disability (Ann) and one without (Ruth). They recall their experiences in the school system, how they learned to read, and what role literacy plays in their lives. These two friends were asked to co-write this article about the impact that literacy has had on their friendship. They recall that their friendship started with literacy as one passed a note to the other as a way to

introduce themselves. Ann and Ruth discussed over the phone and e-mail, working separately and together, about how they could write this article, including both of their own personal experiences. Literacy has a large impact on human functioning as well as socialization in the area of initiating and sustaining friendships, communicating care and affection, work, leisure, and play. The purpose of the article is to allow for others to reflect on the role of literacy in their own lives and how it impacts all facets, specifically socialization and friendships. The authors state that literacy can be seen as a communication tool. For example, writing birthday cards, Christmas cards etc., to tell others how you feel about them and sustain important relationships with friends and family. Ann's initial memories of literacy go back to when she was 2-3 years old listening to her mom and sister read, she states "I enjoyed the colorful pictures because they helped me to understand and enjoy the stories…after a time, I began to wonder if I would ever understand or be able to read those strange-looking words just like they were doing" (Forts & Luckasson, 2011, p.122). Ruth's early memories of reading were when she was six years old in school; when each student had to take turns reading a sentence, Ruth would memorize what other students were reading and repeat these words when it was her turn. Ruth says, "…I seem to have started later than Ann because my family was not as focused on literacy" (Forts & Luckasson, 2011, p. 123). In comparison, even though Ann has an Intellectual Disability, she was introduced earlier to literacy, but both girls questioned if they would ever learn to read. Ruth reports that even though she was memorizing words when she was six years old, her skills increased when she moved on to first grade. The stories from Ann and Ruth tell us the importance of introducing literacy at a young age as these skills learned are important not just for school but for everyday communication and friendships. As we learn both from this article and Hudson's study in 2019, students involved in their own education are more likely to have meaningful learning

experiences that relate to literacy and the implementation of these skills into their lives outside of school.

A systematic review conducted by Almalki in 2016 consisted of the review of 12 studies published between 2000 and 2015 that included the best practices of teaching literacy skills to students with multiple disabilities; all of the studies that were reviewed discussed literature while some also include science and mathematics. All of the 12 articles reviewed for this systematic review involved studies that were conducted on students with moderate to severe disabilities as well as Autism. The analysis showed that seven out of the 12 articles reviewed had a strong level of evidence for their best practices while the rest had a moderate level of evidence. Systematic Instruction was a strategy Almalki (2016) determined as a best practice when teaching students with multiple disabilities. The review shows that the use of systematic instruction is a strong evidence-based practice in teaching literacy to students with multiple disabilities. The basis of these results is derived from a 2012 study conducted by Aykut about systemic instruction including the use of time delay and most-to-least prompts. There are various ways that a teacher can prompt a student during instruction which include a physical help prompt, verbal prompt, sign prompt, and model prompt. This particular intervention study is aiming to identify whether time delay and most-to-least prompts are effective, and which is *most* effective when instruction of students with disabilities. Given the interventions implemented, it was found that the participants in the study were able to achieve at skills asked of them at 100% accuracy when given both time delay and most-to-least prompts. The results of this study showed that both of these prompts were effective when used in the classroom with students with disabilities. As Aykut's study was included in Almalki's literature review, the findings were used as a basis to determine the effectiveness of systematic instruction, and more specifically, the use of prompts

in systematic instruction. Self-directed learning was another strategy deemed a best practice in Almalki's (2016) review. Self-directed learning consisted of pictorial instruction, a picture-based graphic organizer, in order to teach students appropriate social behavior. Self-directed learning by means of pictorial instruction as well as the self-determined learning model has been proven through this systematic review as a significant evidence-based best practice. The self-determined learning model of instruction "leads to major improvements in curriculum success and specific goal attainment among students with disabilities" (Almalki, 2016, p. 25). A study that contributed to Almalki's finding about the effect of self-directed learning was Shogren et al.'s study in 2012. This study consisted of 312 high school students with intellectual disabilities throughout a two-year data collection duration. It looked at the effectiveness of the Self-Directed Learning Model of Instruction (SDLMI) on students and how this teaching strategy can influence student's determination skills, including goal setting, self-monitoring, and goal adjustment as needed. When teachers were trained in and implemented SDLMI into their classrooms, students with intellectual disabilities showed a significant increase in goal attainment for transition-related goals. This type of instruction resulted in an overall increased access to general education classes and goal attainment in academic and transition areas. Shogren et al. (2012) demonstrates to teachers the importance of educating our students on setting realistic goals and having the determination to accomplish them.

There are explanations as to why there is a lack of research on the literacy instruction of students with disabilities; however, the studies have been slowly growing and researching has been progressing in the last ten years as people have become more informed about people with disabilities. Many best practices for teaching literacy to students with exceptionalities are included in the above pages, these practices are evidence-based and centered around the National

Reading Panel's identified five components of reading. In the following paragraphs, we will be discussing how teachers can best implement these evidence-based practices into their own classrooms and how they can create and sustain a literacy rich environment.

Implementing Best Practices in the Classroom

Many special educators may be asking where to begin or how to structure their students' learning day. As schools consist of more general education teachers than special education teachers, it is helpful to know what success other teachers are having in teaching their students with disabilities.

Researchers Ciullo, Ely, McKenna, Alves, and Kennedy administered a study in 2018 to observe the teaching practices of special education teachers. There were 80 observations conducted for this study that took place primarily in resource special education classroom settings. Ciullo et al. (2018) had three research questions that they asked: 1) What components of reading instruction and subcomponents do special educators in low-performing schools use during instruction with students with learning disabilities in grades 4 and 5? 2) What text-based instructional practices are utilized during observed reading lessons? 3) What are special educators' perceptions of professional development quality and access to instructional practices and resources? Ciullo et al. found that the average lesson lasted approximately 32 minutes. They also found that teachers spent the most time on reading comprehension (31%), 16% of the time on phonics, 12% of the time on vocabulary, 12% on text reading, 8% on writing, 7% on fluency, 3% on alphabetic knowledge, 2% on spelling, 1% on phonological awareness, 0.5% on concepts of print, and 0.1% on oral language development. Because the observed classrooms included students with disabilities, researchers noticed that teachers were using a "…comprehensive approach to addressing student needs by teaching foundational skills not usually taught in fourth

and fifth grade while continuing to promote higher level skills like comprehension" (Ciullo et al., 2018, p. 76). This shows that special education teachers in this study were using a targeted approach to both provide what the students needed based on their present level as well as grade level standards required for standardized assessments. These findings showed a positive result for targeted instruction that allowed for students to have minimal off-task time and for teachers to teach foundational skills as a way to address the needs of the students.

As previously discussed, students with disabilities can have multiple impairments that will likely alter how the student learns. Researchers Beecher and Childre conducted a study in 2012 that looks at the effects of incorporating American Sign Language (ASL) into literacy instruction in the special education classroom. The Individuals with Disabilities Education Act (IDEA) of 1997 (reauthorized in 2004) required "all students have access to general education curriculum" (Beecher & Childre, 2012, p. 487). The No Child Left Behind (NCLB) Act of 2001 emphasized the outcomes of state content standards. As time continues, there has been more recognition for the need for adequate literacy instruction and curriculum for students with disabilities. The majority of past research has focused on sight word instruction for students with intellectual disabilities; however, "it has provided limited investigation into the assessment and application of word meaning" (Beecher & Childre, 2012, p. 487). This particular study took place in a Southeastern elementary school in a self-contained classroom with students of mild to moderate disabilities. Only three students participated in this study as they needed to not be previously placed in the classroom with this reading curriculum; they needed a diagnosis of Intellectual Disability (ID) or Developmental Disability (DD) and needed a reading level at a pre-kindergarten to kindergarten level. The three participants of the study received literacy instruction through the PCI Reading Program curriculum, each lesson was 15-25 minutes of

activities, and the instructional rotation repeated every six days. The sight word activities were broken down into learn-the-word and trace-the-word activities, as well as hands-on practice and independent practice. “Sign language was integrated into the curriculum to provide students with an additional method of information retrieval. By combining word and letter signs with reading instruction, students received an alternative visual representation of new vocabulary and letters which served to support memory and recall” (Beecher & Childre, 2012, p. 498). Growth was measured through pre- and post-tests that measured letter, letter-sound, sight word knowledge, receptive and expressive vocabulary, listening comprehension, and reading. The results of Beecher and Childre’s study demonstrate that participants exhibited increased skills in the areas of letter identification, letter-sound identification, sight word knowledge, listening comprehension, and receptive vocabulary. Overall results of this 2012 study showed that students with intellectual and developmental disabilities were able to gain knowledge and grow in their basic academic literacy skills given comprehension reading programs that incorporate the use of sign language.

Since the NCLB Act and IDEA, students with disabilities have been more accepted in their school by general education teachers and their same-age peers. Inclusion and providing students with and without disabilities the opportunity to interact and learn together has shown to make a positive impact for all students involved. A case story written in 2009 discusses one particular student with multiple disabilities named Matthew and his journey in an inclusive classroom setting. Matthew only knew how to read two words, his listening comprehension was strong, but he was frustrated easily with his inability to read. With a special education team approach and using Universal Design, teachers and service providers observed him and shared their recommendations to be: individual instruction, enlarged font texts, using multiple cueing

systems, repeated reading, and adapted writing experiences. Given the individual instruction, while it took Matthew away from his peers some time throughout the school day, within months, he was looking at the words that were being read and make connections of what he is seeing and hearing. Due to Matthew's vision impairment, fonts were changed to Comic Sans and enlarged up to size 36. This allowed Matthew to track what was being read to the word as well. The increased white spaces on the page due to the large text size reduced his reading fatigue and allowed him to read longer. Using multiple cueing systems allowed Matthew to manipulate the sounds in words by focusing on initial sounds, predicting words, recognizing the sentence structure, and self-correcting when the meaning was lost. In order to enhance Matthew's ability to make meaning of the text, teachers included picture walks and making predictions. Within months of implementing this intervention, Matthew began chunking parts of the word or their syllables together. Sounding out words still became difficult but using multiple systems, he began to identify the beginning portions of the word. Matthew did a lot of rereading and repeating words, whether to his 1:1 aide, teachers, or parents at home. These rereading opportunities allowed him to practice, build fluency, and develop confidence in his skills. Due to Matthew's physical impairment, he was not able to write, but teachers made it possible through adapted writing experiences. Staff would scribe stories that Matthew would tell, he would use magnetic letters to write, or he would type words in an enlarged font on the keyboard. As he gained more practice in this area, he preferred using his keyboard and began typing/writing poems, stories, etc., within the year. "Teachers who look beyond traditional programs and use assessment-guided differentiated instruction can begin to meet the diverse needs of students…with multiple special needs" (Ferreri, 2009, p. 9). The story about Matthew provides a case study proving that students' needs should be met by the special education team in order to

determine what the students require in order to succeed in the school environment. Differentiated instruction allows us to look at the individual rather than placing students in groups; in doing so, students' needs are more likely to be met in the classroom.

Similar to Matthew's story, it is important to take into consideration the parents' knowledge of their own child and look at what perspectives and ideas they have on their child's learning experience. A 2013 qualitative interview study by Michelle Duffy explored the perspectives of 22 parents that have children with intellectual disabilities ranging in age from kindergarten to high school age. The parents involved in this study volunteered to be subjects in order to provide their perspectives. The interview questions to parents asked, "1) What are the perspectives of such parents on the literacy instruction offered to their children?, and 2) What are the perspectives of such parents on the opportunities available to them to participate in decision-making about this literacy instruction?" (Duffy, 2013, p.1). The data from these interviews showed that parents were likely to be more satisfied with the literacy instruction their child was receiving when the teachers had a positive attitude and willingness to accept and work with the student. Parents also felt it was important that teachers were accepting and understanding of their child. Parents felt less satisfied with reading instruction when teachers were focused on the student's differences and behaviors rather than the actual reading skills. Parents reported more satisfaction in literacy instruction when their students were taught in an inclusive environment and in an engaging classroom. Although, some parents included in the study did not feel satisfied with inclusive environments and preferred a more segregated learning environment away from general education peers. The qualitative data in this study shows that a positive attitude and optimism about a child's educational journey is extremely important for both the student and their parents. Teachers need to believe in their students and their capabilities as well as come up

with potential solutions for future issues that may come up in the child's special education programming. It also shows that parents have differing views on their child and it is important to honor their wishes when it comes to their student's education. Teachers should value parents' perspectives and work with them as a team in order to find the best possible options for their student's learning.

As previously stated in Duffy's qualitative interview study, parents have differing views on whether their child with developmental disabilities should be in an inclusive learning setting. A 2015 study about three fourth grade students with mild to moderate disabilities provides more insight into an educational setting that encompasses both students with and without disabilities as well as a special education teacher and general education teacher working together to co-teach a literacy class. The journal, written by educators Swicegood and Miller, looks at and identifies best practices for high quality literature education in a co-taught inclusive literacy classroom. It is important to note that this article is a publication of these teachers and their classroom experience and what worked best as they navigated teaching literacy to a diverse group of students. When reflecting on instructional design, the teachers state the importance of using high-quality children's literature. This is important for *all* students to get involved in their reading; both general education and special education students will be invested in their reading when it is a book that is of interest to them. Special education students do not always have access to high-quality books. In this particular environment, using co-teaching during instruction was reported as helpful and worked well for teachers and students. Teachers wrote that when co-teaching, factors that should be considered are "knowing yourself, knowing your partner, knowing your students, being familiar with the curriculum, being familiar with effective instructional methods and the strategies that go with each for presenting and structuring lessons,

co-planning time, and progress monitoring" (Swicegood & Miller, 2015, p. 70). The general education teacher and special education teacher have a very organized level of support, so each knows when to help students and when to take a step back. The teachers focused on teaching the students how to select manageable texts through BOOKMATCH (book length, ordinary language, organization, knowledge prior to the book, manageable text, appeal to the genre, topic appropriateness, connection, and high interest). In addition to these items, the two teachers had an organized way of progress monitoring through observations, curriculum-based assessments, and anecdotal notes. Through the experiences of Swicegood and Miller (2015), teachers can learn how to successfully co-teach literacy to a group of diverse students. Teachers need to understand their co-teacher and themselves as well as create a level of organization that is effective for their students. These experiences also show that students with disabilities are capable of learning literacy alongside their general education peers, and in doing so, gain self-determination and self-advocacy skills in addition to increasing their ability to read. Co-teaching and inclusive learning opportunities are crucial for an educator to consider as they are considering how to best meet their student's needs.

"A literacy rich environment is one in which students have the opportunity to engage in listening, talking, reading, and writing at any and all times during the day" (Stone et al., 2018, p. 192). In 2018, researchers Stone, Rivera, and Weiss discussed concrete ways for teachers to create a literacy rich environment, primarily for students with developmental disabilities. Teachers can do this through a strategic creation of classroom libraries, environmental print, having and exploring a variety of literature, and provide various literacy activities. Stone, Rivera, and Weiss present various domains that consist of applicable ways for teachers to create a literacy rich learning environment. Domain 1 is the creation of a classroom library stating,

"…students should be able to recognize various types of texts, identify vocabulary, within texts, and answer comprehension questions based on a series of stories" (Stone et al., 2018, p. 192). Researchers state that the classroom library should be organized, include adapted materials for student accessibility and engagement, and include the use of technology. Stone et al. (2018) state that the use of technology is helpful in a classroom library because digital texts are more easily adaptable and "…can facilitate student engagement, are more portable when used on a mobile device, and should be considered a tool within the classroom library" (p. 196). In addition to creating a classroom library, the second domain is to incorporate environment print. This means that teachers should be exposing students to text that is already in their surroundings, such as logos, labels, and community products and/or signs. This teaches students logographic reading, which is "…a process by which students use visual cues to decode rather than utilizing letters and sounds to do so" (Stone et al., 2018, p. 197). Lastly, the third domain is for teachers to incorporate writing activities into their daily classroom schedule. Stone et al. (2018) report that writing projects and center activities and adapting writing utensils for accessibility allows students with disabilities to both engage in writing activities but also engage in an academic and functional activity that allows them to share their ideas and knowledge. When teachers incorporate these three domains; classroom library, environmental print, and writing activities, they are more likely to be creating a literacy rich environment and helping their students increase their literacy skills.

It is important for teachers to use best practices in the classroom when teaching literacy to all students. Even if a teacher is aware of these best practices, it can be difficult at times to concretely implement them into the teachings and school environment. It is crucial for educators to know what their fellow literacy teachers are doing and what has been successful in their

classroom and learn from each other. Teachers should also be teaming with parents and understanding their perspectives and taking their ideas into consideration. Students with disabilities require a team of people that are looking out for their best interests, and parents are a large part of this process. The above information provides tangible practices that teachers can implement into their own classroom and experiences in teaching students how to read that will help them create a literacy rich environment best suited for students with disabilities.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

This literature review asks the question: 'What are the best practices of teaching students with Developmental Disabilities literacy?' In exploring this topic, the review is broken up into three chapters that include: 1) why there is a lack of research in this matter, 2) what are the best practices in teaching literacy to this student population, and 3) what practical applications can educators use in order to implement these best practices.

There is a lack of research in this subject area because students with disabilities are just recently able to attend mainstream schools alongside their general education peers in the last forty-five years due to the Individuals with Disabilities Education Act (IDEA) being put into place in 1975. As people are still learning about special education students and their abilities, it is thought that students were incapable of learning literacy or it was not looked at as a priority for these students due to other deficits, such as physical impairments that would take precedent over literacy instruction. This is a major contributing factor to the little research that has been found and published concerning this topic as well as the fact that some believe that students with disabilities should only be taught functional skills and words rather than meeting the same academic standards as their peers (Browder et al., 2009; Hunt et al., 2020; Koppenhaver et al., 2007). Another reason for the lack of research is due to the lack of special educator training on literacy. Researchers have found that teachers are in need of more professional development opportunities in order to learn about the best practices of the literacy instruction for students with disabilities. (Hughes & Braun, 2019; Sayeski et al, 2015; Sayeski et al., 2019). Programs created to inform teachers on how to instruct in this particular area has been shown to "a) increase[d]

their instructional knowledge; b) change[d] their practice; and c) shift[ed] their beliefs (Hughes & Braun, 2019, p. 96).

A majority of the researchers found the importance of the introduction of literacy at a young age, looking at the student as an individual and accommodating their learning based on the student's unique needs, focusing on big picture goals and guiding the student in making meaning of what they are learning about (Alnahdi, 2015; Alquraini 2020; Arciuli, 2018; Browder et al., 2012; Forts & Luckasson, 2011; Green et al., 2013; Lemons, 2016; Lundberg, 2013; Movahedazarhouligh, 2018; Reichow et al., 2019; Shogren, 2012). Furthermore, students with developmental disabilities can often display other area needs such as motor functioning, ambulation, visual, deaf/hard of hearing, and speech/language. Due to this, the educator needs to take into consideration these needs and provide support for them whether this be the positioning of the student and their ability to physically access literacy in the classroom, providing visuals, providing ways that nonverbal students can participate and show their learning, and incorporating technology (Almalki, 2016; Aykut, 2012; Baker et al., 2010; Hudson et al., 2019; Mandak et al., 2018; McDonnell et al., 2014). There is not one practice that is best for teachers to implement in their classroom and literacy lessons; rather, there are multiple ways that students can provide students opportunities to access literacy that have to do with the individual student and their unique needs.

Literacy instruction for students in special education is not a one size fits all but instead encourages to use multiple approaches based on the student. In chapter three, research supports the need for a targeted approach that uses differentiated instruction derived from the need of the student (Beecher et al., 2012; Ciullo et al., 2018; Ferrari et al., 2009; Garrels, 2019, Reed et al., 2013). The targeted approach calls for the perspective of the student's parents, their opinions and

goals for their child as well as the use of general education inclusion in a literacy-rich environment where students are enveloped in reading across all subjects taught in their classrooms (Duffy, 2013; Schwartz, 2019; Stone et al., 2018; Swicegood et al., 2015; Zein et al., 2013). Given these implementations and a student-based targeted approach, educators are more likely to be effective in their instruction of literacy while using evidence-based best practices in student's learning environments.

Limitations of the Research

The research for this literature review primarily concerns students with disabilities and how teachers can use the most up-to-date and recent best practices. In order to limit this information in my own research, I focused on researching information about students with moderate to severe disabilities or intellectual disabilities. The research was limited in the fact that I was not looking for information concerning general education students that do not have any disability diagnoses. In addition to this, I was looking specifically at the literacy instruction of these students. The topic of this literature review excluded information about the literacy instruction of general education students as well as the overall instruction of special education students.

The broad topic of the instruction of students with disabilities and the literacy instruction of general education students was excluded from this literature review because I believe that special educators need to know about how to best instruct their students with special needs. As a special education teacher who teaches literacy each day, I want myself and others to be informed of the best practices to teach this population of students. There was no exclusion of age in this review but more so focused primarily on students with disabilities.

Students with disabilities have been attending mainstream schools with general education students within the last fifty years. Previously, they were in separate schools or not given the opportunity to attend school at all. Because these changes have been occurring and inclusion has been growing in the last fifty years, the research is still being developed on this subject. There is limited research on the literacy instruction of students with disabilities because researchers and educators are still learning about this topic each day. As we learn more about this group of students the information found will continue to grow; as of 2020, this is a major limitation to this research subject.

Implications for Future Research

In regard to future research, it would be very helpful for researchers to discover more specific strategies about how students with disabilities are best able to learn. The research on students with intellectual disabilities is slowly growing but it was difficult to find information about students with more severe disabilities. For example, students that are nonverbal, unable to ambulate, or have physical impairments require more accommodations and assistance in their learning environment. It can be difficult to know how best to teach students with multiple impairments and it would be beneficial to have more specific educational strategies to use in the classroom when teaching literacy to students with severe intellectual and physical disabilities.

Implications for Professional Application

I chose this research topic because I teach literacy to students with disabilities on a daily basis in my classroom. When I first began teaching, I felt lost and overwhelmed in what to teach and where to begin. I believe in my students' abilities and their potential and I want to make sure that I am providing the best possible opportunities for them to learn, opportunities that they deserve. In the past five years of teaching, it has been a great learning experience to further

understand what works and what does not in my classroom as well as what teachings have been most beneficial for my students. I am a much different teacher now than I was five years ago and I feel that I have grown so much from my experiences. From my point of view, students with disabilities are some of the most exceptional people I have ever met, and I admire their positivity so much. Not everyone has to deal with and overcome the struggles that they face on a daily basis and these students are able to overcome their obstacles every day with a smile on their face. I feel very fortunate to work with these students each day and pursue my passion in helping them achieve their best selves.

In my first year of teaching, there was so much to learn, and I felt that I was undereducated in teaching anything to students with disabilities. At the time, I wish I could have had compiled research of best practices in how to teach students with disabilities. This was a major motivating factor as to why I chose the topic for this literature review. I wanted to learn more about the subject I teach and how to best teach it to this student population. I feel that teachers can always improve and become better and the opportunity to write this literature review has helped in my own classroom by becoming a more informed teacher on the best practices of teaching literacy to students with exceptionalities.

I feel that the research that I have gathered in this literature review compiles a basis of the best practices in literacy instruction for this population of students. Going forward, I plan to use this review of literature and apply it to how and what I teach my students. I feel that I can use this knowledge I have gathered and add to it. I will use the National Reading Panel (NRP) and their five components as a basis for how I plan out my lessons throughout the year. I want to make sure that I am focusing my lessons on comprehension, fluency, vocabulary, phonics, and phonemic awareness. In addition to the NRP's five components of literacy, I understand that not

every student requires the same interventions, and I should be treating each student as their own case study. As students with disabilities are unique and one-of-a-kind people, I need to find what teaching strategies best work for that individual as well as what accommodations and modifications they may require in order to be successful in the classroom. More specifically to the area of literacy, I need to maximize their exposure to literacy through a variety of techniques. From the review, I learned that you can incorporate literacy instruction by doing read alouds, allowing students to have self-directed reading time, using peer mentoring with general education students, providing students the opportunity to assess themselves, integrate the use of technology, and make it fun and meaningful for the students in order to increase their engagement in their learning. Swicegood and Miller (2015) conducted a study about the positive effects of general and special education teachers co-teaching a literacy classroom together. As a teacher who believes in inclusion for the benefit of all students, I believe that this study would be a great opportunity for all teachers to read and learn about. The study showed that with teacher teamwork and peer support that diverse learners can learn together. This is something that I would love to implement in my own classroom and school and inform more teachers about as a possibility for all of our students. A particular study that stuck out to me from the literature review was called “Including Matthew” written by Ferreri (2009). This was a case study about a student with a disability that had many challenges to overcome. Matthew’s teachers, service providers, and parents worked together in order to create an IEP and learning environment that worked for him where he was both accommodated and challenged on a daily basis. It was a reminder that family members should always be involved in the education of their child and that each student should be looked at as the unique individual they are. I believe that all teachers could learn something from this study because all teachers should implement these findings.

This research has been so helpful to me because it has allowed me to explore how to be the best teacher that I can be for my students. I will implement my findings into how and what I teach in my classroom and pursue best practices as the research on this subject continues to grow.

Conclusion

In the question of 'What are the best practices in teaching students with Developmental Disabilities literacy?' the answer comes with multiple components. This is a multifaceted question that can depend on the individual student factors. It is crucial for educators to look at the student as the unique individual that they are and address their needs with the special education team of specialists and parents. All students and especially students with disabilities require an exposure to literacy at a young age as this can make a large impact on the child's ability to read in the future. When in the classroom, teachers should be focusing on the National Reading Panels' five literacy components that consist of comprehension, fluency, vocabulary, phonics, and phonemic awareness. Research shows that teaching students and focusing on these five components will make a substantial impact on their ability to read. In considering the needs of the student, it is important to think about the long-term goals of the student and discuss these with the parents. Each member of the student's team should be in accordance with these long-term goals as these should look out for the best interest of the child. Information on this topic is continuously growing and evolving; in addition to increasing students' exposure to literacy in the classroom and providing numerous opportunities to letter and word identification, educators need to look at the child as an individual and modify their teaching in order to meet their needs.

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