10 Research-Based Tips for Enhancing Literacy Instruction for Students With Intellectual Disability

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In the past 2 decades, researchers (often working closely with parents, teachers, and other school staff members) have conducted studies that have substantially increased understanding how to effectively teach children and adolescents with intellectual disability (ID) to read. This research focus has been fueled by increased societal expectations for individuals with ID, advocacy efforts, and legislative priorities (e.g., strengthened accountability standards). Findings from this body of work indicate that children and adolescents with ID can obtain higher levels of reading achievement than previously anticipated (Allor, Mathes, Roberts, Cheatham, & Al Otaiba, 2014). Recent research also suggests that the historic focus on functional reading (e.g., signs, restaurant words) for this population of learners is likely too limited of a focus for many (Browder et al., 2009). Research outcomes suggest that integrating components of traditional reading instruction (e.g., phonics, phonemic awareness) into programs for students with ID will lead to increases in independent reading skills for many (Allor, Al Otaiba, Ortiz, & Folsom, 2014). These increased reading abilities are likely to lead to greater postsecondary outcomes, including employment, independence, and quality of life. Unfortunately, many teachers remain unsure of how to best design and deliver reading intervention for students with ID.

We offer a set of 10 research-based tips for special education teachers, general education teachers, and other members of IEP teams to consider when planning literacy instruction for students with ID in order to maximize student outcomes. For each tip, we describe our rationale for the recommendation and provide implementation guidance. Our Literacy Instruction and Support Planning Tool can be used by team members to organize information to guide planning. Our aim is to provide educators and IEP team members with a framework for reflecting on current reading practices in order to make research-based adjustments that are likely to improve student outcomes.

The Conceptual Model of Literacy

Browder and colleagues (2009) proposed a conceptual model for early literacy instruction for students with severe developmental disabilities. We believe their framework provides guidance for designing and delivering literacy instruction for all students with ID. We used Browder et al.'s model to develop the Literacy Instruction and Support Planning Tool that IEP teams can use to guide decision making (see Figure 1). We encourage readers to obtain Browder et al.'s original article, however, for additional detail on the conceptual model.

Browder et al.'s (2009) model includes two primary components. The first component offers guidance on considering instructional priorities, supports, and access opportunities; the second provides direction for considering the instructional emphasis. For the first component, Browder et al. outlined two primary literacy goals: increasing access to literature and increasing students' independence as readers. Within the initial goal, the emphasis is on ensuring opportunities are provided for students to access literature (e.g., adapted books, time for literacy) and considering features of instruction necessary to increase students' abilities to access literature (e.g., task analysis for read-alouds, text awareness). Strategies for increasing reading independence include designing explicit reading instruction (e.g., phonemic awareness, phonics, comprehension) and ensuring the student has opportunities to apply and generalize reading skills (e.g., application of skills in novel texts, instruction to generalize reading skills into functional activities).

For the second component of the model, Browder et al. highlighted how the instructional emphasis will likely change as students' grade level increases. The authors suggested that learning "how to read" will be a prominent focus for many elementary-age students and that "functional reading" may gain greater emphasis as students advance to middle and high school. Browder et al. noted that access to age-appropriate literature should remain a focus across all grade levels—indeed, across the life span.

Research-Based Tips

Tip 1: Keep Big-Picture Goals in Mind

When thinking about literacy instruction, it may be tempting for many teachers and parents to focus on goals for the next calendar year and subsequently to devote limited time to looking at the bigger picture. We think big-picture visioning is important even in the early elementary school years. It can be helpful to pause and have team members spend a little time thinking about longer-term outcomes and the amount of time in which these outcomes are to be achieved.

Children and adolescents with ID can obtain higher levels of reading achievement than previously anticipated.

Browder et al.'s (2009) model can help IEP team members contextualize planning in at least two important ways. First, the model provides a reminder that it is essential that literacy instruction for students with ID focus on increasing students' independence as readers through reading instruction and opportunities to apply and generalize reading skills. Research has demonstrated that appropriately designed, targeted literacy instruction can lead to greater academic outcomes for children and adolescents with ID than previously thought feasible (Allor, Mathes, et al., 2014; Bradford, Shippen, Alberto, Houchins, & Flores, 2006; Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2008; Browder, Ahlgrim-Delzell, Flowers, & Baker, 2012). Further, Wei, Blackorby, and Schiller (2011) demonstrated that adolescents with ID continue to show gains in reading skill across the high

Figure 1. Literacy Instruction and Support Planning Tool

	Tips	Discussion Points
Directions: Review Tips 1 and 2 (Section A). Use the Discussion Points to faciliate discussions. Complete Sections C through F. Then, review Tips 3 through 10 (Section B) and use the additional Discussion Points to focus conversation around planning appropriate Specially Designed Instruction and supports to increase the student's reading abilities and access to literature.		
Section A: Focus on instructional planning	1. Keep big picture goals in mind as you plan.	☐ Consider broad goals for student over next few years. ☐ Discuss post-secondary goals. ☐ Review alignment of reading goals with broader goals. ☐ Consider instructional balance between learning to read and functional reading. ☐ Discuss ways to incorporate student's interests and priorities into reading instruction.
	2. Ensure you have a clear picture of the student's current level of functioning and set meaningful, measurable goals.	☐ Summarize student's current strengths in reading. ☐ Consider next areas of instructional focus. ☐ Develop measurable, meaningful goals for each targeted skill.
Section B: Focus on instructional delivery	3. Provide explicit, systematic reading instruction.	☐ Select the reading program to be used with the student. ☐ Review the level of explicit and systematic instruction in reading program. ☐ Consider possible adaptations. ☐ Review need for possible curriculum supplements.
	4. Provide instruction with sufficient intensity to accomplish goals.	☐ Consider the alignment between instructional intensity and ability to obtain intended outcomes. ☐ Consider whether plan includes a sufficient amount of direct instruction from a highly qualified instructor. ☐ Discuss potential changes needed to obtain outcomes.
	5. Seek out professional development opportunities to deepen understanding of the complex process of learning to read.	☐ Review professional development needs to ensure delivery of high quality reading instruction. ☐ Discuss available PD opportunities. ☐ Outline steps necessary to ensure PD is obtained.
	6. Remember that language abilities are the underlying foundation for reading skills.	☐ Consider student's language abilities in the planning of reading instruction. ☐ Consult with SLP on reading instruction. ☐ Review alignment of SLP services and reading goals. ☐ Consult with teachers of ESL or bilingual programs if needed.
	7. Scaffold working memory with images, objects, letters, and words.	☐ Consider possible working memory deficits. ☐ Review need for instructional scaffolds to support deficits. ☐ Discuss strategies to make instruction more visual or concrete.
	8. Target specific parts of a scope-and-sequence to focus instruction.	☐ Evaluate the clarity of the reading program's scope-and-sequence. ☐ Plan how instruction will be designed around the scope-and-sequence. ☐ Determine how the student will progress through the scope-and-sequence.
	9. Use data to guide instruction and adaptation.	☐ Outline a data collection plan to allow the IEP team to evaluate the student's progress. ☐ Plan for sharing data with school staff, parents, and the student (when appropriate). ☐ Plan for graphing and analyzing data. ☐ Consider if measures being used are sensitive to small increments of student improvement.
	10. Involve service providers and family members.	☐ Discuss supplemental services (e.g., assistive technology specialists, behavior specialists) and alignment to support reading instruction. ☐ Plan for family involvement to increase access to literature and practice mastered skills at home.

(continued)

Figure 1 (continued)

Literacy Instruction and Support Planning Tool (p.2)

Section C: Instructional emphasis: Review Tip #1. Select a level that indicates the balance between functional reading and learning how to read for the student.	Section D: Student interests: List interests and personal goals related to reading instruction.

☐ **5** = Primarily functional, minimal how to			1.
☐ **4** = Majority functional, moderate how to	Across all levels: Access to age-appropriate literature (narrative and informational) through read-alouds and independent text reading	'Functional reading' focus / 'How to read' focus	2.
☐ **3** = Balance between functional and how to			3.
☐ **2** = Majority how to, moderate functional			4.
☐ **1** = Primarily how to, minimal functional			5.

Section E: Instructional priorities, supports, and access opportunities: Review Tip #2. Rank the need to prioritize each of the following when developing reading goals and instructional plans for the student.

Increasing Independence as a Reader		**Key 1** = Not a priority at this time. **2** = Low priority. **3** = Moderate priority. **4** = High priority. **5** = Very high priority.	
Instructional priorities for reading instruction	**Priority level**	**Opportunities to apply & generalize skills**	**Priority level**
Phonemic awareness (Increasing student's ability to hear and manipulate sounds in spoken language.)	1 2 3 4 5	**Text applications** (Instruction and support is needed for generalization of reading skills to novel texts.)	1 2 3 4 5
Phonics (Increasing student's knowledge of sound-symbol correspondences.)	1 2 3 4 5	**Functional activities** (Instruction and support is needed for generalization of reading skills into functional activities [e.g., menus, newspapers, weather reports, directions].)	1 2 3 4 5
Comprehension (Increasing student's ability to understand independently read texts.)	1 2 3 4 5		
Vocabulary (Increasing student's knowledge of written words and ability to determine meanings of unknown written words.)	1 2 3 4 5	**Writing** (Instruction and support is needed to extend generalization of reading skills into writing, including options to select pictures, phrases, etc. for students who are not yet writing.)	1 2 3 4 5
Fluency (Increasing student's ability to read text with appropriate pacing, accuracy, and prosody.)	1 2 3 4 5		

Increasing Access to Literature		**Key 1** = Not a priority at this time. **2** = Low priority. **3** = Moderate priority. **4** = High priority. **5** = Very high priority.	
Instructional priorities to increase access to literature	**Priority level**	**Opportunities to access literature**	**Priority level**
Task analysis for read alouds (Instructors need to systematically plan instruction to support the student's ability to benefit from texts that are read aloud.)	1 2 3 4 5	**Adapted books** (There is a need to increase the quantity and/or quality of adapted texts to support learning. Additionally, instruction may be needed to support student's use of adapted texts.)	1 2 3 4 5
Text awareness (Instruction is needed to increase student's awareness of text features during read alouds [e.g., student points to key words during read aloud.)	1 2 3 4 5	**Time for literacy** (There is a need to increase the amount of time, both during and outside of school, the student spends engaged with literature, including texts that are read aloud or read independently.)	1 2 3 4 5
Vocabulary (Instruction is needed to increase student's understanding of words during read alouds.)	1 2 3 4 5		
Listening comprehension (Instruction is needed to increase student's ability to apply grade-level aligned reading comprehension skills to texts that are read aloud [e.g., sequencing events, identifying main idea].)	1 2 3 4 5	**Readers** (There is a need for increasing the available quantity and/or quality of people who can read texts aloud or offer reading support, including peers, family members, and school staff.)	1 2 3 4 5
		Technology access (There is a need to increase the quantity and/or quality of technology supports that could enhance student's access to texts, including computers, tablets, smart phones. Additional instruction may be needed to support student's use of technology to access texts.)	1 2 3 4 5

Section F: Goal prioritizing: List goals that appear to be the most important to consider in the upcoming academic year.

1.
2.
3.
4.
5.

school years, emphasizing the need for an ongoing focus on literacy instruction.

It is important to note that Browder et al.'s model also highlights the need to ensure that literacy instruction includes a focus on increasing student access to literature by providing increased access to books and other texts (e.g., via peers, family members, technology) and by providing instruction on how to gain meaning from texts, including those that are read aloud to the student (see Browder, Trela, Gibbs, Wakeman, & Harris, 2007). This aim is important in that it provides a secondary path to access age-appropriate literature that is not reliant on the development of basic reading skills.

Second, Browder and colleagues' (2009) model highlights how the focus on "how to read" versus "functional reading" will likely change as a student moves into adolescence and as special education services begin to increase focus on transitioning into the postsecondary world. IEP team members will need to talk frankly about how to appropriately balance instructional time spent on increasing reading independence (i.e., reading instruction) with instructional time focused on other important transition outcomes (e.g., communication, functional reading, self-care, social skills, technology, transportation, employment, leisure).

We also believe it is worth noting that over time, even small, incremental improvements in independent reading skill can have a drastic effect on a student's quality of life. In other words, although it may take multiple years of instruction for a student to be able to read at a third-grade or even first-grade level, a student who obtains even this level of basic skill can access many more texts than a nonreader. Thus, the substantial efforts that may be required to enhance reading outcomes for students with ID are very much worth it (Lemons et al., 2015). Focusing instruction on texts and words that students are most interested in learning can improve quality of life and also enhance

motivation and engagement for older students (e.g., learning to read leisure magazines about sports, how to access a transportation schedule, a basic recipe for a favorite meal, accessing social media).

Tip 2: Set Meaningful, Measurable Goals

Another important aspect of planning reading instruction is to understand the student's current strengths and instructional needs in relation to essential reading skills. IEP teams can use Browder et al.'s (2009) model to outline essential skills, and achievement standards from a state's alternate assessment also may be useful for planning. We believe that the foundational skills for reading outlined in the Common Core State Standards (CCSS) can be particularly useful when thinking about focus areas for reading

Multiple sources of data can help IEP teams evaluate a student's current abilities in relation to essential literacy skills. First, it is likely that standardized reading achievement measures (e.g., Woodcock Reading Mastery Test; Woodcock, 2011) have been administered to the student as part of the formal evaluation process. Other criterion-referenced assessments may also indicate which reading skills students have mastered. Data from these measures can highlight areas of relative strength and weakness. Second, teams may also administer early-grade measures of curriculum-based measurement (CBM) to evaluate students' performance in phonological awareness, letter knowledge, and word and passage reading. Several studies (Allor, Mathes, et al., 2014; Lemons et al., 2013) have demonstrated that early-grade CBM can be used to

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The model provides a reminder that it is essential that literacy instruction for students with ID focus on increasing students' independence as readers.

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instruction (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010a, 2010b). For example, the CCSS foundational skills at Grade 1 include detailed skills in the areas of print concepts, phonological awareness, phonics and word recognition, and fluency. IEP teams can review the foundational skills and determine which ones represent the next developmental progression for an individual student. In selecting skills on which to focus, teams should prioritize those that are most likely to affect a student's overall reading abilities. For example, some of the foundational skills (e.g., rhyming) may be less important than others (e.g., phonemic awareness; see Allor, Mathes, Champlin, & Cheatham, 2009 for further details). Considering guidance from Browder et al., teams should select skills that are most likely to have a direct benefit—including immediate and longer term—on students' lives.

monitor response to reading instruction for children with ID across grade levels. Third, the IEP team may develop informal (or mastery) assessments based on the CCSS Foundational Skills or other standards to evaluate a student's current abilities on key skills.

For example, at Grade 1, students are expected to "decode two-syllable words following basic patterns by breaking words into syllables" (RF.1.3.4). A teacher could generate a list of 10 two-syllable words and observe the student reading these words to evaluate whether the student was able to perform the skill. Alternatively, teachers could create similar informal assessments using content they are teaching in their daily lessons. For example, teachers might conduct a brief assessment to determine whether a student is able to correctly produce taught letter sounds and words. This data can guide decisions on whether the student is ready to move forward in the scope and

sequence. It is also useful to conduct frequent assessments of previously learned material to determine if the student has retained prior learning and to reteach when needed.

Once the team has a solid understanding of the student's current abilities, it should generate a set of IEP goals that are focused on essential reading skills. IEP goals can be generated based on Browder et al.'s (2009) model, performance on early-grade CBM, the CCSS Foundational Skills in reading, and informal assessment. Following guidance provided by Yell and Stecker (2003), an example of an IEP goal based on oral reading fluency CBM would be "By the end of the school year, when presented with a second-grade oral reading fluency probe, Je'Sean will correctly read aloud 90 words per minute with at least 95% accuracy." Teachers can learn more about using CBM to monitor progress through resources provided in Table 1.

Tip 3: Provide Explicit, Systematic Reading Instruction

In our experiences working in schools, too often we find that reading instruction provided to students with ID is disconnected and disorganized. This is often because teachers are not provided with an appropriate instructional program but are instead pulling resources from various sources, including the Internet. We believe that using one reading program as a base will help teachers deliver instruction in a more systematic way. Additional resources can then be aligned to this program. We strongly recommend that teachers select an evidence-based program that provides explicit models, corrective feedback, scaffolding, reinforcement, and cumulative review as well as a focus on systematic instruction in phonological awareness and phonics skills (Bradford et al., 2006; Browder et al., 2012; Browder et al., 2009; Conners, Rosenquist, Sligh, Atwell, &

Kiser, 2006). See Table 1 for recommendations of appropriate programs that have been demonstrated to be effective in research studies involving students with ID. It is likely that the base program will need some adaptations as teachers work to individualize instruction and that supplemental content may be necessary to meet the instructional and access needs of the student. However, using the base program as a foundation will increase the connectedness and organization of instruction. This is because a structured scope and sequence is key to keeping instruction organized and unified.

Another element of systematic teaching is providing instruction that enables students to apply skills across contexts and make connections among related skills (Browder et al., 2007). Students with ID benefit from routine language that is repeated across lessons and contexts (e.g., reading and

Table 1. Resources to Enhance Literacy Instruction

CBM resources	• IRIS module http://iris.peabody.vanderbilt.edu/module/gpm/cresource/q1/p02/#content • *The ABCs of CBM: A Practical Guide to Curriculum-Based Measurement*, 2nd ed. (Hosp, Hosp, & Howell, 2016) • Potential measures: http://www.intensiveintervention.org/chart/progress-monitoring
Promising intervention programs	• Early Interventions in Reading https://www.mheonline.com/program/view/4/1/2542/SRAEIRLV11/ • Early Literacy Skill Builder http://www.attainmentcompany.com/elsb • Mondo Bookshop Phonics http://www.mondopub.com • Road to Reading http://products.brookespublishing.com/
Reading-related web resources	• Project Intensity (A federally funded research project) http://www.projectintensity.com/ • Reading Rockets (resource for teaching reading) http://www.readingrockets.org/ • Reading A-Z (resource for findings texts) https://www.readinga-z.com/ • TextProject (resource for vocabulary instruction) http://textproject.org/
Reading-related text resources	• *Direct Instruction Reading*, 5th ed. (Carnine, Silbert, Kame'enui, & Tarver, 2009) • *Fundamentals of Literacy Instruction & Assessment, Pre-K–6* (Hougen & Smart, 2012) and *Fundamentals of Literacy Instruction & Assessment, 6–12* (Hougen, 2014) • *More Language Arts, Math, and Science for Students with Severe Disabilities* (Browder & Spooner, 2014) • *Teaching Students with Moderate and Severe Disabilities* (Browder & Spooner, 2011)

Note. CBM = curriculum-based measurement.

writing; general education classroom, resource room) so instructions are quickly understood. A student with ID may not make the necessary connection if one teacher refers to sight words as "outlaw words" while another refers to them as "look-and-say words." Teachers should also explicitly teach connections among related skills (e.g., phonological awareness to decoding to spelling, decoding to meaning to writing). For example, when students are decoding a word, they first say the sounds of individual letters and then blend those sounds to say the word. These two subskills can be practiced separately (i.e., in separate letter-sound practice and oral phonemic awareness blending practice) and then explicitly applied to decoding and spelling. Systematic review, ongoing cumulative

Instruction should be engaging, and a plan should be in place to closely monitor the student's response to instruction.

practice, and integration of skills in this manner will increase the likelihood that students will maintain and generalize skills.

We realize that some students' initial response to instruction focused on phonological awareness and phonics skills may be minimal. For these students, teachers should consider devoting a period of instruction to increasing sight word reading ability (Browder & Xin, 1998). Teachers could do this as we did in a recent study (Lemons et al., in press) by teaching important, highly imageable, decodable words (e.g., *mom, dad, dog*) paired with pictures. Alternatively, teachers could use a more traditional sight word program (e.g., Edmark [ProEd, 2011], PCI [Haugen-McLane, Hohlt, & Haney, 2008]). We believe it is important to integrate phonological awareness and letter-sound instruction into these sight word programs as early as possible to ensure students have the ability to decode words that are not directly taught to them.

Tip 4: Provide Instruction With Sufficient Intensity to Accomplish Goals

Inclusion and the amount of time spent with same-age peers without disabilities in general education settings are important to consider when planning for children and adolescents with ID. However, IEP teams should consider whether receiving all instruction in the general education classroom will allow for a sufficient level of intensive intervention to support the student in meeting reading goals (Zigmond & Kloo, 2011). There are at least two important points regarding intensity. First, in informal discussions with teachers who have participated in our recent studies, many have reported that a substantial number of their students with ID spend a majority of

time in the general education classroom receiving one-on-one support from a paraprofessional to participate in instructional routines; however, this most often does not involve direct instruction of academic skills. In many cases, teachers reported that pullout instruction would have allowed an instructor to provide more intensive reading instruction that better targeted students' academic needs.

Second, even when intensive instruction is provided, many students with ID will need multiple years of intervention to achieve reading goals. For example, Allor, Mathes, and colleagues (2014) provided daily phonics-based reading instruction to children with below-average IQ, including many with ID. Instruction was provided for 40 to 50 minutes per day in groups of one to three students. Although students receiving the researcher-delivered reading intervention made statistically significantly better gains on average that students in the business-as-usual

control classrooms, many students made only 1 year's worth of progress in the curriculum after participating in the study for between 2 and 4 years. However, given the stable, relatively flat growth demonstrated by the students in the control condition, it is unlikely that students in the treatment condition would have made the progress they did with less intensive instruction.

To meet learning goals, the IEP team should ensure that the student receives a sufficient amount of time participating in direct instruction in reading provided by a highly qualified, trained interventionist (Fuchs, Fuchs, & Compton, 2012). This instruction should be closely aligned to the student's academic needs. In other words, instruction should target the student's zone of proximal development, or as we like to say, it should be in the student's "instructional sweet spot." Beyond this, instruction should be engaging, and a plan should be in place to closely monitor the student's response to instruction. In our collective experience as teachers and researchers, it is challenging to provide this level of intensity within the general education classroom.

Tip 5: Seek Out Professional Development Opportunities

Many special educators who teach students with ID have received limited preservice training on how children learn to read. In-service professional development to increase knowledge in this area can help teachers individualize and intensify reading instruction for their students. We believe that there are at least two important aspects of this on which professional development could focus.

First, teachers should understand what skilled readers do and understand how this skill develops. A fully developed reader recognizes letters and words quickly, uses the meanings of individual words, and makes immediate connections to the meaning of what they are reading. Skilled readers also use and apply general knowledge of the world to help them

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understand what they are reading. "Skilled reading happens too fast and is too automatic to detect its underlying processes through simple introspection. We read, but we cannot watch how our minds make sense out of print" (Moats, 1999, p. 12). Skilled reading involves many different processes happening simultaneously so that students can recognize words effortlessly and focus deeply on comprehension.

Second, teachers should understand theoretical models of reading development. Scarborough's (2001) woven-strand model demonstrates how initial skills in language comprehension (i.e., knowledge of background, vocabulary, language structures, literacy, and verbal reasoning) and word recognition skills (i.e., phonological awareness, decoding, spelling, and sight recognition) gradually become integrated. With instruction and practice, readers increase both automaticity and strategy to eventually demonstrate fluent coordination of word reading and comprehension processes. (For additional information on how learning

often offer school districts complimentary PD for supporting our research efforts. Teachers can reach out to researchers at local universities to see if these types of opportunities are available. Our third recommendation is for teachers with common interests to form professional learning communities (PLCs; Helman & Rosheim, 2016) in which they can work together to deepen knowledge and improve practice. The PLC could devote time to learning about reading instruction from several high-quality, free websites (e.g., Table 1) and sharing brief videos of instruction or assessment to assist one another in planning and problem solving. Alternatively, the PLC could dedicate time to reading books and peer-reviewed journal articles, discussing the content, and then applying instructional techniques. Suggestions of books to consider are included in Table 1. Finally, members of the PLC could opt to purchase a new curriculum and agree to support one another in initial implementation and problem solving.

possible. For example, isolated skills should be combined as soon as possible to create words and sentences in contexts that are familiar to students and likely to be understood.

With their expertise in language development, speech language pathologists (SLPs) are in the unique position of being able to identify and intervene upon language roots of reading problems (Ehren & Whitmire, 2009). For example, SLPs may provide key information about how speech perception, speech sound production, and vocabulary are interfering with reading progress (Squires, Gillam, & Reutzel, 2013). Many SLPs are trained to take a diagnostic-prescriptive approach to intervention (Ehren & Whitmire, 2009). In this approach, a student's current abilities and areas of instructional need are evaluated, and an intervention is designed to target areas of need. IEP team members can find additional guidance on enhancing the role of the SLP in literacy instruction through the American Speech-Language-Hearing Association (2001). It is also important to remember that expert guidance from teachers of English as a second language or bilingual education programs will be necessary for students whose first language is not English.

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to read occurs, see Perfetti, 2003; Perfetti & Marron, 1998.)

We understand that resources are often stretched in schools and that funds to provide for additional professional development (PD) opportunities are frequently limited. We have three recommendations that may help teachers access additional PD. First, local universities often offer courses on reading development and reading instruction. Although these are available to teachers through tuition or scholarship opportunities, there may be additional ways to access the content. For example, university instructors will often allow a teacher to audit a course in exchange for involving the teacher's class in practicum or research activities. Second, as researchers, we

Tip 6: Remember That Language Abilities Are the Underlying Foundation for Reading Skills

The theory of reading development known as the "simple view of reading" (Hoover & Gough, 1990) stresses that the act of reading combines word recognition and language comprehension. In other words, reading is simply the process of translating print into language. Planning for reading instruction should take into consideration a student's language abilities. Learning to read does not occur decontextualized from language development. Good readers make immediate links between print and meaning; therefore, instruction should support students with ID in making these connections as much as

Tip 7: Scaffold Working Memory

Many students with ID have deficits in working memory that can limit response to reading instruction. Consider, for example, the cognitive demands that are required for a student to sound out the word *sat*. The student says the sound for each letter, /s/ /a/ /t/, and then must blend those sounds together to say the whole word. Students who are not skilled at blending spoken sounds into words and who experience deficits in working memory often will forget the first sound by the time they begin to blend the sounds together and respond with the word *at* instead of *sat*. They simply forgot the /s/ sound. Other tasks— such as identifying the middle sound in a spoken word or manipulating phonemes—are even more difficult.

Teachers can provide various forms of scaffolding to assist students in manipulating phonemes even if a student's working memory limitations make the task difficult. For example, in a recent study focused on improving reading outcomes for children with Down syndrome (Lemons et al., in press), we provided two levels of scaffolding for early reading activities. First, we taught a limited number of highly imageable, decodable words (e.g., *dog*) by having students match the words to pictures. When students were able to identify the words automatically, we were then able to use the printed word or picture to support early phonological awareness and alphabetic principle activities. For example, if we asked a student to provide the first sound in the word *dog* and the student needed additional scaffolding, we showed the student the picture or printed word. Second, we quickly integrated letters into phonological awareness activities to provide additional support. Often, phonemic awareness is taught without letters, which is appropriate for very young students who are typically developing; however, in our experience, students with working memory limitations find that the addition of letters makes the task much easier. This is especially true for students who know many letter sounds but are still unable to blend sounds into words. For example, if a student was unable to segment the word *dog* using Elkonin boxes (i.e., a figure where small connected squares represent a series of phonemes) with three plastic chips, we replaced the chips with plastic letters (e.g., *d, o, g*). Conversely, if a student was unable to blend the sounds /d/ /o/ /g/ into the word *dog*, simply adding the letters to the task serves as a mnemonic clue so the student can hold the sounds in memory long enough to blend them into the word. This type of flexible scaffolding ensures that students are able to be successful with early reading activities.

Tip 8: Target Specific Parts of a Scope and Sequence to Focus Instruction

When planning reading instruction for students with ID, teachers need to consider not only what content to teach but also how to proceed through that content. Using a systematic approach to moving through a curriculum's scope and sequence can assist a teacher in ensuring that instruction is focused and consistent so that students master the content. Further, planning instruction so that an appropriate amount of content is targeted at a time will allow teachers to focus planning efforts. When the amount of content from the scope and sequence to be included in a lesson is matched to a student's instructional level, this can enhance student learning.

Teachers must decide when to repeat individual lessons or groups of lessons. Sometimes students may master some skills within a lesson (e.g., letter sounds) but still have difficulty with other skills in the same lesson or groups of lessons (e.g., blending letter sounds into words). In one research study, we found that some students were able to learn sight words and individual letter sounds at a faster pace than decoding regular words (see Allor, Gifford, Al Otaiba, Miller, & Cheatham, 2013). In this case, a teacher may introduce additional sight words and letter sounds while providing extra practice in blending and spelling. It is also helpful for teachers to group students with similar skills into homogenous small groups for teacher or paraprofessional instruction or to pair a student who lacks a skill with a student who has mastered it for peer-pair practice.

One way that we have targeted specific parts of a scope and sequence in our work is to select a limited number of new words or sounds to be taught at a time. For example, in Lemons, Mrachko, Kostewicz, and Paterra (2012), we used the scope and sequence of an evidence-based reading program (i.e., *Road to Reading*; Blachman & Tangel, 2008) to generate a preassessment of letter sounds, decodable words, and high-frequency words. We used data from this assessment to determine, individually, where students would be placed in the program. For each student, we selected five target letter sounds, decodable words, and high-frequency words to target in upcoming lessons. Intervention was delivered and learning of this content was assessed daily. When students provided the correct letter sound or word for 3 consecutive days, we deemed that item "mastered" and replaced it with the next letter or word on the scope and sequence. We also did frequent assessments of mastered items to check for maintenance and incorporated missed items back into instruction. This systematic approach to moving through a scope and sequence allowed us to match the intervention to each student's instructional level. For some students, we likely could have targeted a larger number of items. Teachers should use data they are collecting to determine an appropriate pacing for their students.

Tip 9: Use Data to Guide Instruction and Adaptation

One of the most important things teachers can do to increase the likelihood that students with ID obtain reading goals is to use data to monitor progress and guide ongoing adaptations. In multiple studies (Allor, Mathes, et al., 2014; Lemons et al., 2012), we have used early-grade CBM to track students' response to reading instruction, to pace their progress through a curriculum, and to inform us when instructional changes or even modifications were necessary. We encourage teachers to learn more about CBM and to consider whether this form of progress monitoring may be

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useful for their students. The data collected from CBM can also be used to guide ongoing adaptation of reading instruction. Teachers can use a process called data-based individualization (DBI) to determine when and how to make instructional changes (Fuchs et al., 2012). Teachers can learn more about DBI through the National Center on Intensive Intervention (www.intensiveintervention.org). Although most of the materials on the site are focused on students without ID, the guidance provided on using data to evaluate student progress and modify instruction when students are not responding sufficiently remains relevant. The approach provides teachers a framework to serve as a clinical expert who provides targeted, individualized instruction.

Tip 10: Involve Service Providers and Family Members

Although we acknowledge that less research support is available for this tip, the Individuals With Disabilities Education Act (2006) does emphasize that IEP meetings should involve service providers and family members. During the IEP team meeting, members should discuss how they can coordinate and provide support for reading instruction. We briefly highlighted the important role that SLPs may play (Ehren & Whitmire, 2009; Squires et al., 2013), but other support staff, including assistive technology specialists, behavior specialists, and school psychologists, may offer expertise that can support reading instruction (Ayres, Mechling, &
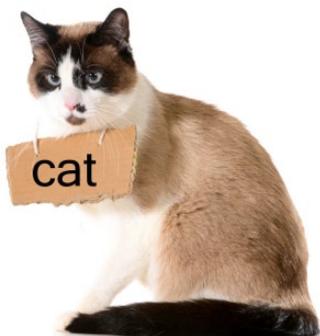
Sansosti, 2013; Smith, DeMarco, & Worley, 2009). It is important that team members consider how they can provide support for the agreed-upon reading goals and to ensure that there is consistency across support. For example, if a student receives instruction from a general education teacher, a special education teacher, and an SLP, the three professionals should plan to use common instructional language, to target similar skills, and to review data frequently.

Involving family members is also crucial. However, too often the role of family members is poorly defined. Some families may be unaware of research showing that students with ID can learn to read. We believe there are at least two important points to consider here. First, family members should prioritize features of literacy that are included as aspects of increased access to literature in Browder at al.'s (2009) model. Family members should be encouraged to provide children with multiple opportunities to access literature through read-alouds, adapted text, and repeated reading when appropriate. Families can provide definitions of new vocabulary words and can encourage discussions of stories—both those read aloud and ones a student may read independently. It is vital that school personnel encourage parental participation and important that necessary supports are provided for families of culturally and linguistically diverse backgrounds and for those of lower socioeconomic status.

Second, family members should not be responsible for initial instruction of skills. Instead, family members' roles are to provide supported opportunities for practice that are fun and engaging. Teachers can provide family members with simple, gamelike activities that focus on reviewing skills the student can do independently or with minimal support. For example, if a student is able to appropriately segment three phoneme words about 80% of the time, a teacher could create a sheet that includes pictures and Elkonin

boxes for four three-phoneme words. Family members could hang the sheet on the refrigerator and encourage the student to segment one or two words multiple times throughout the day when the child is in the kitchen. This provides additional opportunities for practice, requires little time or effort on the family members' part, and could be integrated into a family's schedule in a quick and fun way. Students can practice reading a set of words and sentences to family members; as students advance, they can read books recommended or provided by the teacher. See Figure 2 for a set of tips that families may find useful as they prepare for an IEP meeting.

Literacy Instruction and Support Planning Tool

We designed the planning tool (Figure 1) based on Browder et al.'s (2009) model of literacy instruction for students with ID. IEP team members can use the tool as a guide for discussing the literacy needs of individual students and when planning related instruction and supports. Various school professionals and parents could use this tool in multiple ways. It may be used as part of the IEP process or in other planning discussions. We suggest the following guidance as one way to use the tool.

1. Individual team members (including parents) can independently review the 10 tips presented in this article. While reading, team members may pause after each tip and review the related discussion points presented on the tool (Sections A and B). Individuals are encouraged to take notes that may be useful during team discussions.
2. Team members can then meet and review instructional priorities. The discussion points for Tips 1 and 2 (Figure 1 Section A, Focus on Instructional Planning) may be used to facilitate this discussion.
3. The team can discuss the appropriate instructional emphasis for the student (Section C). Team

Figure 2. Tips for Families

Review data from the school to understand your child's current strengths and areas of need.

➢ Consider your goals for next steps of progress. Share these with your child's teachers and members of the IEP team.

➢ Remember that reading is very important, but it is one of many aspects of your child's education.

As students get older, consider postsecondary needs and target independence, employment, and social aspects (friends, leisure).

Work with school personnel to plan specific goals, services to meet these goals, data that will be shared to monitor progress toward goals, and the location of services that will ensure goals can be appropriately targeted.

➢ Remember that, sometimes, inclusive settings are less intensive than other options.

➢ Ask how other service providers (e.g., SLP, behavior specialist) can support reading.

If you don't understand, ask questions!

➢ You are a critical member of the IEP team and understanding goals and services is necessary for you to be involved.

➢ Ask for information to be explained in simpler language if IEP members are using terms that you do not understand.

➢ Scheduling a meeting or phone call with your child's special education teacher to review information to be discussed prior to the IEP meeting may be helpful.

Request for guidance from teachers on how you can support instruction at home.

➢ Don't overdo it.

➢ Keep reading time with you fun!

➢ Spend more time on increased access to literature (reading aloud, language support, discussion of stories).

➢ For more basic skills (e.g., letter sounds, word reading, fluency), your role should be more practice than primary instruction.

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members may consider the student's current skills, goals for the student, and number of years remaining before the transition to postsecondary opportunities. Team members then select a level of focus (e.g., 1 = primary instructional emphasis on teaching the student how to read, minimal instructional focus on functional reading). Recall Browder et al.'s (2009) priority of ensuring access to age-appropriate literature across all levels.

4. Section D can be completed as team members discuss interests the student has that are relevant to planning literacy instruction. This may assist with selecting high-interest texts, and it may help ensure that the student's personal goals for improving reading skills are considered.

5. Team members then reflect on instructional priorities, supports, and access opportunities (Section E). This section of the tool has been designed to align closely with Browder et al.'s (2009) model. For each item, the team discusses the current priority level. For example, under Instructional Priorities for Reading Instruction, the team may evaluate whether there is a need to provide instruction related to phonemic awareness by rating the item on the Likert-type scale (e.g., 1 = *not a priority at this time*, 2 = *low priority*).

6. Section F provides a space for team members to list goals that appear to be the most important to consider in the upcoming academic year.

7. The team then reviews the discussion points for Tips 3 through 10 (Section B, Focus on Instructional Delivery) to plan the specially designed instruction and supports to

increase the student's reading abilities and access to literature.

Conclusion

One of the most important roles an educator plays is teaching students to read. Enhancing reading and other literacy-related outcomes for students with ID will likely increase the success these students will experience in postsecondary employment, education, and independence (Hosp, Hensley, Huddle, & Ford, 2014). Ensuring that IEP goals and services are aligned with guidance from current research holds promise for increasing the effectiveness of educators in teaching a greater number of students to read. Our hope is that IEP teams who consider the 10 tips we have highlighted will be more reflective, will plan more intensive

and effective instruction, and will see increasingly positive student outcomes.

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