

Literacy Instruction for Students with Significant Disabilities

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Acknowledgments

To my parents: Thank you for ~~foreing foisting~~ fostering a love of reading and writing in me- not only has it made me believe that all people should have access to reading and writing, it also made writing a 50+ page research paper a whole lot easier.

To the ACCESS team: I am honored to work with such talented educators. I learn how to be a better teacher every day because of you. Thank you for letting me grow with you.

To Evvy: Thanks for being the smart one. I'll let you keep that title.

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To my students: You have taught me more than I could ever teach you. You inspire me daily with your bravery, kindness, humor, and intelligence. You will all change the world, and I am so proud to be your teacher. I did this all for you.

Abstract

This research project explores literacy instruction for students with significant disabilities. Three themes were identified in the literature: how the perceptions of educators influence literacy instruction for students with significant disabilities, the role literacy plays in inclusion within school and community settings, and the importance of multi-component literacy interventions. The paper then goes on to examine how practices in a large public school district in the Pacific Northwest align with research and finally explores implications for future research and transformed practice.

Keywords: literacy interventions, severe disabilities, significant disabilities, reading instruction, writing instruction

Literacy Instruction for Students with Significant Disabilities: A Literature Review

The focal problem for this project is effective literacy instruction for students with significant disabilities. I am specifically interested in how literacy is framed in terms of students with emerging literacy skills who may not ever achieve independence in reading and writing, what literacy interventions have demonstrated the most improvement in literacy skills for students, and what barriers exist to implementing effective literacy interventions.

Context

The district I work for is called the Ondre Public Schools District. It is a large, urban district in a Pacific Northwest state. The district is a Title 1 district with approximately 14% of students qualifying for special education services. On a local level, my district attempts to address literacy for students with significant disabilities through two distinct curricula designated for self-contained special education programs across the district. These two curricula are an interesting contrast. One is a curriculum with highly modified/adapted grade-level content, and the other focuses primarily on functional academics, which are academics that focus on functional skills such as reading community signs and using money.

Regionally, the problem is addressed through the Washington Access to Instruction Measurement (WA-AIM). This alternative assessment measure tests students' progress on grade level standards according to the Common Core. This assessment measures word reading, reading comprehension, and written expression. I am interested in finding more information about standardized tests for students with significant disabilities since many states utilize alternative assessment measures.

The issue of literacy for students with significant disabilities also plays out on the national level where educational policy decisions are made such as the Every Child Succeeds Act of 2015 (previously No Child Left Behind, 2002). These policies impact what should and should not be taught to students with the highest academic support needs. Historically, students with significant disabilities have predominantly been taught functional academics, but the current research shows that access to adapted and modified grade-level material is meaningful and supports inclusion.

Importance

This focal problem is important because it has lasting impacts on the quality of life for people with significant disabilities. According to my research, literacy skills impact many aspects of life outside of the educational setting. This includes independent living, community engagement, and job opportunities. People with literacy skills are more likely to be able to live independently, meaningfully participate in their community, and get higher-paying jobs, all of which impact quality of life. Literacy skills also promote active citizenship and self-advocacy. The research shows that comprehension and communication skills significantly positively impact job prospects, independence, and community involvement as people with significant disabilities grow into adulthood.

This focal problem is also important to me because I am a special education teacher. In the past two years, I have noticed a discrepancy between what parents, administrators, teachers, and students think is most important when teaching literacy. My students have all been told repeatedly that they cannot read and write. As I have gotten deeper into this project, I have become more aware of the variety of ways people read and communicate via written expression.

My goal for my students is that they can comprehend what they are reading (whether that is reading by eye or by ear) and that they can connect with this information and use it wisely in their lives.

Purpose

The purpose of this project is to find research-based interventions so I can provide more meaningful literacy instruction for my students. I also want to be able to help my students and their families better understand the range of what being “literate” can mean for students with significant disabilities.

Focal Questions

Three focus questions guided my research:

- According to the research, how is literacy framed for this population? By framing, I mean how stakeholders such as parents, teachers, administrators, policymakers, and students define what being literate means and what literacy outcomes are expected from this population.
- According to the research, what interventions have been demonstrated to improve literacy skills in students with significant disabilities?
- According to the research, what are the barriers to effective literacy instructions for students with significant disabilities?

Literature Review

This paper analyzes the current literature on literacy instruction for students with significant disabilities. To make sense of the problem, I identified three major themes in the literature: how educators' perceptions influence literacy instruction for students with significant

disabilities, the role literacy plays in inclusion within school and community settings, and the importance of multi-component literacy interventions. My first section of this literature review will discuss how literacy interventions are influenced by teacher perceptions. My second section will explain how literacy and inclusion influence each other; specifically, how literacy influences meaningful social participation, and how social participation similarly influences literacy development. In my third section, I will discuss the importance of providing multi-component literacy interventions. I will also describe research on literacy practices for this population, and the findings of that research.

In this literature review, I have narrowed the focus of my research to literacy for students with significant or severe disabilities. This includes students between kindergarten and 12th grade (occasionally including transition services that support students with significant disabilities up to the age of 21). I have excluded research that focuses on specific learning disabilities, mild disabilities, Deaf and hard of hearing (DHH), and visual impairments/low vision (VI). This is because providing support for students with significant disabilities poses unique complications due to a variety of barriers including limited language and communicative capabilities specifically deficits in receptive and expressive language, cognitive deficits, and behavior challenges. Due to the frequently changing language referring to this population, I have chosen the term “significantly disabled” to identify the population in question since I am focusing my research on students who experience the most significant impacts of their disability. I have also chosen to focus only on studies completed in the U.S. because multiple aspects of literacy instruction are nation-specific, such as policies regarding content (ex. ESSA, 2014; IDEIA, 2004; NCLB, 2002).

I will start by defining literacy, briefly discussing the historical policies that have influenced literacy instruction for this population and describing the two main literacy paradigms found in special education. These definitions will be helpful when reading this literature review since there are specific components to these definitions that directly impact the types of literacy interventions provided and the proposed outcomes of said interventions. Literacy is formally defined as the ability to use text to meaningfully contribute to society, participate in the community, and develop knowledge and potential (American Library Association's Committee on Literacy, 2024; UNESCO, 2024). While this definition describes the *purpose* of literacy, it does not clearly describe what literacy entails, especially for people with significant disabilities (Keefe & Copeland, 2011; Ruppar et al., 2015).

Literacy skills have historically been taught to only a select few within society. For hundreds of years women, people of color, and people with disabilities have been considered illiterate (Kliewer et al., 2006). In 1975, the Education for All Handicapped Children Act was passed, guaranteeing people with disabilities the right to a fair and appropriate public education. This legislation did not specifically outline what kinds of academic growth students were expected to make. Because of this lack of specificity, many people felt that the Act did not adequately promote meaningful education for people with disabilities. This led to the Individuals with Disabilities Education Improvement Act (2004) which followed the passage of No Child Left Behind in 2001 (now replaced by Every Child Succeeds Act of 2014). IDEIA requires people with disabilities to make meaningful progress through the general education curriculum. Due to its passage immediately following NCLB which focused primarily on math and literacy achievement, it is insinuated that this progress be specifically in math and literacy. Despite this

policy, researchers have found little guidance about what students with significant disabilities are expected to learn and how teachers are expected to teach them (Browder et al., 2009).

There are two main literacy paradigms found in special education that are essential to understanding this literature review: functional and academic literacy. Functional literacy focuses on practical reading and writing skills necessary for everyday tasks and communication, while academic literacy emphasizes advanced comprehension, critical thinking, and analysis needed for scholarly pursuits and formal education. These paradigms demonstrate the beliefs about literacy for people with significant disabilities and guide how literacy is viewed, understood, and taught.

How Teacher Perceptions Influence Literacy Instruction

Teachers' perceptions of literacy and their students' ability to become literate influence literacy instruction for students with significant disabilities. While policies such as IDEIA (2004) have attempted to guide how students with disabilities are taught, a significant barrier to implementing meaningful interventions continues to be a lack of a comprehensive definition of literacy. Keefe and Copeland (2010) explain that the current literacy definitions do not adequately include the needs and abilities of people with significant disabilities. Without a comprehensive definition, there are no guidelines surrounding instructional practices and instructional settings (Browder et al., 2009; Kliwer et al., 2006; Ruppert et al., 2011; Ruppert et al., 2015). In their literature review, Browder et al. (2009) outlined the need for a conceptual framework for literacy instruction that promoted two primary outcomes: "enhanced quality of life through shared literature, and increased independence as a reader" (Browder, 2009, p. 271). Through this model, students with significant disabilities must have access to grade and age-

appropriate literature that may be modified and/or adapted, and direct instruction in vocabulary acquisition, reading comprehension, and print awareness. These specific requirements are referenced and supported throughout much of the literature on effective literacy interventions for this population.

Teacher's beliefs about their students influence what they teach. Specifically, beliefs about the nature of literacy and who is considered literate may impact the types of literacy goals and instruction that teachers provide for their students with significant disabilities. Kliewer et al. (2006) published an ethnography that examined the impact of beliefs on the perception of literacy. Specifically, the perception of illiteracy based on status within a marginalized group such as racial or disability groups. The authors reference multiple instances in which people were perceived as illiterate despite evidence of literacy skills based on their position within the culture. People with disabilities are frequently viewed as illiterate, especially when they use communication supports like augmentative and alternative communication (AAC) devices.

The perception of people as illiterate impacts beliefs about the types of literacy instruction they should have access to. Ruppar and colleagues (2011) surveyed 69 special education teachers who taught students who utilized augmentative and alternative communication (AAC). They used a 6-point Likert scale that measured teachers' demographic information, beliefs about literacy instruction, currently used literacy interventions, factors that impacted the literacy skills that teachers focused on, perceptions of the different settings for literacy instruction, and perceived barriers to implementing literacy instruction in the general education or inclusion classroom. The survey found that teachers prioritized functional literacy skills over academic literacy skills, due to the belief that they were teaching skills that would be

beneficial in their students' futures. They also generally preferred self-contained settings over inclusive settings, which is paradoxical because their students primarily interact with nondisabled peers in most post-school settings, so inclusion classrooms are more representative of future settings.

Teacher perceptions often influence how students are taught, where they are taught, and what skills they are taught. Ruppar and colleagues (2015) conducted a follow-up study to their study in 2011 that utilized case studies on three dyads consisting of a secondary special education teacher/instructional aide and their student. This study found that special education teachers made educational decisions based on four core concepts: a) their beliefs about teaching and learning, b) their expectations for their students, c) their self-efficacy, and d) their resources. Teachers who did not view their students as capable of gaining literacy skills were less likely to provide meaningful literacy instruction, which led to a self-fulfilling prophecy. Students with significant disabilities require the most intensive literacy interventions but are often not provided these interventions due to the perception that they are incapable of benefitting from them. This lack of access to meaningful literacy interventions then leads to less meaningful literacy growth (Allor et al., 2014; Bock & Erickson, 2015; Browder et al., 2009; Keefe & Copeland, 2011; Kliever et al., 2006; Ruppar et al., 2011; Ruppar, 2017).

In a similar case study by Ruppar in 2017, the researcher examined how the beliefs of a special education teacher and his eight educational support professionals impacted how literacy was viewed in a single self-contained classroom with four students. The researcher conducted semi-structured interviews and observations for six months. The researcher and lead teacher co-created a literacy support system aligned with grade-level language arts books. The findings of

this study suggest that literacy interventions are impacted by how educators define literacy, the type of content and delivery of instruction educators provide, the context of the instruction such as whether it is situated in functional or academic learning, and beliefs about the outcomes of literacy instruction. Beliefs about the “level” of students’ abilities also impacted how educators perceived literacy for their students. The educators also cited lack of knowledge, preparation, and resources as barriers to their effective instruction.

Teachers frequently cite a lack of preparation when teaching literacy to students with significant disabilities. This lack of preparation impacts teachers’ beliefs about their students and their ability to implement meaningful interventions, and this impacts the types of interventions used. Bishop et al. (2010) conducted a mixed-method study on 25 elementary beginning special education teachers to determine how personal attributes, preparation, and school environment impact teachers’ skills in teaching reading. The study found that teachers considered “most accomplished” were more reflective, had more access to resources, and had positive perceptions about students as learners. They also found that teachers considered “most accomplished” received more time to practice skills such as classroom management and literacy interventions before officially becoming teachers.

Most special education teachers are required to design their own interventions that target student goals, but this leaves the possibility for teachers to exclude meaningful components of literacy instruction. In 2022, Hunt and colleagues conducted a randomized control trial exploratory study on 15 special education teachers and 29 students with significant disabilities. The study compared how the educational decisions of the teachers in the control group compared to the *Early Literacy Skills Builder* (ELSB; Browder, Gibbs, Ahlgrim-Dezell, Courtade, & Lee

2007) intervention in the treatment group. Since the teachers in the control group were responsible for designing their lessons, the researchers were able to determine to what extent the lessons addressed core components of effective literacy interventions outlined by the National Reading Panel report (NRP, 2000). The data showed that none of the teachers in the control group addressed all seven core components outlined by the NRP and the most common core components addressed included vocabulary development and comprehension. This study indicated that teachers who are required to design their own literacy interventions may not include all of the necessary components.

In contrast, teachers who have access to prescriptive interventions may provide more meaningful interventions due to the guidance provided with the prescriptive intervention. In a 2015 study by Bock & Erickson examined the effects of a comprehensive, prescriptive literacy intervention called *MEville* (AbleNet, 2005). In this qualitative investigation of two elementary special education teachers, the researchers found that teachers improved their literacy instructions when provided with a prescriptive, comprehensive, multi-component literacy intervention. The researchers also noted that there was an inverse relationship between teacher control and focus on skills, and students' engagement with the topic. This means that teachers who allow for more student discourse by honoring all attempts at communication see more positive effects of their interventions. There was also more student growth when teachers communicated the goals of a lesson, provided opportunities for students to engage with the concept, and provided meaningful feedback. This study described some of the ways that teachers

can meaningfully promote literacy skills, whether or not they are using a prescriptive curriculum.

Literacy as a Tool for Inclusion

Literacy skills impact inclusion opportunities and inclusion similarly impacts literacy skills for students with significant disabilities. Throughout my research, literacy as a tool for inclusion was cited frequently as a major purpose for literacy instruction. Literacy skills are essential in promoting social and academic inclusion (Hunt et al., 2012; Hunt et al., 2022). UNESCO (2024) and the American Library Association (2024) frame literacy as an essential component of inclusion and meaningful participation in the larger community (Keefe & Copeland, 2011; Ruppert, 2017). In this section, I will discuss how literacy skills promote inclusion, as well as how inclusion promotes literacy skills. Literacy allows people to participate more meaningfully in their community, whether that is by registering for a class at their local community center, voting, using public transportation, or many other experiences that involve reading or communicating via text. Literacy also promotes social inclusion by providing methods of communication, such as sending or receiving an email or text. People with significant disabilities are also more likely to engage meaningfully with literacy when it is presented in a more inclusive, language-rich environment that allows them to use the skills to engage with others.

According to my research, literacy skills are some of the most important skills due to their role in acquiring skills from other disciplines (Ahlgren-Dezell et al., 2016; Browder et al., 2008), and their role in developing students as lifelong learners who understand the social context of their communities (Afacan et al., 2018; Hunt et al., 2012; Hunt et al., 2022). Students require literacy skills in all curriculum areas, from reading word problems in math to

understanding the steps of a science experiment to reading historical texts. Literacy skills are necessary for students to engage meaningfully in their academic environments. They are also essential to lifelong learning. Literacy skills allow students to research topics of interest, read for pleasure and knowledge acquisition, and communicate their understanding of complex topics.

Literacy skills also support the development of functional skills that promote independent living such as following a schedule and filling out paperwork (Browder et al., 2009). Literacy skills have functional benefits such as increased job opportunities (Cannella-Malone et al., 2021; Wakeman et al., 2021) increased independence (Browder et al., 2009), and social inclusion (Hunt et al., 2022; Hunt et al., 2012; Roberts & Leko, 2013). This need for literacy in functional skills directly impacts the type of instruction deemed important for this population (Hunt et al., 2012). Parents of students with significant disabilities value functional literacy skills due to their positive impact on post-school outcomes (Wakeman et al., 2021). Similarly, special education teachers who teach students with significant disabilities tend to focus more on grounding literacy instruction in functional life skills contexts (Ruppar et al., 2011; Ruppar et al., 2015). Functional literacy skills are often the target of literacy interventions for this population due to their immediate impact on students' lives. Many guardians of students with significant disabilities report wanting their children to gain functional literacy skills as a means of social inclusion and advancement. Wakeman et al. (2021) conducted a survey of 180 parents of children with significant disabilities and asked them to rank the importance of three areas of reading: functional reading, comprehension of text, and decoding written words and symbols. The majority (47.2%) of parents rated functional reading as the most important skill. Similarly, Wakeman et al. found that parents ranked functional writing as the most important writing skill

across all grade bands. This focus on functional literacy as a means of fostering independence is also frequently echoed by teachers as they make decisions about what to focus on during literacy instruction (Hunt et al., 2022; Keefe & Copeland, 2011; Kliwer et al., 2006; Roberts & Leko, 2013; Zagona et al., 2021).

Literacy skills are also essential for communication. Many students with significant disabilities use augmented and alternative communication (AAC) which requires users to utilize symbolic language (Ruppar et al., 2011, Ruppar, 2017). Literacy instruction may provide essential communication support for students with limited or no reliable verbal language skills. Providing communication support and skills leads to social inclusion and participation. Ruppar and colleagues (2011) found that inclusive settings were necessary for AAC users to generalize their communication skills since inclusive settings provided more language-rich environments than self-contained classrooms. Since many students who receive education in self-contained settings have significant communication disabilities, it is often more meaningful for students to practice communication skills with their non-disabled peers, since those peers are more likely to have stronger communication skills.

A lot of my research found that a focus on academic literacy skills allows students with significant disabilities more access to the general education content, and therefore their general education peers (Hunt et al., 2019; Hunt et al., 2012; Shurr & Kromer, 2017; Spooner et al., 2015; Zagona et al., 2020). This access leads to more meaningful social inclusion, which has been linked to more positive post-school outcomes and higher quality of life. Similarly, providing academic literacy instruction includes people with significant disabilities as members of a literate community (Hunt et al., 2022; Keefe & Copeland, 2011; Kliwer et al., 2006) and

encourages the social standing that accompanies the role of a literate community member.

Academic literacy skills also encourage students to become lifelong learners by exposing them to a variety of subjects such as art, history, and science through engagement in the general education curriculum. This allows people with significant disabilities to learn more about the world around them, and understand the social, political, and historical contexts of their communities (Hunt et al., 2012).

Inclusion has a positive impact on acquiring literacy skills (Browder et al., 2008) by providing positive examples of reading and literacy behavior (Hunt et al., 2022) and giving students with significant disabilities access to environments where they can generalize those skills meaningfully (Ruppar et al., 2011; Ruppar, 2017; Spooner et al., 2015). Students with significant disabilities also benefit from access to age and grade-appropriate texts (Afacan et al., 2018; Browder et al., 2009; Browder et al., 2017; Roberts & Leko, 2013). Browder and colleagues (2015) conducted a single-case, multiple-probe across participants study on three participants using an iPad to support access to general education content. They proposed that “grade-appropriate literature enhances students’ lives by introducing them to the stories and themes that are part of their own and other cultures” (Browder et al., 2015, p.278), and that by exposing students to these age-appropriate themes, they are strengthening their understanding of their peers and their role in their community. Interventions and adaptations can allow students to engage meaningfully with grade-aligned literature.

In a similar study, Spooner and their colleagues (2015) used multiple probes across participants to implement a shared story intervention using an iPad2® to support comprehension activities. The study found that students improved their literacy comprehension when provided

with technology-supported text. The study concluded that adapted, grade-aligned text implemented in a shared-story formatted intervention can potentially support emergent literacy skills while simultaneously providing opportunities to engage with more advanced vocabulary and comprehension. Shurr and Kromer (2018) also examined the effects of combining visual supports with un-adapted grade-level text in an intervention called picture plus discussion (PPD) on two elementary school students with significant disabilities. The researchers then added nondisabled peers to model literacy behaviors (PPD-peers). The research found no functional relation between the PPD intervention, but one of the two participants showed increased engagement during the PPD-peers intervention. While this study used too small a sample to be generalizable, the growth seen when provided with peer support indicates that students with significant disabilities may benefit from peer models during literacy instruction.

General education teachers often report feeling underprepared to support students with significant disabilities, but students with significant disabilities can engage meaningfully in general education settings with appropriate support. Zagona et al. (2017) used an explanatory sequential design study combined with observations and self-reports to determine the academic and nonacademic activities of nine significantly disabled students in inclusion settings. The study found that the nine general education teachers utilized their special education colleagues to modify and adapt content as needed but the students generally spent the majority of their time engaged in learning activities, even when not provided direct support. This study indicates that students with significant disabilities can successfully participate in general education settings with minimal additional support aside from modified academic work.

Multi-Component Literacy Interventions

According to my research, multi-component literacy interventions are the most effective literacy interventions for students with significant disabilities. Throughout my research, a recurring theme is the importance of promoting students' access to meaningful literacy interventions that integrate multiple literacy skills while ensuring students make meaningful progress through the general education curriculum. In this section, I will discuss how multi-component interventions can incorporate functional and academic literacy skills to promote access to grade-level text which allows students with significant disabilities the opportunity to make meaningful progress through the general education curriculum.

Expanding on Functional Literacy Interventions

Despite the push for interventions to focus on more than systematic sight-word instruction, there is evidence that this type of intervention is beneficial and results in literacy growth, especially when it targets more than one isolated skill. In a 2010 study by Alberto and colleagues, five middle school students received an intervention focused on teaching connected text through sight-word instruction strategies such as flashcards. The interventionists used sight words frequently found in environmental print such as signs and combined them with other high-frequency sight words to form phrases such as "big blue ball." By combining environmental print and high-frequency sight words, the researchers intended to help students generalize their reading skills and provide instruction in literacy skills that are immediately necessary, such as the skills to read environmental text in a variety of settings. The data showed a functional relation between systematic instruction, and students' ability to read sight words and connected text. This intervention used functional academic skills to promote academic literacy skill development, which indicates that interventions can integrate these two paradigms. Functional

literacy interventions can also promote higher-level thinking skills such as comprehension. This can be achieved through a variety of methods, but integrating students' prior knowledge may be a meaningful strategy. Alberto et al., (2007) conducted a multiple probe design study on six elementary and middle school students. The study utilized common community logos such as restaurant logos and required students to access prior knowledge by naming items that might be found at the restaurant. This intervention found that students were able to demonstrate comprehension by naming familiar logos and demonstrating an understanding of what those logos mean and that they were also able to generalize their knowledge to recognize the logos in multiple settings.

While functional literacy skills are often immediately beneficial to students with significant disabilities, interventions should not focus solely on “splinter skills” (Hunt et al., 2022) or skills that are taught in isolation. Researchers have found that students who are only taught functional academic skills such as sight word memorization experience less growth in literacy skills than those who are provided with multi-component literacy interventions, or interventions that target more than sight-word and functional reading (Afacan et al., 2018; Baker et al., 2010; Bock & Erickson, 2015; Browder et al., 2009; Browder et al., 2012; Coyne et al., 2012; Hansen et al., 2014; Keefe & Copeland, 2011). These researchers recommend that literacy interventions incorporate a variety of skills that promote more generalizable skills while promoting access to grade-level content. These multi-component interventions focus on more than one key component of academic literacy. In their 2019 literature review, Afacan and colleagues found that 85% of studies demonstrated that multi-component reading interventions improved reading skills for students with significant disabilities. Functional and academic

literacy skills can also be integrated in comprehensive multi-component literacy interventions such as curricula that integrate high-frequency word reading with comprehension and decoding activities. In another literature review, Cannella-Malone and colleagues (2021) examined the research on how academic skills are typically taught to this population. The literature review looked at 222 articles and 224 single case design studies and determined that in general, the interventions promoted growth in students' academic skills. The studies also predominantly used evidence-based instructional practices such as prompting, visual supports, time delay, modeling, and consistent reinforcement.

Multi-component Literacy Instruction

While functional and academic literacy skills are often viewed as disparate paradigms, recent research has found that integrating functional and academic literacy instruction into multi-component literacy interventions that target a variety of literacy skills can be beneficial in both promoting inclusion in general education as well as promoting the generalization of literacy skills and preventing splinter skills (Browder et al., 2012; Hunt et al., 2012; Roberts & Leko, 2013; Spooner et al., 2015). In their literature review, Hunt et al. (2012) recommend that stakeholders integrate general curriculum state standards with the preferred functional outcomes of those standards to develop meaningful literacy IEP goals that reflect quality of life goals while simultaneously promoting meaningful progress through the general education curriculum. This includes providing access to grade-aligned content and text to promote inclusion. Special education teachers often struggle to integrate functional and academic literacy goals, but a 2013 study conducted by Roberts and Leko found that story-based lessons that used adapted grade-level texts were possibly beneficial in promoting functional literacy skills. The researchers

conducted a multiple baseline single-case study participants study on three secondary teacher/student dyads. The educational team developed individualized lesson plan task analyses to integrate functional and academic literacy skills. The teachers provided highly individualized lessons that targeted each student's individual functional literacy goal by using story-based lessons and shared story reading of an adapted grade-aligned text. The researchers found that the task analysis supported instructional fidelity, and all three students made progress on their academic and functional literacy goals. Due to the small sample size, this study is not necessarily generalizable, but it does show some support for using shared reading to integrate functional and academic literacy goals.

Multi-component literacy interventions that integrate functional and academic skills are beneficial in promoting literacy growth in students with significant disabilities. In a frequently replicated study, Browder and colleagues (2008) conducted a randomized control trial on 23 self-contained students in kindergarten to fourth grades using a researcher-developed intervention called the *Early Literacy Skills Builder* (ELSB; Browder, Gibbs, Ahlgrim-DeLzell, Courtade, & Lee 2007). Half of the participants ($n=11$) received the intervention. The intervention used grade-appropriate text to target functional literacy skills such as reading vocabulary sight words, recognizing sight words in a sentence, using a word to fill in a sentence in a repeated line, and academic literacy skills such as comprehension, segmenting words, and identifying first/last sounds in words. Due to a lack of comprehensive literacy assessments that include nonverbal students, the researchers also developed the *Nonverbal Literacy Assessment* (NVLA) to accompany this intervention. The researchers found that students in the treatment group made significant gains compared to the control group ($n=12$) on the NVLA phonics and phonemic

awareness section. The students in the treatment group also made significant gains on the *Early Literacy Skills Assessment* (ELSA), indicating that they had met more of the objectives than their control-group peers.

The NVLA (2008) was studied in 2010 by Baker and colleagues to determine whether the test meaningfully measured literacy for nonverbal students. The test de-emphasizes fluency, due to its verbal requirement. This study examined how well the NVLA measured six key literacy skills: a) text awareness, b) listening comprehension, c) phonics, d) phonemic awareness, e) vocabulary, and f) comprehension. These skills are divided into two sections within the NVLA: conventions of reading (CVR) and phonological skills (PhonSk). 62 students were included in this study. The study found that while the NVLA may only measure one literacy construct, it can be used to meaningfully assess literacy skills in students with the most significant disabilities, particularly those who do not use verbal communication. The researchers concluded that more research needs to be done on the validity of the NVLA.

In a replication study following the demonstrated success of the 2008 ELSB study, Browder et al. (2012) compared the effects of a treatment group that received the ELSB intervention with a control group that received a district-provided sight-word curriculum. 93 students with significant disabilities and 30 special education teachers participated in a 3-year study to determine the effectiveness of the ELSB compared to a “business as usual” literacy intervention. Half of the students each year received the multi-component ELSB treatment intervention. The control group received sight-word intervention using a district-provided curriculum. The students in the treatment group made significant progress compared to the control group. 100% of participants in the treatment group made gains between the pre-test and

post-test, specifically in phonics and phonemic awareness, two of the key components to reading. This study showed that students who received multi-component literacy interventions made significant gains compared to their peers who received sight-word instruction only.

The 2008 and 2012 ELSB studies were implemented in self-contained settings, which led to questions about the generalizability of these studies when implemented in general education settings. Hunt and colleagues (2020) conducted a conceptual replication study on eighty students with significant disabilities to determine the effectiveness of ELSB instruction when delivered in a general education setting. Half of the students in the study were randomly assigned to the treatment condition, where they were provided with ELSB instruction focusing specifically on phonemic awareness, phonics, comprehension, and vocabulary in small groups or 1:1. The intervention incorporated two parts: *Building with Symbols*, a scripted curriculum that focused on vocabulary, phonemic awareness, comprehension, and phonics, and *Building with Stories*, a story-based learning intervention which promotes the skills required for using books and listening comprehension using adapted grade level text. The researchers found that the treatment group showed significant effects, which indicates that the ELSB intervention was effective within the general education setting. This study counters the belief that students with significant disabilities may not achieve the same growth when provided instruction in inclusive settings.

Integrating Technology into Multi-component Literacy Instruction

Technology is often used to support access to meaningful literacy interventions. Since many students with significant disabilities use assistive technology to communicate, literacy interventions that incorporate technology are important. In my research, I found three studies that used technology support to promote access to literacy skills. Browder and their colleagues (2017)

conducted a single case, multiple probes across participants design study to determine the effects of an electronic story-mapping intervention. Three verbal elementary students with ASD participated in this study in a 1:1 intervention for 20-30 minutes per day. The intervention used an electronic touch-based story map connected to a grade-level text that targeted story element comprehension such as recognizing main characters and plot points. Students paired story element words with their definitions, labeled the electronic story map with the appropriate story elements, and answered comprehension questions related to the story elements. All three students mastered the story element definitions, and the study showed a functional relation between constant time delay and the student's ability to define story elements. While this study focused primarily on academic skills, the use of technology integrates functional academic skills since many students with significant disabilities rely on technology to access their grade-level educational environment, which requires rigorous functional literacy instruction.

In a similar study that used technology to support literacy acquisition through access to tech-supported text and its accompanying comprehension activities, Coyne and colleagues (2012) conducted a randomized control trial study on 16 students with significant disabilities to determine the effect of a technology-based intervention that utilized universal design for learning (UDL) techniques. UDL uses scaffolded supports to develop a framework that provides a variety of intervention strategies using multiple means of representation, engagement, and support to address student needs. This study used a strategy called Literacy by Design (LBD) that includes scaffolded grade-level digital books that supported growth in comprehension, phonemic awareness, phonics, vocabulary, and fluency to support students with different literacy skill levels. The group who received the LBD intervention made significant gains in comprehension

compared to the control group, and there were also strong effect sizes on word attack skills, listening comprehension, and concepts of print. This study contributes to the growing understanding that students with significant disabilities can benefit from comprehensive interventions that focus on a variety of skills. Students also benefit from incorporating technology.

Technological devices such as augmentative and alternative communication (AAC) devices have also been shown to have positive effects on decoding skills. In 2016, Ahlgrim-Dezell and colleagues conducted a randomized control trial study on 31 students between K and 8th grades in a 1:1 setting. The students in the intervention group ($n = 17$) received an intervention called the *Early Reading Skills Builder (ERSB)* which blended an iPad-based speech support called GoTalk Now (GTN; The Attainment Company, n.d.) with systematic instruction such as time delay and consistent prompting. The intervention used stories with recently taught phonemes and sight words and required participants to read and comprehend the stories to answer the accompanying comprehension questions. The data indicated statistically significant interaction effects in favor of the treatment group for phoneme identification, decoding for picture-word matching, and total score. This study expanded on the research on using AAC during phonics instruction and showed that systematic and explicit instruction combined with the iPad allowed students to manipulate phonemes, an important skill in decoding. This ability to use their AAC devices to decode has positive implications on students' ability to be meaningfully included in general education literacy interventions.

Writing Instruction

While writing instruction is not as well researched as reading, evidence supports providing students with interventions that combine reading and writing instruction (Mims et al., 2017). Technology can also be used to enhance writing interventions. Mims and colleagues (2017) conducted multiple probes across participants that examined the effect of a technology-supported reading and writing intervention. Three middle schoolers received an adapted version of a grade-level text using an iPad application. The text was narrated and utilized symbol supports. After listening to the adapted text, students completed a highly adapted and modified opinion writing activity that required them to identify a chosen topic, share an opinion about the topic, two facts supporting that opinion, and a conclusion. All three students showed an increase in performance, measured by completing the steps of the intervention correctly. The researchers measured the effect size by percent of non-overlapping data (PND), two students had PNDs of 85% and 86% while the third student had a PND 38%. Despite the small sample size, this study had promising results that show that students with significant disabilities may benefit from opinion-based writing interventions that integrate reading skills such as comprehension. This type of intervention may also boost student confidence and advocacy by providing instruction in conveying personal opinions.

Writing can support self-advocacy skills. In 2006, Konrad and colleagues conducted a multiple baseline across participants study on four high school students to determine the effectiveness of a writing intervention that promoted student involvement in the IEP process. Most IEPs do not directly involve students in writing IEP goals and objectives, so this intervention attempted to provide an opportunity for the four students to participate meaningfully

in developing their IEP goals and objectives. This study intended to determine the effect of a self-determining paragraph writing technique called GO 4 IT...NOW! that provided students with the writing skills to articulate their personal IEP goals and objectives. This intervention provided students with a paragraph organization strategy using the mnemonic GO 4 IT...NOW! The researchers assessed the effect of this intervention via paragraphs written specifically for the student's IEP as well as daily writing probes. These daily probes also determined whether the intervention was generalizable. The data demonstrated a functional relationship between the intervention GO 4 IT...NOW! and students' ability to write paragraphs that detailed their IEP goals and objectives. The study also found that the intervention was generalizable, demonstrated by improved paragraph writing on daily writing probes.

Impact of Student Characteristics

Students with significant disabilities require the most intensive academic interventions due to the impact their disabilities have on academic growth. A frequently cited barrier to implementing multi-component literacy interventions is the length of time it takes students with significant disabilities to gain meaningful skills. In 2014, Allor and colleagues conducted a longitudinal randomized-control trial study on 140 elementary-age students with significant intellectual disabilities. The study followed the research participants for 1 to 4 academic years. The study examined the effect of a comprehensive reading intervention and the influence of IQ on students' response to intervention. Students were randomly assigned to the treatment group ($n = 76$) or control group ($n = 65$). Students in the intervention group received 40 to 50 minutes of small group interventions using *Early Interventions in Reading* (Mathes & Torgesen, 2005a, 2005b), an intervention that targets all the components of reading, including functional skills

such as word-level activities, word recognition, and academic skills such as fluency, and comprehension. The data demonstrated statistically significant differences that favored the treatment group in blending words, segmenting words, vocabulary acquisition, decoding, high-frequency word reading, and oral reading fluency (ORF). On the measures of vocabulary, phonemic decoding, word recognition, and ORF the data also confirmed the researchers' hypothesis that IQ has a statistically significant impact on students' response to intervention. This research showed that students with significant intellectual disabilities can make meaningful gains in literacy skills when provided with intensive instruction, but these gains often take years longer than they do for students without disabilities.

Summary

Literacy is an essential skill for students with significant disabilities because it enables access to a variety of academic subjects, promotes community engagement and participation, and increases independence. While there are definitions of literacy from UNESCO (2024) and the American Library Association (2024), these definitions do not necessarily include people who experience the most significant impacts of their disability. While these two definitions have broadened to encompass a wider variety of literacy skills and objectives, they don't fully capture the adaptations and modifications required for this population to gain and demonstrate literacy skills. Much of the research I found referenced this lack of literacy definition as a barrier to the effective development and implementation of meaningful literacy interventions.

Literacy interventions are influenced by teachers' perceptions of their students, meaning that teachers who have been exposed to only a limited definition of literacy may view their students as illiterate due to not meeting that specific definition. This perception of students as

illiterate may cause teachers to view their students as incapable of gaining literacy skills. This in turn often causes teachers to overlook meaningful, multi-component literacy interventions and focus instead on providing instruction on splinter skills, or skills practiced in isolation that they are more likely to see a measurable increase in.

Despite these barriers, there is a lot of research on literacy interventions for students with significant disabilities. Most research focuses on integrating functional and academic literacy in multi-component interventions to support access to grade-level content. While this population may take years longer to gain skills than their non-disabled peers, the results are promising and demonstrate the importance of providing literacy instruction for students with significant disabilities.

Action Plan

My research investigates literacy instruction for students with significant disabilities. Within my research, I have identified three major themes: how teachers' perceptions impact literacy interventions, literacy as a tool for inclusion, and the importance of providing multi-component literacy interventions that integrate functional and academic literacy skills. I am specifically interested in how literacy is framed in terms of students who may not ever achieve independence in reading and writing, what literacy interventions have shown marked growth in literacy skills, and what barriers exist to implementing effective literacy interventions.

I currently work as a self-contained special education teacher at a Title 1 middle school in a large urban district in the Pacific Northwest. My district primarily consists of Title 1 schools. Within the district, there are 4267 students with IEPs, which is approximately 14.8% of the student body. There is no specific data about the number of students who are considered

significantly disabled, but generally <1% of a school's population meets that determination. The following action plan tables outline the current practices at my school and my recommendations related to these themes.

How Teacher Perceptions Influence Literacy Instruction

The definition of literacy and the accompanying expectation of who is considered literate has changed considerably throughout history. As people with disabilities have gained more rights, policies have changed to encompass educational protections that promote literacy skills (Katims, 2000; Keefe & Copeland, 2011; Kliwer et al., 2006). Despite these policies, there is no comprehensive literacy definition that considers the unique needs of people with significant disabilities (Browder et al., 2008). Because of this, there are a variety of curricula and interventions with no clear expectations about what should be taught and where it should be taught. Special education teachers are often responsible for determining what a student is expected to learn and where they can best learn it, and teacher perceptions and expectations often influence what is taught and where students are taught (Bishop et al., 2010; Hunt et al., 2012; Ruppert et al., 2011; Ruppert et al., 2015). A lack of experience with students with significant disabilities, poor teacher preparation that leads to low teacher confidence, and negative perceptions about students' abilities all impact how special educators make decisions about instruction for students with disabilities.

Table 1

How Teacher Perceptions Influence Literacy Instruction

What the research says	What my school district does	My recommendations
Teachers who teach students with significant disabilities	The OPSD currently requires all special education teachers who	I recommend that OPSD require all incoming special

report poor preparation in teacher credentialing programs, a lack of opportunity to observe and practice meaningful interventions prior to becoming a credentialed teacher, and minimal opportunities for collaboration with peers (Bishop et al., 2010; Rupp et al., 2011; Rupp et al., 2015).	teach students with significant disabilities to obtain a special education credential. While special education credential programs require a practicum component, these practicum hours are not required to be spent in a special education classroom where they might be able to observe and familiarize themselves with special education interventions and practices. The district also provides all new teachers with a mentor teacher, but there is no requirement or expectation about how this resource is used.	education teachers who teach students with significant disabilities to spend a set amount of time in a special education setting during their practicum. I also recommend that the district mentor/mentee program have more explicit expectations and opportunities for professional development. This might include opportunities to shadow the mentor or have the mentor observe and critique the new teacher.
Most self-contained special education teachers are required to design their own interventions that target student goals. Without rigorous training on how to implement multi-component literacy interventions, this leaves the possibility for teachers to exclude meaningful components of literacy instruction (Hunt et al., 2022; Rupp et al., 2011; Rupp et al., 2014).	The OPSD currently provides self-contained special education teachers with two curricula that target a variety of literacy skills. While the combination of these two curricula meets the definition of multi-component literacy instruction and integrates functional and academic skills, the district does not provide professional development opportunities that target using the curricula together to meet goals.	I recommend that OPSD provide trainings on how to integrate the two curricula provided to self-contained special education teachers. A combination of the two curricula can potentially cover all of the necessary literacy skills, therefore more effort should be put into teaching teachers how to combine the two curricula.
Special education teachers tend to believe that students with significant disabilities will learn more literacy skills within a segregated setting, despite evidence that inclusion settings promote more communication and opportunities for access to general education curricula (Bishop et al., 2010; Kliever et al., 2006; Hunt et al., 2012; Hunt et al., 2022; Roberts &	OPSD structures the IEP process in a way that allows the educational team consisting of parents, special education teachers, administrators, services providers, and general education teachers to decide on the number of minutes of special education services students with significant disabilities receive. Teachers/case managers often make decisions about their	I recommend that the district provide guidelines that ensure that students with significant disabilities receive a designated percentage of minutes in an inclusion setting per area of specially designed instruction. This will allow all students the opportunity to practice their academic skills with their non-disabled peers. I also recommend that the district

Leko, 2013; Ruppar et al., 2011; Ruppar et al., 2014; Zagona et al., 2021)	students' placement based on their perceptions about that students' ability to benefit from inclusion. The district is not considered "full inclusion" which would mean that all special education students receive their special education services in a push-in model, where the special education teacher supports students with IEPs in the general education setting.	provide more co-teaching opportunities that allow special education teachers to push-in to general education classes to support students with significant disabilities within the general education setting.
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Literacy as a Tool for Inclusion

According to my research, literacy skills are important in promoting social and academic inclusion (Hunt et al., 2012; Hunt et al., 2022). Many policies frame literacy as an essential component of inclusion and meaningful participation in the larger community (American Library Association, 2024; Keefe & Copeland, 2011; UNESCO, 2024). Literacy allows people to participate more meaningfully in their community. Literacy also promotes social inclusion by providing methods of communication, such as sending or receiving an email or text. Research shows that people with significant disabilities are more likely to engage meaningfully with literacy when presented in a more inclusive, language-rich environment that allows them to use the skills to engage with their peers.

Table 2

Literacy as a Tool for Inclusion

What the research says	What my school district does	My recommendations
Access to general education curriculum and peers leads to more	The OPSD generally does not have the option for students with significant disabilities to	I recommend that the OPSD develop multiple full inclusion programs across the

meaningful social inclusion for students with significant disabilities, which has been linked to more positive post-school outcomes and higher quality of life. (Hunt et al., 2022; Keefe & Copeland, 2011; Klierer et al., 2006)	be included fully with their general education peers. There are few schools that have push-in special education programs that allow students with significant disabilities to access the general education curriculum with the necessary support.	different schools so that students with significant disabilities who are safely able to participate in inclusion settings can. This would mean that there would be special education teachers in the class to support the students in their general education classes in a co-teach model.
Students with significant disabilities benefit from access to age and grade-appropriate texts because those text reflect age-appropriate issues that students face such as relationship building, family life, and other more challenging topics like trauma (Afacan et al., 2018; Browder et al., 2009; Browder et al., 2017; Roberts & Leko, 2013).	The OPSD does not currently have any known guidelines or requirements for teachers to expose students with significant disabilities to grade-appropriate text.	I recommend that the district require special education teachers to align their reading lessons with the language arts teachers who teach the same grade(s) as them. Since self-contained special education sometimes contains more than one grade, the teacher could have some flexibility about which book they choose to teach.

Multi-Component Literacy Interventions

Multi-component literacy interventions that integrate functional and academic literacy skills can promote access to grade-aligned text, which leads to more meaningful inclusion and progress through the general education curriculum (Browder et al., 2012; Hunt et al., 2012; Roberts & Leko, 2013; Spooner et al., 2015). Students benefit from prescriptive, comprehensive multicomponent literacy interventions that target a variety of literacy skills and incorporate both functional and academic literacy skills such as reading sight words paired with comprehension

activities (Afacan et al., 2019; Cannella-Malone et al., 2021, Hunt et al., 2012; Roberts & Leko, 2013).

Table 3

Multi-Component Literacy Interventions

What the research says	What my school district does	My recommendations
According to IDEIA (2004), students with disabilities are expected to have IEPs that align with grade-level standards that promote meaningful progress through the general education curriculum (Browder et al., 2009; Hunt et al., 2012; Roberts & Leko, 2013).	OPSD utilizes an online IEP program called PCG Education Dashboard that requires special education teachers to select a grade-aligned academic standard to accompany the individualized goal. This means that teachers are required to align individualized goals with state standards. OPSD provides non-required training on aligning state standards with goals that reflect students' present levels of performance. For example: standard CCSS.ELA-Literacy.RH.6-8.1 states students should "cite specific textual evidence to support analysis of primary and secondary sources." This means that a 7th grader who does not yet recognize the letters of the alphabet is expected to engage with a state standard related to reading complex text.	I recommend that the district make training and instruction on how to align grade level standards with students' current abilities required. I also recommend that the district provide objectives that align with the main goal of a given standard that are meaningful for students' present levels of academic performance.

The research supports integrating functional and academic literacy into multicomponent interventions to support general education access for students with significant disabilities (Afacan et al., 2019; Cannella-Malone, 2021; Hunt et al., 2012).	OPSD currently uses two curricula for students with significant disabilities. One curriculum focuses on functional literacy skills, including community sight word memorization. The other curriculum incorporates more of the academic literacy skills outlined by NRP (2000) but does not meaningfully incorporate grade-aligned literature.	I recommend that the district provide training for special education teachers on how to integrate the functional academic literacy curricula with the content provided by their grade-alike general education peers. This may include opportunities for special and general education teachers to engage in professional learning communities (PLCs) to share their knowledge, opportunities for general education teachers to lead instruction in special education settings, or other collaboration opportunities.
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Summary

In this section, I looked at the recommendations from the literature and analyzed how those recommendations are implemented in a large, urban, school district in the Pacific Northwest. I will now examine the literature on literacy instructions for students with significant disabilities in the following discussion section.

Discussion

Introduction

The purpose of this project is to analyze the current literature on literacy instruction for students with significant disabilities in the United States. Throughout my research, I identified three major themes: how literacy instruction for students with significant disabilities is influenced by teachers' perceptions, how literacy skills impact inclusion opportunities, and the importance of integrating functional and academic literacy skills into multi-component literacy

interventions. In the following Discussion Section, I will discuss these findings and how they relate to my focal questions, what implications these findings have for teachers, students, and schools, what implications these findings have for future research, and the limitations of this project.

Discussion of Findings

When I started this project, I had three main questions: 1) How is literacy framed for this population? Specifically, how do stakeholders such as teachers, parents, and policymakers define literacy for students who experience the most significant impacts of their disabilities? 2) What types of interventions have been effective for this population? 3) What are the major barriers that teachers and schools face when implementing effective literacy interventions? I also analyzed a fourth question: What are the literacy paradigms that exist and how do they influence the literacy goals and interventions for this population? Throughout my research, these questions were answered in a variety of ways, and I will discuss these questions in the following section.

Framing Literacy for Students with Significant Disabilities

In this section, I will examine how the current research literature answers the question of “how is literacy framed?” The literature does not answer my first question in a satisfactory way. There is no current, agreed-upon comprehensive definition of literacy for students with significant disabilities (Browder et al., 2009; Keefe & Copeland, 2011). Instead, literacy is framed in a variety of ways for people with significant disabilities. While the American Library Association (2024) and UNESCO (2024) both provide definitions of literacy that emphasize the functional uses of literacy as well as literacy as a means for social inclusion, there remains no clear definition of how to define literacy for students who may never gain the skills to read or

write independently. For example, defining literacy as the ability to read a textbook aloud using oral language necessarily excludes people who do not communicate via oral language. It also excludes people who cannot read words but can understand what is read when allowed to listen to the text. These exclusions then influence stakeholders by designating those who do not meet the narrow definition of literate as “illiterate.” This perception of illiteracy then negatively impacts the instruction provided, due to the belief that the learner will never gain literacy skills.

The impacts of the lack of a comprehensive definition of literacy are far-reaching. This lack affects how teachers teach literacy to students with significant disabilities. Teachers who do not believe that their students are capable of meeting the narrow definition of literacy are less likely to provide rigorous literacy interventions that lead to more significant growth in literacy skills (Ruppar et al., 2011; Ruppar et al. 2015). The lack of definition also impacts the types of curricula provided by school districts. If students are viewed as only capable of benefitting from functional literacy interventions, districts are more likely to provide curricula specifically targeting these skills. This means that students will be provided with less opportunities to engage meaningfully with grade-level content. IDEIA (2004) specifically requires students with disabilities to make progress through the general education curriculum. By failing to provide curricula that target the skills required to make this progress, school districts go out of compliance with the federally mandated policies.

The effects of this lack of definition have become apparent in my two years teaching in a self-contained middle school classroom. Like Wakeman et al. (2021) found, many of my students’ parents want their children to be “literate,” but there is a lack of understanding about what that might look like for a child who has limited or no expressive language, or one whose

behavior prevents them from reliably demonstrating literacy skills. My students all show a variety of literacy skills, but there is no student who has the “most” or “least” literacy skills. Instead, I have one student who cannot recognize the letters in the alphabet or read any sight words, but who can comprehend grade-level text, including making advanced inferences. On the other hand, I have a student who can read grade level texts but cannot answer questions related to who, what, when, or where. Both students exhibit significant strengths and weaknesses in their literacy skills, and according to our current definition of literacy, neither can be considered fully literate.

The lack of comprehensive literacy definition influences the types of literacy goals for students with significant disabilities. Since literacy is often viewed as the ability to *read* or *write* teachers are expected to make IEP goals that specifically target reading or writing skills. As I mentioned above, this means that while my student can comprehend grade-level text, I am faced with the predicament of needing to continue to focus on teaching her the alphabet, regardless of whether her disability precludes her from ever being able to read using her eyes (e.g., if she has severe dyslexia). As technology becomes more advanced, the need for a definition of literacy that includes technology devices such as text-to-speech or speech-to-text software becomes more apparent. If a student cannot read or write due to their disability, the ability to use available technology should be considered an extension of that person’s literacy skills. Just like a person with a visual impairment would be considered literate if they could read via Braille but not read a traditional textbook, people with significant disabilities should be able to use the accommodations available and still be considered literate. I suggest that literacy definitions for this population should be broader and ever-changing to encompass the current technology.

The lack of a comprehensive definition of literacy for this population is non-inclusive and can lead to long-term negative repercussions for students with significant disabilities. Without a comprehensive definition, this vulnerable population lacks the parameters to guide teachers, districts, and policies to ensure that literacy instruction is rigorous and meaningful.

Effective Literacy Interventions

In this section, I will examine how the current research answers the question of “What kinds of literacy interventions have been effective for this population?” I found a lot of research related to my second question about meaningful literacy interventions. The consensus is that when evidence-based instructional strategies are paired with multi-component interventions, students with significant disabilities can gain more generalizable, independent literacy skills.

In their literature review about multicomponent literacy interventions, Afacan et al. (2018) described multi-component literacy interventions as interventions that target a variety of the literacy skills outlined by the NRP. These skills include phonemic awareness, phonics, reading fluency, vocabulary, and comprehension. This means that instead of targeting a skill in isolation, interventions that incorporate multiple skills at once are more effective and lead to more generalizability instead of promoting the growth of splinter skills. All the interventions I found in my research used multi-component interventions to some extent. Even the studies that focused on targeting a specific skill incorporated at least one other literacy skill. Usually, the secondary skill targeted was comprehension or vocabulary acquisition, both of which are the most frequently targeted literacy skills.

The research on literacy interventions for this population concludes that students with significant disabilities benefit from literacy interventions that focus on a variety of literacy skills,

not just functional reading (Afacan et al., 2017). These findings build on a growing understanding of the capabilities of this population and how to best support their growth. While a variety of literacy interventions have been researched, specific strategies such as explicit instruction, repetition, systematic prompts, and using examples and distractors are successful with this population (Cannella-Malone, 2021; Coyne, 2010). Similarly, interventions that targeted the National Reading Panel's five key components of phonemic awareness, phonics, comprehension, vocabulary, and fluency have statistically significant success rates for students with significant disabilities (Afacan et al., 2017). Research also demonstrates the importance of teaching concepts of print to students with significant disabilities (Hunt et al., 2019).

Phonemic awareness is the ability to recognize and manipulate the sounds within a word. It is a frequently targeted skill due to its importance in reading skills. In my research, four studies specifically targeted phonemic awareness. Despite varying approaches and participant samples, the findings generally indicate that this population can make significant gains in phonemic awareness skills when provided with phonemic awareness interventions. Phonics are also frequently targeted by multicomponent literacy interventions. Some research has shown positive effects when using AAC to support phonics instruction. Vocabulary instruction has similarities to sight word instruction but focuses more on understanding and using words in the context of literacy. Three studies found that vocabulary instruction had positive effects on participants.

According to my research, fluency is the least frequently targeted literacy skill for this population. This may be due to the need for mastery of many of the other literacy skills before fluency can be achieved. More research on reading fluency is needed to determine the most effective methods of instruction.

According to the literature, comprehension is the most frequently targeted literacy skill. Eight out of nine studies targeted comprehension to some extent, whether it was vocabulary comprehension or full-text comprehension. Due to the lagging prerequisite literacy skills in this population, comprehension is frequently addressed using shared reading or story-based lesson (SBL) interventions. These types of interventions focus on students' listening comprehension by providing read-aloud text. While the NRP (2000) lists comprehension as a key component of literacy instruction, it is not clear whether the panel would accept listening comprehension as a measure of comprehension skills, therefore it is evident that more research is needed to promote reading comprehension.

While the NRP does not include concepts of print in its five key components of literacy, this population often requires direct instruction on accessing texts. This includes recognizing the title and author, turning pages, and following along with the text. this indicates that story-based lesson interventions may increase concepts of print for students with significant disabilities.

According to the research, students with significant disabilities benefit from interventions targeting the NRP's (2000) five key components of literacy. The literature shows that students who received multicomponent literacy interventions had greater gains in literacy skills than those who did not receive the interventions. While the sample size of most of these studies is small due to the small population size in general, most of the research favors literacy interventions that focus on a variety of literacy skills that increase access to adapted grade-aligned literature. No studies supported blocking access to grade-aligned literature, focusing only on splinter skills, or decreasing literacy interventions.s

In my experience teaching, I have found that using multicomponent interventions paired with strategies like consistent prompting paired with modeling and time delay, visual supports, and reinforcement provides my students with more rigorous interventions, while simultaneously keeping them engaged. My students become less engaged when I only provide sight word or functional reading instruction. On the other hand, when my students learn how to sound out and read sight words, then discuss where they might see those words, and then use them to write a sentence, they are much more engaged and active in their learning. I have found that this has also led to an increase in their ability to generalize their skills and read those sight words in a variety of contexts.

Potential Barriers to Effective Implementation

In this section, I will examine how the research literature answers the question “What are the barriers to literacy interventions?” Throughout my research, I noticed that the literature consistently referenced three main barriers to effective literacy interventions: lack of a comprehensive definition of literacy for people with significant disabilities (discussed above), lack of resources, time, and materials, and lack of teacher training. A fourth barrier of student behavior was less commonly referenced but may impact the current studies.

A major barrier to teachers’ ability to effectively implement literacy interventions is a lack of resources and time (Bishop et al., 2010; Ruppert et al., 2011; Ruppert et al., 2015). Special education teachers are required to implement a variety of differentiated interventions for each student depending on their individual needs. This means that in a class of twelve students, there are often twelve distinct learning objectives and lesson plans. On top of this, teachers are often required to be at meetings or supporting students in general education settings, which further

limits their time. All of the interventions I found in my research require additional planning and resources such as technology or curricula, and even though most of the studies received high social validity ratings from teachers, a consistent barrier noted in those studies was a lack of time and resources (Bishop et al., 2010; Ruppar et al., 2011; Ruppar et al., 2015).

Funding is another major barrier to providing resources for this population. Students with significant disabilities often require the costliest resources. Schools are notoriously underfunded, and while this affects all students, the lack of resources profoundly impacts the education of students with significant disabilities. Many students with significant disabilities require additional high and low technological devices to support both written and spoken communication. A lack of funding impacts districts' ability to provide these necessary resources.

A second barrier to effective literacy interventions is a lack of teacher training. As I referenced in my Literature Review and Discussion sections, many teachers are not provided with effective training in how to effectively implement literacy interventions for students with significant disabilities (Bishop et al., 2010). Some special education teachers are also not provided with comprehensive curricula and are therefore expected to develop and implement their own interventions without meaningful training and understanding of evidence-based literacy instructions (Hunt et al., 2022). This barrier not only impacts teachers' ability to implement meaningful literacy interventions effectively, but it negatively impacts their students' growth in literacy skills because without comprehensive, evidence-based literacy instruction, students are unlikely to make meaningful gains in literacy skills.

Another barrier to effective literacy instruction is the prevalence of aberrant behaviors. Aberrant behaviors such as aggression, self-injurious behaviors, and elopement (running from

the designated area) are sometimes seen in students with significant disabilities. These behaviors affect students' ability to access meaningful academic interventions (Roberts & Leko, 2013) by 1) requiring students to be segregated from other students due to safety concerns and 2) requiring more time to be spent on social-emotional/behavioral instruction than academic instruction. Students with high-intensity unsafe behaviors are also probably not as well researched. The studies I found likely excluded students with the most significant aberrant behaviors since they would be the most challenging to work with for safety reasons.

In my experience teaching for the past two years, I have encountered all four of these major barriers. The lack of a definition of literacy impacts my ability to set goals for my students and assess their progress. I am impacted by a lack of resources and time since I have twelve students who each require individual interventions and resources. This means that I create twelve different lesson plans for each lesson. My students also require more time to progress on their literacy skills (Allor et al., 2014), and often need more repetition to progress through lessons.

Lastly, aberrant behavior impacts my ability to deliver meaningful interventions. Due to frequent instances of aggression, self-injurious behaviors, and elopement, I must respond to aberrant behavior to keep all the students safe, rather than spend time implementing effective literacy interventions. This means that not only are my students who engage in aberrant behaviors getting less instructional time, but my other students lose out on instructional time due to my need to respond to the other students' unsafe behaviors.

The Impact of Literacy Paradigms

In this section, I will examine how the current research literature answers the question of "how do the current literacy paradigms impact literacy instruction?" Functional literacy has

historically been the focus of literacy instruction for students with significant disabilities (Browder et al., 2006, Coyne et al., 2012; Hunt et al., 2022, Katims, 2000; Keefe & Copeland, 2011). Functional literacy is identified as literacy that focuses on immediately useful skills that allow students with significant disabilities to access literacy in their everyday lives such as reading high-frequency sight words and community sight words like signs and menus. Functional literacy is often viewed as a “person-centered” approach because it focuses on the skills that are likely to be most meaningful in promoting community participation and independence for people with significant disabilities (Alberto et al., 2007; Hunt et al., 2022; Wakeman et al., 2021).

Academic literacy is typically considered “higher level” literacy (Coyne et al., 2021). It encompasses more advanced literacy skills such as decoding instead of memorization, comprehension, and fluency. These skills are taught to nondisabled students and are viewed as evidence of literacy. Students with significant disabilities are expected to make meaningful progress through the general education curriculum (IDEIA, 2004) and in order to make this progress, students must demonstrate academic literacy skills.

Many parents cite functional literacy skills as a main goal of literacy instruction, but it has been my experience that when presented with strictly functional literacy interventions, students become disengaged and less likely to try to learn. Instead, my experience has mirrored the findings in studies such as those done by Browder et al. (2009), Browder et al. (2017), Cannella-Malone et al. (2021), Coyne et al. (2010), Hut et al. (2020), Hunt et al. (2012), Mims et al. (2017), Roberts and Leko (2013), Ruppar (2017), and Spooner et al. (2015) that emphasize the importance of providing access to grade-level literacy. While I have only been teaching for

two years, I have noticed a distinct change in my students' literacy comprehension and interest when I switched from reading picture books (not grade-appropriate) to reading grade-level chapter books. While I was initially concerned that my students would not be able to understand or follow more complex, pictureless chapter books, I have found that all of my students are interested in listening to the chapter books, including students who have shown an aversion to picture books. While this is just my experience without systematic data collection, it is similarly referenced in many of the studies I found.

Implications for Institutions, Students, Schools and Districts

My analysis of the research uncovered four major implications: 1) Teachers need more guidance and training in literacy interventions for students with significant disabilities. 2) Students with significant disabilities need access to a variety of age- and grade-appropriate text. 3) Students with significant disabilities need to be provided opportunities for meaningful inclusion in the general education curriculum and inclusion settings. 4) Schools and districts must provide inclusion settings for students with significant disabilities.

Implications for Institutions

Special education teachers are often responsible for developing and implementing literacy interventions for students with significant disabilities. They must be trained in multicomponent literacy interventions that target multiple skills and be familiar with the evidence-based instructional strategies that have been effective in teaching this population. Teachers need more training before being certified as special education teachers. They need more hands-on experience with students with significant disabilities to practice instructional strategies and learn effective intervention methods. They also need to develop meaningful

relationships with students that allow them to view their students as capable and provide rigorous instruction that leads to more student success. Teacher credentialing institutions must provide more rigorous training and more opportunities for candidates to engage in hands-on learning and develop meaningful relationships with students with significant disabilities.

Implications for Students

Students with significant disabilities benefit from access to a wide variety of grade and age-appropriate texts. These texts allow them to learn about the same topics as their non-disabled peers. Access to these texts provides students with significant disabilities opportunities to see age-appropriate topics represented, like relationships, cultural identities, family dynamics, and more. These texts allow students to learn about people like them and understand the society they live in. Grade-level texts serve as a way for students to learn about age-appropriate and relevant content. Access to these texts may motivate students with significant disabilities and increase their interest in learning.

Students with significant disabilities also benefit from academic instruction in inclusive settings since they provide increased opportunities for students to use their literacy skills meaningfully. Generalizability, or the ability to use a skill across a variety of settings is essential for students with significant disabilities, and since the post-school environment is predominantly inclusive, students who can practice their literacy skills in inclusive settings often have an increased ability to utilize these skills post-school.

Implications for Schools and Districts

Individual schools are often responsible for the inclusion opportunities provided for students with significant disabilities. While schools have historically relied on a segregated

model of instruction that allows for inclusion only during non-academic periods such as lunch and PE, students with significant disabilities benefit from inclusion opportunities. These opportunities provide students with a chance to practice their academic and functional skills in a meaningful way, a chance to learn academic behaviors from their nondisabled peers, and access to grade-level curriculum.

To provide rigorous literacy interventions that allow students with significant disabilities to make meaningful progress through the general education curriculum, schools must establish inclusive environments for students with significant disabilities. The goal for schools should be to provide inclusion opportunities for students with significant disabilities who can participate safely in all academic subjects for at least a portion of the day. The district is similarly responsible for establishing district-wide norms and procedures that encourage inclusion. This requires additional training for special education teachers, and increased staffing to support students with disabilities in general education settings. Reducing class sizes would allow teachers to provide more individualized support for students.

Implications for Future Research

While analyzing my findings, a major implication for future research was the lack of longitudinal studies. The research on literacy instruction for students with significant disabilities shows that this population can make meaningful gains in literacy skills when provided with rigorous interventions. The research also shows that students with significant disabilities take longer (sometimes up to multiple years) to gain literacy skills than their nondisabled peers. Most of the research only studied students for one academic year or less. While there are some

longitudinal studies on providing literacy interventions for students with significant disabilities, there is a need for more.

Most of the research I found was conducted in randomized control trial (RCT) or multiple baseline design studies. While these two designs appear to be valid for students with significant disabilities, due to the small size of this population, RCT studies may not have enough participants to allow researchers to generalize their findings. Similarly, RCT studies may pose validity questions due to the wide variety of student abilities. Multiple baseline design studies may be more meaningful for this population since the goal of literacy interventions is to increase literacy skills in individual students, and comparison between groups of students who are considered significantly disabled is often difficult.

There is a need for more qualitative research on literacy interventions for this population. While some the research I found included social validity surveys, most of those surveys were directed at teachers. I would like to see more research that specifically examines the experience of students with significant disabilities from their perspective. Many students with significant disabilities can share their opinions and feelings through alternative methods of communication, so effort needs to be made to provide opportunities to hear from the population being served.

When analyzing the research, I also found a need for more literacy interventions that target students who are considered nonverbal and who do not communicate reliably (either using AAC or gestures). These students pose an additional challenge for both educators and researchers due to the difficulty in assessing students with these communication barriers. While some research has been done on using eye-gaze devices, I found very little evidence of this type of instruction and assessment in my research. Similarly, I noticed the absence of studies targeting

students with significant aberrant behaviors. This is likely due to the safety of the researchers, but by excluding this portion of the population, the researchers exclude many of the students who are most significantly impacted by their disabilities. Students who communicate primarily through behavior (such as hitting instead of communicating “no” using language/AAC devices) are not included in most of the studies, which limits the validity of the research since it excludes students whose communication is not “acceptable.” Students who engage in aberrant behaviors need to be included in the research on literacy interventions since they are often the most in need of meaningful interventions to provide safe expressive and receptive communication opportunities.

Limitations of the Project

To ensure that my research was relevant to the specific population I investigated, I limited my search terms. Since terminology for this population changes frequently, it was often difficult to ensure I had established a wide enough search while also remaining within the bounds of my topic. The key phrases I used related to literacy were *literacy interventions*, *literacy instruction*, *teaching literacy*, *literacy skills*, *teaching writing*, *writing instruction*, *writing interventions*, *teaching reading*, *reading instruction*, and *reading interventions*. To ensure that the search was within my parameters of the population of students who experience the most significant impacts of their disabilities, I included the following terminology: *severe disability*, *significant disability*, *severely disabled*, *significantly disabled*, *multiple disability*, and *students with extensive support needs*. As noted in my rationale, I only included studies from the United States due to the specific policies within this field. I limited my research to studies completed from 2000-2024 and tried to find as many resources from 2014-2024 as possible. 53%

of the research in this literature review was conducted between 2014-2024. The reason I included research from the early 2000s is due to the significant educational policy changes that happened in that time period like the National Reading Panel (NRP, 2000) and NCLB (2001), specifically those related to special education such as IDEIA (2004). I tried to focus my research on the last ten years as much as possible due to technological advancements that have led to significant changes in the expectations about literacy for this population.

I excluded studies that focused on students with mild disabilities, specific learning disabilities, visual impairments (VI), or hearing impairments. This is due to the complex nature of teaching students with significant disabilities as compared to teaching students with the above diagnoses. Students with significant disabilities often face added barriers to instruction due to limited receptive and expressive language skills, severe cognitive deficits, behavioral support needs, and physical support needs. I also generally excluded papers that used language such as “retarded,” or “retardation,” since the language has changed dramatically and articles with this type of language were often outdated.

My current role as a self-contained special education teacher is an added limitation to my research. I have over 18 years of experience working with people with significant disabilities, with two years working as a teacher. I acknowledge that my experience has biased me toward believing students *should* have access to rigorous instruction. On the other hand, as a teacher who works with students who engage in unsafe behaviors that significantly impact their learning of themselves and others, I find myself biased in favor of providing some aspect of self-contained instruction to keep all students safe. I found it difficult to acknowledge and accept the importance of inclusion, despite the evidence provided (Ruppar et al. 2011, Ruppar et al., 2015).

Luckily, due to my current role, I was able to see some of the recommendations from the research in action within my own classroom. This was encouraging and will continue to be an exciting new call to action within my own practice.

Conclusion

Literacy skills are necessary in all aspects of life; from reading a thought-provoking poem to voting for the president to sending a flirtatious text to a crush, literacy infiltrates every aspect of what it means to exist and participate in our society. People with literacy skills have better employment opportunities, more independence, and more meaningful social and community engagement. Throughout my research, one key point has remained: students with significant disabilities must have access to meaningful, inclusive literacy interventions that provide them with opportunities for social inclusion and advancement. No matter what kinds of cognitive, academic, or functional barriers they may face, students with disabilities benefit profoundly from rigorous literacy instruction that is grounded in providing access to the same content as their non-disabled peers. Educators and policymakers must ensure that students with significant disabilities are perceived as capable of obtaining literacy skills, because only when they are viewed as capable will this population be provided the meaningful literacy instruction they deserve.

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