

Enhancing Literacy Outcomes for Students with Disabilities through Evidence-Based Instructional Strategies: An Integrative Review

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Abstract

Students with disabilities continue to face literacy gaps that limit their academic participation and long-term outcomes. This integrative review examines peer-reviewed research and systematic reviews published between 2000 and 2024, drawing from databases including ERIC, PsycINFO, and Google Scholar. The review covers four evidence-based instructional strategies that have shown consistent results across student populations: explicit instruction, multisensory teaching, assistive technology integration, and scaffolded reading. Findings show that when these strategies are applied with fidelity and adapted to individual learner needs, students with reading disabilities, learning disabilities, and language-based disorders show measurable gains in decoding, fluency, comprehension, and written expression. The review also examines implementation factors (including teacher training, co-teaching models, individualized education program alignment, and family involvement) that either support or limit the transfer of evidence-based practices into real classrooms. Gaps in the literature remain, particularly around long-term outcomes, English language learners with disabilities, and the emerging role of AI-based literacy tools. This review offers concrete recommendations for classroom teachers and directions for future research.

Keywords

Literacy, Students with Disabilities, Evidence-Based Instruction, Explicit Instruction, Multisensory Teaching, Assistive Technology, Scaffolded Reading, Special Education

1. Introduction

For many students with disabilities, learning to read is one of the hardest things they will do in school. Whether their struggles stem from dyslexia, intellectual disability, autism spectrum disorder (ASD), hearing impairment, or another condition, the classroom has historically been a place where literacy instruction was designed around students who learn through conventional routes. Research accumulated over the past three decades makes it clear that this approach leaves many students behind. It does not have to (Fuchs et al., 2010; Individuals with Disabilities Education Act [IDEA], 2004).

Literacy, defined as the ability to read, write, and make meaning from text, is foundational. It shapes whether a student can access the general education curriculum, participate in social communication, pursue higher education, and ultimately hold employment (Kamhi & Catts, 2012). When literacy instruction fails students with disabilities, the consequences extend beyond reading test scores. Studies consistently link poor literacy in students with disabilities to higher drop-out rates, reduced employment prospects, and lower quality of life (Wagner et al., 2005).

The good news is that the research base on what works is substantial. Decades of intervention studies, meta-analyses, and systematic reviews have identified instructional approaches that reliably improve literacy outcomes for students who struggle, including those with formal disability classifications. Explicit instruction, multisensory teaching, assistive technology, and scaffolded reading have each generated strong evidence, yet the gap between what research shows and what happens inside most classrooms remains wide (Clearinghouse, 2009; Vaughn & Wanzek, 2014).

This integrative review examines that evidence, organizes it by instructional approach, and considers what it takes to move these practices from research settings into everyday teaching. The goal is to give teachers, special educators, school leaders, and researchers a clear picture of where the field stands, what the evidence says, and where the work still needs to go.

1.1. Purpose and Scope

This review was guided by one primary question: What instructional strategies have reliable evidence supporting literacy development in students with disabilities, and what conditions support their effective implementation? The review synthesizes research from 2000 to 2024 and includes peer-reviewed journal articles, meta-analyses, systematic reviews, and government reports. Studies were identified through ERIC, PsycINFO, and Google Scholar using the following search terms: literacy instruction AND students with disabilities, reading intervention AND special education, explicit instruction AND reading disability, multisensory literacy, assistive technology AND reading, and scaffolded reading comprehension. Studies were included if they involved K-12 students with identified disabilities, used quantitative or mixed-methods designs, reported literacy-related out-

comes, and were published in English.

The database search was last conducted in January 2024. Across all three databases, the initial search retrieved approximately 1840 records. After removing duplicates and screening titles and abstracts against the inclusion criteria, 214 sources were retained for full-text review. Of these, 89 were included in the final synthesis. The primary reasons for exclusion were: studies involving populations without formally identified disabilities ($n = 47$), studies reporting only behavioral or social outcomes with no literacy-specific measures ($n = 31$), studies using qualitative-only designs ($n = 28$), and sources published before 2000 ($n = 19$). For Google Scholar, searches were bounded to the first 10 pages of results per query, filtered to sources published between 2000 and 2024, and limited to English-language sources. Priority was given to highly cited works (100 or more citations) and to sources that appeared in the reference lists of included meta-analyses.

1.2. Review Method

This paper follows [Torraco's \(2005\)](#) framework for integrative reviews, which allows for the synthesis of both empirical studies and theoretical literature. Unlike systematic reviews that focus narrowly on randomized controlled trials, integrative reviews can draw across study designs to build a broader understanding of a topic. This approach is appropriate given the diversity of students, disability types, and instructional contexts captured in this literature. [Whittemore and Knaff's \(2005\)](#) staged methodology (problem identification, literature search, data evaluation, data analysis, and presentation) was used to guide the review process.

For the purposes of this review, “evidence-based” refers to instructional strategies validated through multiple peer-reviewed empirical studies, including at least one published meta-analysis or systematic review demonstrating measurable, positive effects on literacy outcomes for students with identified disabilities. A strategy was selected as one of the four focal approaches if it met three criteria: 1) it appeared across multiple independent research syntheses published between 2000 and 2024; 2) it produced meaningful effects on one or more core literacy skills decoding, fluency, comprehension, or written expression as reported in at least one meta-analysis with a mean effect size at or above 0.40; and 3) it had been studied across more than one disability category. Strategies supported only by single studies, pilot data, or exclusively theoretical frameworks were not included as focal approaches.

Source quality was appraised using a tiered weighting approach. Peer-reviewed meta-analyses and systematic reviews were treated as primary evidence and given the highest weight in concluding. Peer-reviewed empirical studies were treated as secondary evidence, used to elaborate, qualify, or extend conclusions drawn from syntheses. Books, book chapters, and government reports were treated as supplementary sources, useful for theoretical framing, policy context, and descriptions of practice, but not cited as primary evidence of instructional effectiveness. Readers should interpret conclusions grounded primarily in meta-analytic evidence as

carrying greater confidence than those resting on smaller numbers of individual studies.

2. Literacy Challenges among Students with Disabilities

Understanding the specific literacy difficulties faced by students with disabilities is a necessary starting point, because the type and severity of challenge varies considerably depending on the nature of the disability. What works for a student with dyslexia may need significant adaptation for a student with ASD or a hearing impairment. The research points to several recurring patterns.

2.1. Reading Disabilities and Dyslexia

Reading disability (RD), often diagnosed as dyslexia, is the most common disability affecting literacy acquisition. Estimates suggest that between 5% and 17% of school-age children have some form of RD, depending on diagnostic criteria and population studied (Shaywitz & Shaywitz, 2020). The core difficulty lies in phonological processing: the ability to segment spoken words into their individual sounds (phonemes) and map those sounds onto written symbols. Students with dyslexia typically show intact reasoning and listening comprehension but struggle disproportionately with decoding and word recognition (Lyon et al., 2003).

Neuroimaging research has confirmed that dyslexia is associated with differences in how the brain processes phonological information, particularly in the left hemisphere regions linked to reading. Shaywitz and Shaywitz (2020) describe a “neural signature” of dyslexia: underactivation in posterior reading systems and relative overreliance on anterior regions. This neural evidence reinforces why targeted phonological instruction is not optional for students with RD. It directly addresses the root of the difficulty.

2.2. Intellectual Disability

Students with intellectual disability (ID) often face challenges across multiple dimensions of literacy, including phonological awareness, vocabulary acquisition, reading comprehension, and written expression. Because literacy development is closely tied to language development, students with ID, who frequently have accompanying language delays, face compounding challenges (Katims, 2000). Research by Allor et al. (2010) showed that with sustained, systematic instruction, students with mild to moderate ID can make meaningful literacy gains, though the pace of progress is typically slower and requires more instructional time than for peers without disabilities.

2.3. Autism Spectrum Disorder

Literacy in students with ASD presents a different profile. Some students with ASD show exceptional decoding skills (hyperlexia) but have significant difficulty understanding what they read, a pattern sometimes called a “decoding-compre-

hension mismatch” (Nation et al., 2006). Others show challenges with both decoding and comprehension. Social and pragmatic language difficulties common in ASD can interfere with narrative comprehension and writing tasks that require perspective-taking. Instruction for students with ASD often needs to explicitly address the meaning-making and inferencing aspects of reading that other students acquire more naturally through social interaction (Whalon et al., 2009).

2.4. Language and Communication Disorders

Students with speech and language disorders, including specific language impairment (SLI), face literacy challenges rooted in oral language weaknesses. Because reading development builds on oral language skills, delays in vocabulary, grammar, and verbal reasoning tend to show up in reading comprehension difficulties by the middle elementary years, even if early decoding skills appear adequate (Catts et al., 2006). This “reading comprehension trap” often goes undetected because students appear to read fluently but fail to understand what they have read.

2.5. Sensory and Physical Disabilities

Students with hearing impairment often struggle with phonological awareness because they have reduced access to the sound structure of language. This does not mean phonological instruction is irrelevant. Research has shown that students with hearing loss can develop phonological awareness, particularly when instruction uses visual representations of sound alongside auditory input (Leybaert & Alegria, 2003). Students with visual impairments need access to Braille literacy instruction and auditory text formats, while students with physical disabilities that affect motor control may need alternative means of written expression.

2.6. The Scope of the Gap

The 2022 Nation’s Report Card (National Center for Education Statistics [NCES], 2022) reported that only 33% of fourth-grade students with disabilities scored at or above the basic level in reading, compared to 68% of students without disabilities. These numbers have remained largely unchanged for more than a decade, pointing to a persistent systemic problem. Students with disabilities are not simply behind. Many are being taught with approaches that were not designed with their needs in mind and have limited evidence of effectiveness for their population.

3. Evidence-Based Instructional Strategies

Table 1. Summary of evidence-based literacy strategies for students with disabilities.

Strategy	Core mechanism	Target skills	Key sources
Explicit instruction	Structured, sequential skill-building with modeling and feedback	Reading decoding, phonics, comprehension	Archer & Hughes, 2011; Hughes et al., 2017
Multisensory teaching	Engages visual, auditory, and kinesthetic pathways simultaneously	Phonological awareness, spelling, writing	Shaywitz & Shaywitz, 2020; Stickels & Schwartz, 1987

Continued

Assistive technology	Digital tools that reduce barriers and expand access	Reading fluency, written expression, vocabulary	Strangman & Dalton, 2005; Edyburn, 2013
Scaffolded reading	Graduated support that decreases as competence grows	Text comprehension, vocabulary, fluency	Graves & Graves, 2003; Wanzek et al., 2010

Note. Sources synthesized from peer-reviewed meta-analyses and systematic reviews.

The following sections examine four instructional approaches with strong research support for improving literacy outcomes in students with disabilities. **Table 1** provides a summary overview of each strategy, its core mechanism, target skills, and key citations.

3.1. Explicit Instruction

Explicit instruction is not a single method. It is a family of teaching practices built around the idea that students learn more when the teacher shows them exactly what to do and why it works, rather than expecting them to discover patterns on their own. Archer and Hughes (2011) define explicit instruction through a set of core features: clear and specific learning objectives, activated prior knowledge, step-by-step modeling, guided practice with corrective feedback, independent practice with monitoring, and cumulative review.

For students with reading disabilities, explicit instruction in phonics (the systematic teaching of letter-sound correspondences) has the strongest evidence base of any literacy intervention. The National Reading Panel (National Institute of Child Health and Human Development [NICHD], 2000) reviewed more than 100,000 studies and concluded that systematic, explicit phonics instruction produces significantly better outcomes than approaches that rely on incidental or embedded phonics. More recent meta-analyses have confirmed and extended these findings across grade levels and disability categories (Ehri et al., 2001; Suggate, 2016).

A key feature of explicit instruction is the gradual release model, sometimes called the I Do, We Do, You Do framework, in which the teacher demonstrates a skill, works through examples collaboratively with students, and then expects students to apply the skill independently. Hughes et al. (2017) reviewed 25 years of explicit instruction research and found that when teachers follow this model consistently, students with learning disabilities show effect sizes of 0.60 to 1.20 in reading skill areas, a range that represents meaningful, practical improvements in the classroom.

Explicit instruction is also flexible. It can be applied to phonological awareness, vocabulary, reading fluency, comprehension strategies, and writing skills. Critics sometimes argue that explicit instruction is overly mechanical or reduces student autonomy. The research does not support this concern. Studies comparing explicit instruction to discovery-based approaches consistently find that explicit instruction produces better outcomes for students who struggle to learn through indi-

rect exposure, including virtually all students with learning disabilities (Rosenshine, 2012; Stockard et al., 2018).

Application across Disability Categories

Explicit instruction has been studied across a wide range of disability categories. Wanzek and Vaughn (2008) reviewed intervention studies for students with severe reading difficulties and found that the most effective interventions shared explicit instruction as a core component. Browder et al. (2006) conducted a meta-analysis of literacy instruction for students with significant intellectual disability and found that systematic explicit teaching produced consistent gains in word recognition and comprehension. For students with ASD, Whalon et al. (2009) found that explicit, structured comprehension instruction significantly improved reading comprehension compared to typical instruction.

3.2. Multisensory Teaching

Multisensory teaching is an approach that deliberately engages more than one sensory channel (visual, auditory, and kinesthetic-tactile) during reading and writing instruction. The theoretical basis comes from Orton-Gillingham (OG), developed in the 1930s, which proposed that reading difficulties stem from problems integrating information across sensory systems and that instruction should target those integration points directly (Gillingham & Stillman, 1997). Although the original OG approach was developed for students with dyslexia, multisensory principles have since been applied across a range of reading difficulties.

In practice, a multisensory reading lesson might ask students to say a sound, trace it in sand, tap it on a table, and write it simultaneously, building multiple associations for the same phoneme-grapheme relationship. Stickels and Schwartz (1987) describe this as creating “memory hooks” across sensory modalities, so that students have more than one pathway to retrieve stored information. For students whose primary sensory channels have not reliably encoded reading material, additional pathways offer an alternative route to learning.

The evidence base for multisensory approaches is substantial, though somewhat heterogeneous. A meta-analysis by Malatesha Joshi et al. (2009) found that structured multisensory programs showed consistent advantages over control conditions for students with reading disabilities, with mean effect sizes in the range of 0.40 to 0.80 depending on the outcome measure. Shaywitz and Shaywitz (2020) reviewed neuroimaging studies showing that students who receive structured multisensory reading instruction develop stronger activation in posterior reading systems, suggesting that well-designed instruction can actually alter the neural pathways associated with reading.

Programs rooted in multisensory principles, including Wilson Reading System, Barton Reading and Spelling System, and RAVE-O, have been studied in controlled conditions and have shown positive effects on phonological decoding, spelling, and reading fluency for students with dyslexia (Wolf et al., 2000; Wilson, 1996). One limitation of the multisensory literature is that many studies have not

isolated the “multisensory” component from the other features of structured literacy programs, such as explicitness, sequencing, and high practice volume. It remains difficult to determine how much of the benefit comes from sensory integration per se versus the structural quality of the programs.

Application to Writing and Spelling

Multisensory approaches are particularly well-documented in the domain of spelling and handwriting. Students with dysgraphia, a writing disability affecting letter formation and spelling, often benefit from kinesthetic-tactile instruction in letter formation before moving to pencil-and-paper tasks. [Graham et al. \(2012\)](#) conducted a meta-analysis of writing instruction for students with learning disabilities and found that handwriting instruction using multisensory techniques significantly improved both handwriting quality and writing output, with effect sizes ranging from 0.60 to 0.82.

In summary, the evidence for multisensory teaching is strongest for students with dyslexia and reading disabilities on phonological decoding and spelling outcomes, where multiple meta-analyses report consistent effects across structured programs ([Malatesha Joshi et al., 2009](#); [Shaywitz & Shaywitz, 2020](#)). Evidence for students with dysgraphia on handwriting and writing quality is also well-supported ([Graham et al., 2012](#)). Evidence is more limited for students with intellectual disability, ASD, or sensory impairments. A persistent limitation across the literature is that the specific contribution of sensory integration has not been isolated from other program features such as explicitness, sequencing, and instructional intensity.

3.3. Assistive Technology

Assistive technology (AT) refers to any device, software, or equipment that helps a person with a disability perform tasks that would otherwise be difficult or impossible. In the context of literacy, AT can support decoding, fluency, comprehension, and writing, often by reducing the cognitive or physical demands that interfere with a student’s ability to engage with text or produce written work. Under [IDEA \(2004\)](#), schools are required to consider AT as part of the IEP process for every student with a disability.

The range of AT available to students with literacy challenges has expanded dramatically over the past two decades. Text-to-speech (TTS) software, which reads digital text aloud, is among the most widely studied AT tools for students with reading disabilities. Research by [Strangman and Dalton \(2005\)](#) found that TTS systems consistently helped students with reading disabilities access grade-level content, improved comprehension scores, and reduced reading-related frustration. More recent studies have confirmed that TTS benefits students with dyslexia, intellectual disability, and physical disabilities that affect reading fluency ([Wood et al., 2018](#)).

Speech-to-text (STT) technology, which converts spoken words into written text, addresses the other end of the literacy process. For students whose writing

disabilities (dysgraphia, motor impairment) create a bottleneck between ideas and output, STT tools remove that barrier and allow students to demonstrate what they know without being limited by their motor or spelling difficulties. Higgins and Raskind (2000) found that students with learning disabilities who used STT produced longer, higher-quality written work than peers writing by hand, and reported greater confidence in their writing.

Digital reading platforms with embedded literacy supports, such as highlighting, annotation, embedded vocabulary definitions, and digital note-taking, have also shown promise. Edyburn (2013) reviewed the evidence for digitally enhanced texts and found consistent benefits for comprehension and vocabulary learning, particularly when the supports were introduced with explicit instruction about how and when to use them. Word prediction software reduces the physical and cognitive demands of writing for students with motor impairments and spelling difficulties; studies reviewed by MacArthur (2009) found moderate to strong effects on written output and spelling accuracy when word prediction was combined with writing instruction.

Considerations for AT Selection and Training

AT does not work in isolation. Several studies have found that providing AT tools without training for both students and teachers produces minimal or no benefit (Edyburn, 2013; Flanagan et al., 2013). Students need instruction in when and how to use specific tools, and teachers need professional development to integrate AT meaningfully into literacy instruction rather than using it as a substitute for teaching. Zabala's SETT framework (Student, Environments, Tasks, Tools) provides a structured approach for AT assessment and selection that centers the individual student's needs and the specific learning tasks they face (Zabala, 2005). Cost and access remain practical barriers. Schools in under-resourced communities may lack funding for AT devices or infrastructure for digital tools. The digital divide is real: students in low-income districts are less likely to have access to high-quality AT, even when legally entitled to it (Warschauer & Matuchniak, 2010).

3.4. Scaffolded Reading

Scaffolded reading, also called the Scaffolded Reading Experience (SRE), is a framework developed by Graves and Graves (2003) for structuring reading instruction around a sequence of deliberate support activities before, during, and after students read a text. The underlying idea is that students engage more deeply with text and retain more from it when their reading is framed with purpose-setting activities, supported during reading with comprehension prompts, and followed by reflection and elaboration tasks.

Unlike a single strategy, the SRE is a planning framework that teachers adapt to the specific text and the specific students they are teaching. Pre-reading activities might include building background knowledge, introducing key vocabulary, setting a purpose for reading, or previewing text structure. During-reading supports might include guided note-taking, think-alouds, stop-and-check questions, or part-

ner reading. Post-reading activities might include discussion, writing responses, graphic organizers, or retelling tasks.

For students with disabilities, scaffolded reading addresses multiple points of difficulty. Vocabulary gaps, which are common in students with language disorders and intellectual disability, can be addressed through targeted pre-reading vocabulary instruction. Text structure confusion, which affects students with ASD and learning disabilities, can be addressed through explicit pre-reading previews of how a text is organized. Comprehension monitoring difficulties can be addressed through structured during-reading prompts.

Wanzek et al. (2010) conducted a synthesis of reading comprehension interventions for students with learning disabilities and found that multi-component approaches incorporating scaffolded elements consistently produced larger effect sizes than single-strategy interventions, with a mean effect size of 0.79 for comprehension outcomes. A particularly well-studied scaffold for students with disabilities is the use of graphic organizers. Studies reviewed by Dexter and Hughes (2011) found that graphic organizers significantly improved reading comprehension for students with learning disabilities, with effect sizes ranging from 0.52 to 1.08. The benefit was strongest when teachers introduced the organizer with explicit instruction about how it maps onto text structure.

Text Complexity and Differentiation

One practical challenge in implementing scaffolded reading is text selection. Research on text complexity consistently shows that students with reading disabilities benefit from reading texts at their independent or instructional level for fluency practice, while also needing access to grade-level content for comprehension development, a tension that scaffolded reading can help resolve by providing the support structures that make challenging texts more accessible (Allington, 2002). When teachers provide scaffolding that is calibrated to both the text complexity and the individual student's current skill level, students are more likely to experience productive struggle rather than frustrating failure.

In summary, the evidence for scaffolded reading is strongest for students with learning disabilities on reading comprehension outcomes, with graphic organizers and multi-component scaffolded frameworks showing robust effects across multiple studies (Dexter & Hughes, 2011; Wanzek et al., 2010). Evidence for students with language disorders is moderate, with pre-reading vocabulary instruction showing consistent but smaller benefits. Evidence is more indirect for students with significant intellectual disability or ASD. Most scaffolded reading studies rely on researcher-designed or curriculum-embedded measures rather than standardized assessments, which limits generalizability across settings.

3.5. Cross-Strategy Synthesis

Taken together, the four strategies reviewed here are not competing alternatives; they are complementary layers that can be combined and prioritized according to

a student's disability profile and literacy goals. Explicit instruction functions as the foundational delivery mechanism: its core features of modeling, guided practice, and corrective feedback are embedded within high-quality multisensory programs and provide the instructional skeleton on which scaffolded reading frameworks are built.

For students with dyslexia or reading disabilities whose primary barrier is phonological decoding, a multisensory explicit phonics program such as the Wilson Reading System or RAVE-O should anchor the instructional plan, with scaffolded reading used to support comprehension as decoding accuracy grows. For students with ASD or language disorders whose decoding may be adequate but whose comprehension and inferencing are weak, scaffolded reading with explicit strategy instruction should be foregrounded from the outset. For students with intellectual disability, explicit instruction delivered at high frequency and with systematic prompting hierarchies provides the strongest evidence base, supplemented by scaffolded pre-reading activities that build background knowledge before text engagement. Across all of these profiles, assistive technology is best understood not as a standalone strategy but as an access layer that removes barriers so that the instructional strategies can do their work.

4. Implementation Considerations

Evidence-based strategies do not implement themselves. Research consistently shows that knowing what works in principle and successfully delivering it in classrooms are two different problems (Wallace, 2005). This section examines the factors that shape whether evidence-based literacy instruction for students with disabilities is delivered effectively. Table 2 summarizes key implementation considerations.

Table 2. Key implementation considerations for evidence-based literacy instruction.

Consideration	Description	Practical examples
Assessment & progress monitoring	Regular data collection using curriculum-based measures (CBM) and standardized tools to track response to instruction	DIBELS, AIMSweb, classroom-based probes
IEP alignment	Instructional strategies must map directly onto IEP goals with measurable benchmarks and accommodation plans	Goal-setting, accommodation logs, collaborative planning
Co-teaching models	General and special educators sharing instruction improves consistency and reach of evidence-based practices	Parallel, station, alternative teaching models
Professional development	Teachers need sustained training, not one-time workshops, to implement strategies with fidelity	Coaching cycles, peer observation, practice communities
Family engagement	Home literacy activities and parent communication reinforce classroom learning for students with disabilities	Reading logs, family workshops, bilingual materials

Note. Adapted from Wallace. (2005) and Clearinghouse (2009).

4.1. Individualized Education Programs

The IEP is the legal and instructional cornerstone of education for students with disabilities under IDEA. Every IEP must include measurable annual goals, present levels of performance, and a description of the special education services and accommodations the student will receive. When evidence-based literacy strategies are incorporated directly into IEP goals and service descriptions, teachers have both a mandate and a structure for implementation. When they are not, even well-intentioned educators may revert to familiar but less effective practices (Yell et al., 2006).

IEP goals for literacy should be written with enough specificity to guide instruction. A goal that says “the student will improve reading” provides little instructional direction. A goal that says “the student will correctly decode CVC words with short vowel sounds at 80% accuracy across three consecutive sessions” gives the teacher a clear target and a way to measure progress. Connecting IEP goals to specific evidence-based strategies, specifying, for example, that explicit phonics instruction will be provided four times per week in 30-minute sessions, improves the likelihood that the right instruction will actually happen.

4.2. Teacher Knowledge and Professional Development

Many teachers, including those certified in special education, enter the profession without deep knowledge of structured literacy instruction, phonological awareness, or the science of reading (Moats, 2014). A national survey by Malatesha et al. (2009) found that a substantial percentage of teachers in both general and special education could not correctly identify the components of phonological awareness or explain the difference between phonological and phonemic awareness, concepts that are foundational to effective reading instruction for students with disabilities.

Professional development that changes classroom practice needs to be more than a single workshop. Research on effective PD for literacy instruction consistently points to the importance of sustained, job-embedded coaching; opportunities to practice strategies in the classroom and receive specific feedback; collegial observation and discussion; and deliberate integration of PD content into lesson planning (Clearinghouse, 2009). Implementation fidelity, defined as the degree to which teachers deliver instruction as designed, matters significantly. Vaughn and Wanzek (2014) found that studies reporting high fidelity of implementation showed consistently stronger student outcomes than studies with low or unmonitored fidelity.

4.3. Co-Teaching and Collaboration

Most students with disabilities receive a significant portion of their literacy instruction in general education classrooms. Co-teaching models, in which a general educator and a special educator share responsibility for instruction, have become increasingly common as schools move away from pull-out-only models. When

implemented well, co-teaching gives the special educator the opportunity to provide explicit, targeted instruction to students with disabilities within the same instructional space as their peers (Friend & Cook, 2017). The evidence on co-teaching outcomes is mixed. Research by Scruggs et al. (2007) found that in many co-taught classrooms, special educators functioned primarily as aides rather than as instructional partners, significantly limiting the model's potential. Effective co-teaching depends on joint planning time, clearly defined roles, and shared responsibility for student outcomes.

4.4. Assessment and Progress Monitoring

Implementing evidence-based instruction without monitoring whether students are actually making progress is like navigating without a map. Curriculum-based measurement (CBM), a set of brief, standardized probes that measure academic skills like oral reading fluency and maze reading comprehension, provides teachers with frequent, data-based information about student growth (Deno, 2003). Schools that use CBM to make instructional decisions have consistently produced better literacy outcomes for students with disabilities compared to schools relying on infrequent summative assessments alone. Fuchs and Fuchs (2006) describe a decision-making framework tied to progress monitoring data in which teachers adjust instruction based on student response rates, preventing students from spending extended time in approaches that are not working.

4.5. Family and Community Engagement

The role of families in supporting literacy development for students with disabilities is frequently undervalued in research and practice. Studies reviewed by Manz et al. (2010) found that structured family literacy programs, including parent-mediated reading activities, parent training in evidence-based reading support, and bilingual family workshops, produced significant benefits for students with disabilities, particularly in early literacy skills. For families whose home language is not English, engagement is more complex and requires schools to provide accessible, culturally responsive communication. Schools that actively recruit bilingual staff, translate materials, and build relationships with community organizations are more successful in reaching families who might otherwise remain on the margins of their child's educational planning (Harry & Klingner, 2014).

5. Implications for Teachers

The research reviewed here has direct implications for what teachers do in classrooms every day. These are not abstract recommendations. They are grounded in evidence from studies involving real students in real schools.

5.1. Know the Evidence Base

Teachers do not need to read every research study, but they do need a working knowledge of which instructional approaches have evidence behind them and

which do not. Structured literacy approaches grounded in explicit phonics instruction have strong evidence. Learning styles theory, the idea that students learn better when instruction is matched to their preferred sensory mode, does not, and teachers should be skeptical of professional development organized around it (Pashler et al., 2008). Being a research-informed teacher means developing the ability to ask: what does the evidence say about this approach, and for which students?

5.2. Teach Reading Explicitly

Students with disabilities, almost without exception, benefit from instruction that is direct, structured, and systematic. This means modeling skills out loud, using think-alouds to make reasoning visible, breaking complex tasks into steps, providing immediate corrective feedback, and practicing skills until they are automatic. Teachers should not expect struggling readers to “pick up” phonics, vocabulary, or comprehension strategies through incidental exposure to text. These things need to be taught directly.

5.3. Use Data to Drive Decisions

Progress monitoring is not a bureaucratic exercise. It is the primary way a teacher can know whether a student is actually learning from the instruction they are receiving. Teachers should set up brief, regular data collection routines, including oral reading fluency probes, spelling inventories, and comprehension checks, that allow them to track individual student growth over time. When data shows a student is not growing at an adequate rate, that is actionable information, not a reflection of the student’s fixed ability.

5.4. Learn to Use Assistive Technology

AT is only as useful as the teacher’s ability to integrate it meaningfully. Teachers should take the time to learn the AT tools available to their students, understand when those tools are most appropriate, and teach students how to use them strategically. A student who has access to TTS software but does not know when or how to use it is not being served by that technology. Collaboration with AT specialists and special educators is essential here.

5.5. Build Relationships with Families

Teachers who take time to build genuine relationships with the families of students with disabilities, through regular communication, family workshops, and culturally responsive engagement, find that those relationships pay dividends in student motivation, consistency between home and school, and trust during difficult IEP conversations. Families are not passive recipients of information; they are partners in their children’s literacy development.

6. Future Research Directions

While the evidence base reviewed here is substantial, several important gaps re-

main. **Table 3** identifies priority areas for future research, the nature of the gap, and suggested methodological approaches.

Table 3. Priority Areas for Future Research on Literacy and Disability.

Research priority	Gap identified	Suggested approach
Longitudinal impact of AT on literacy	Most AT studies use short intervention windows; long-term academic outcomes are poorly understood	5 - 10 year follow-up cohort designs tracking reading and writing growth
Intersectionality of disability and language	ELL students with disabilities are underrepresented in literacy intervention research	Mixed-methods studies in bilingual and multilingual school contexts
Teacher preparation program quality	Limited evidence on which pre-service training models produce effective inclusive literacy instruction	Comparative program evaluation using outcome data from student learners
AI-powered adaptive learning tools	Early-stage AI literacy tools lack peer-reviewed efficacy data for students with disabilities	RCTs and quasi-experimental studies with disability subgroup analyses
Family-school-community models	Most studies treat school instruction as isolated; home literacy environments need more systematic study	Ecological, multisite designs engaging families and community organizations

Note. Gaps identified through systematic review of the literature from 2000-2024.

6.1. Longitudinal Outcomes

Most intervention studies in this area measure outcomes over weeks or months, not years. This limits what researchers can say about whether early literacy gains for students with disabilities are durable: whether they maintain the gap reduction achieved during intensive intervention or gradually lose ground once intervention ends. Long-term cohort studies tracking students from early elementary school through secondary and post-secondary outcomes are necessary to answer this question (Torgesen, 2004).

6.2. English Language Learners with Disabilities

The literacy needs of students who are simultaneously learning English as an additional language and have a disability are poorly understood. This population has historically been either over-identified as having disabilities (due to language-based assessments that mistake language difference for disability) or under-identified (due to reluctance to refer English language learners for evaluation). Research that develops valid identification and assessment tools for this group, and that tests instructional approaches adapted to their bilingual context, is a high priority (Klingner et al., 2006).

6.3. AI-Powered Literacy Tools

Adaptive digital platforms, AI-driven reading tutors, and personalized learning systems are proliferating rapidly in K-12 education, and some are specifically marketed for students with disabilities. However, the evidence base for these tools remains thin. Studies are beginning to emerge, but most lack control conditions, adequate sample sizes, or disability-specific subgroup analyses. Rigorous, independent evaluation of AI-based literacy tools, including attention to equity, pri-

vacy, and access, is urgently needed (Holmes et al., 2018).

6.4. Teacher Education Research

Research on pre-service teacher preparation for inclusive literacy instruction is limited. Studies comparing different teacher preparation program models on the basis of student literacy outcomes, rather than just teacher knowledge or self-efficacy, would provide actionable evidence for accreditation bodies and program designers. The evidence strongly suggests that most teachers are not graduating with the knowledge base they need to teach reading effectively to students with disabilities (Moats, 2014), but the field lacks clear guidance on which program features most reliably address this.

7. Conclusion

Students with disabilities are not failing because they cannot learn to read. Many are failing because they have not received the kind of instruction that research shows they need. The evidence reviewed in this paper is consistent across decades, researchers, and student populations: explicit instruction, multisensory teaching, assistive technology, and scaffolded reading can meaningfully improve literacy outcomes for students with a wide range of disabilities when implemented well.

“Implemented well” is where the challenge lies. Evidence-based strategies require teachers who understand them and can deliver them with skill, IEPs that are written with enough specificity to actually guide instruction, schools that provide the structures for collaboration and professional development, and systems that monitor student progress and respond when instruction is not working. None of this is automatic, and none of it can be legislated by policy alone.

What the research makes clear is that literacy development for students with disabilities is achievable, not as an exception or a miracle, but as a predictable result of high-quality, well-supported instruction. The students are ready. The evidence is there. The work that remains is closing the gap between what we know and what we do.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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