

## Methods for Increasing the Intensity of Reading Instruction for Students with Intellectual Disabilities

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*Abstract:* Current research is demonstrating the effectiveness of comprehensive reading instruction for individuals with intellectual disabilities (ID; Allor, Mathes, Roberts, Cheatham, & Champlin, 2010; Allor, Mathes, Roberts, Jones, & Champlin, 2010; Browder, Ahlgrim-Dezell, Courtade, Gibbs, & Flowers, 2008). One overarching finding from these studies is that intense amounts of repetition and practice on critical literacy skills are needed to produce meaningful gains. Providing intensive instruction in the school setting is extremely challenging. The purpose of this article is to describe the various strategies used in one research project to intensify early literacy instruction for students with ID, including methods for providing practice outside of teacher-led instruction. Specifically, we describe (a) key factors in planning intensive instruction, (b) general strategies for increasing intensity during teacher-led lessons, and (c) selecting and designing specific activities to increase intensity.

The most fundamental job of this nation's education system is to teach children to read (National Federation of Teachers, 1999; No Child Left Behind Act, 2002). In spite of this manifesto, teaching children with intellectual disabilities (ID) to read has been largely ignored in the national rhetoric. Typically it has been assumed that reading is a skill beyond the intellectual capabilities of most students with ID and that at best they might be taught to recognize a limited number of sight words (i.e., high frequency words). As such, four in five children with mild to moderate ID never achieve even minimal levels of literacy (Kattims, 2001). Recent research supports the view that this group of students should be taught to read in a manner similar to other students

who struggle to learn to read (Allor, Mathes, Roberts, Cheatham, et al., 2010; Allor, Mathes, Roberts, Jones, et al., 2010; Browder et al., 2008). Specifically, students with ID should be taught to read using strategies and techniques that will provide them with the skills necessary to fully process individual words in connected text and derive meaning from the text. These findings suggest that when given scientifically-based and rigorously intensive reading instruction over an extended period of time, these children respond positively, making important gains in literacy development. Instruction must be systematic and explicit, including all reading components; repetitive in its use of routines and instructional language; fast-paced; and highly motivating. Lessons should be fully implemented by teachers skilled in effective reading instruction. Students with ID require large amounts of repetition to make meaningful progress. Increasing practice of critical skills is extremely challenging. Resources are finite; therefore, we must find feasible methods for increasing the intensity of interventions. The purpose of this article is to describe ways in which teachers may intensify reading instruction for students with mild or moderate ID. Intensive instruction is required to provide all children with the opportunity to develop the skills necessary to become literate

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adults. Before describing specific techniques for increasing intensity, we describe the current status of the research in teaching reading to students with ID.

#### *Current Status of the Research*

In the last decade, several pertinent studies have been conducted that suggest that individuals with ID can learn isolated word reading skills with appropriate instructional interventions (see Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006; Browder & Xin, 1998; Joseph & Seery, 2004). These skills include sight word recognition and, to a lesser extent, phonemic awareness and phonics. Until recently, however, no research has been conducted with students with ID that implemented a comprehensive approach to teaching reading and included phonemic awareness and systematic decoding, as well as oral language and comprehension. A review of these studies follows.

*Sight word recognition.* Sight word reading in which students receive stimulus control prompting techniques has garnered the most attention. In 1998, Browder and Xin conducted a meta-analysis of 48 studies dating back to 1980. The review focused on studies that taught systematic sight word recognition to individuals, most who were classified as having moderate ID. Overall, the instructional interventions used were found to be highly effective with students learning to recognize a large corpus of words. Additionally, in a comprehensive review of literature, Browder and colleagues (2006) examined the evidence base of 128 studies that focused on teaching reading to individuals with significant cognitive disabilities. In support of prior research, they found studies of sufficient number, quality and effect size that revealed a strong evidence base for teaching sight words systematically in repeated trial formats to individuals with either moderate or severe ID. Findings also included evidence for using sight words in the context of functional activities and concrete word to picture matching to teach reading comprehension.

*Phonics.* The teaching of the more isolated subskills of phonics, such as letter-sound correspondence, has also been examined. Connors (1992) identified seven studies that

promoted teaching phonics to individuals with moderate ID. Particularly beneficial in some of these studies was the use of stimulus-connected prompting and fading techniques as well as phonics error correction analyses. In a subsequent review of the literature from 1990 to 2002, Joseph and Seery (2004) found an additional seven studies teaching phonics to individuals with moderate or mild ID. Results indicated that in spite of the lack of direct or explicit instruction students were able to benefit from phonics instruction. As further support of the effectiveness of phonics instruction for students with ID, Connors, Rosenquist, Sligh, Atwell, and Kiser (2006) conducted a 10-week intervention program for twenty children with ID. Phonological reading skills, including some sounding out activities, were taught. As a result of the intervention, students were better able to sound out words compared to a control group, although final ability was found to be dependent on the initial general language skills of the individual participants.

*Comprehensive reading instruction.* While these studies have been important in showing that individuals with ID can grow in isolated skills, recent studies have demonstrated the effectiveness of instructionally comprehensive programs for individuals with below average IQs (Allor, Mathes, Roberts, Cheatham, et al., 2010; Allor, Mathes, Roberts, Jones, et al., 2010; Browder et al., 2008). Browder and colleagues reported on the outcome of a study that evaluated the effect of an early literacy curriculum for students who were either non-verbal or had limited language and cognitive skills. The *Early Literacy Skills Builder* curriculum (ELSB; Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Lee, 2007) introduced progressively more difficult reading skills and gave multiple opportunities to practice those skills before advancing to more difficult activities and lessons. Moreover, the curriculum used direct instruction strategies to teach phonemic blending and segmenting, abilities essential for decoding and fully processing print, which leads to the ability to connect print with meaning. Both the experimental group and the contrast group also participated in literacy experiences targeting concepts of print. Two researcher-designed assessments of early literacy and two standardized measures were ad-

ministered to all students. In a series of mixed analyses of variances, which looked at the interactions between the experimental conditions, results indicated that students in the treatment condition made greater gains than those in the control group and that these differences were statistically significant.

In our research we also found important and meaningful gains in literacy development for students with ID (Allor, Mathes, Roberts, Cheatham, et al., 2010; Allor, Mathes, Roberts, Jones, et al., 2010). We have reported on year two and year three, respectively, of a four-year longitudinal study in which we examined the effectiveness of a comprehensive phonics-based, direct instruction reading program in teaching early reading and language skills to students with IQs ranging from 40–79. The students were all verbal and in grades 1 to 4 when they began the study. Within IQ category and schools, students were randomly assigned to treatment and control conditions. Research teachers followed scripted lessons and provided the intervention daily for 40–50 minutes. After 2–3 years of instruction, results indicated that on standardized measures of reading and language, students in the treatment condition made educationally meaningful progress at a faster rate than the control group and these differences were statistically significant. On progress monitoring measures, statistically significant differences between the treatment and control groups were also found for phonemic awareness, phonemic decoding (word attack and Nonsense Word Fluency), and oral reading fluency. Effect sizes were moderate to high for word recognition, vocabulary, and listening comprehension as well. No differences were found in reading comprehension. Even though student performance in these studies was highly variable, strong conclusions can be drawn. Specifically, after its third year of implementation, evidence supported the effectiveness of a reading program that is comprehensive in scope, including multiple dimensions of reading development; instruction that is intensive, repetitive and long-term; and teaching that is explicit in nature. Understanding ways in which these conclusions translate to classroom practices is critical for student success.

As would be expected, one overarching finding from these studies is that intense

amounts of repetition and practice on critical literacy skills were needed to produce meaningful gains. Providing intensive instruction in the school setting is extremely challenging. In our own research, federal research funds were available to hire teachers specifically to provide our intervention. Yet, even with these additional resources, we faced a variety of logistical obstacles common in the school setting, including scheduling conflicts, typical interruptions to instruction (e.g. field trips, assemblies), and absences, which were sometimes excessive due to higher frequencies of health problems within this group of students. Further, students with ID require practice that is carefully designed to meet their specific ability levels. Educators must assess frequently and provide targeted practice. Another challenge in providing intensive practice is that students with ID often have difficulty practicing independently, particularly in the early stages of reading development. Support from an experienced teacher is often needed to provide meaningful practice that targets the specific needs of students.

The purpose of this article is to describe the various strategies we used in our research to intensify early literacy instruction for students with ID, including methods for providing practice outside of teacher-led instruction. Specifically, we describe (a) key factors in planning intensive instruction, (b) general strategies for increasing intensity during teacher-led lessons, and (c) methods for selecting and designing specific activities to increase intensity.

### **Key Factors in Planning Intensive Instruction**

In our research we identified four key factors that appear to be critical to effectively increasing the intensity of reading instruction. Although these factors apply to all students who are learning to read, this article specifically focuses on the application of these factors to instruction for students with ID. When planning instruction and designing specific activities, it is important to consider the following: level of intensity, appropriate level of difficulty, motivation, and meaningfulness to the student.

### *Level of Intensity*

The most obvious consideration when planning instruction to optimize intensity was simply quantity. We planned daily teacher-led instructional sessions that were 40–50 minutes in length. Early in our intervention, we developed behavior modification plans for students who had difficulty participating actively for the entire instructional session. Within several weeks, all students were able to actively participate for full sessions; however, some students required ongoing reinforcement for on-task behavior. This level of intensity was necessary to produce meaningful literacy growth. Even with these daily sessions, most of our students required at least three years to reach reading levels equivalent to those typically achieved approximately halfway through first grade. For further discussion, see Allor, Mathes, Jones, Champlin, and Cheatham (2010).

We also looked for ways to encourage additional practice outside of teacher-led small group or individual sessions, such as independent or supported practice. When students had very minimal literacy skills, providing independent practice was difficult; however, as students' literacy skills developed, independent practice became more practical and feasible. Throughout our study, we found many ways to encourage supported practice (i.e. reading appropriate texts and/or completing reading activities), including practicing with peers during the school day, practicing at home with family members, practicing with paraprofessionals or volunteers, and participating in technology-based practice. Technology-based practice can be highly motivating and effective; however, we carefully selected and monitored technology-based practice, as quality varies widely and students often required support for this practice to be effective. We wish to emphasize the critical role of the teacher in encouraging and planning independent and supported practice. Although peers and other adults were valuable resources, the teacher's role in planning and monitoring these activities was essential to success. We planned activities that were easily implemented by others and met the needs of students based on current assessment data. We monitored implementation and fostered motivation through the selection of activities,

as well as tracking progress and providing reinforcers.

### *Appropriate Skills and Difficulty Level*

A second important factor we considered was determining which skills were most critical for students to practice at any given point in time. During teacher-led implementation of our intervention, teachers routinely monitored student mastery of skills to determine which lessons and activities needed to be repeated. With careful monitoring, we could focus instructional time on key skills, not spending time on skills the student no longer needed to review (i.e., the student has clearly mastered) or on skills that were too difficult for the student at that time (i.e., the student was making frequent errors and was likely to be frustrated). Ongoing monitoring during teacher-led instruction, along with progress monitoring data, provided us with the information needed to plan activities to be conducted outside teacher-led instruction (i.e., independent practice or supported practice with someone other than the teacher). During teacher-led sessions and during other practice activities, we planned carefully to select activities and implement them with adequate support to ensure that students could perform them with relatively high degrees of accuracy. If students were not successful in an activity, we either returned to the prerequisite skill or increased scaffolding until student responses were accurate. Making instructional decisions based on assessment data was an ongoing process throughout the study.

### *Motivation*

A third consideration for increasing intensity was ensuring high levels of motivation. In our research study, we found that to participate actively in lessons and outside practice most students required some type of tangible reinforcer that was delivered on a frequent basis. For many students we were able to move from more tangible to less tangible reinforcers, as well as decrease the frequency with which we delivered reinforcers. Another technique that appeared to be helpful with our students was to set goals with the students, helping them to develop self-determination and a sense of con-

trol over their learning. In this way students took responsibility for their own growth and became more independent, though highly supported, learners. In setting goals, we graphed both the amount of practice and the amount of progress they made on target skills.

### *Practice Meaningful to Students*

The fourth consideration was ensuring that practice was meaningful to students. This was relevant to increasing intensity because more meaningful practice increased the likelihood that practice would be effective and foster comprehension. Our program was comprehensive, targeting general knowledge, as well as vocabulary and narrative language. We recognized that these skills were important to comprehension, as well as the development of phonics and word recognition skills. If words were not in a student's oral vocabulary, for example, they would be less likely to successfully decode the word in print and remember the word the next time they come across it in text. Although certain activities targeted sounds and print, teachers routinely connected these activities to words and concepts that were meaningful to students. We avoided words we did not think would be in the students' spoken vocabulary even if they were made up of common letters and sounds. For example, we avoided the word *fig* because our students were unlikely to be familiar with the meaning of *fig*. In this example *fig* would function as a nonsense word until the students were taught the meaning of the word. We did use nonsense words in our assessment tools, but we did not use nonsense words in our teaching. We also connected individual words to their meaning through pictures and/or brief conversation. Words being practiced were included in sentences and text as soon as possible. For example, once a student could identify a few words (by sounding out or by sight), these words were combined into sentences. Examples of how we provided meaningful word level practice, sentence level practice, and text level practice will be described later in this article.

### **General Strategies for Increasing Intensity during Teacher-led Lessons**

We employed several management and general instructional techniques to increase intensity during teacher-led lessons. First, lessons were presented at a fast pace, increasing the number of opportunities for students to respond. Lessons were designed to introduce new skills quickly and provide cumulative review within a series of brief, fast-paced activities. Activities focusing on letter sounds and words were very short, ranging from 1–5 minutes, while activities focusing on fluency, vocabulary, and comprehension were usually a little longer. Teachers moved quickly from one activity to the next. Pacing within activities was as quick as possible, while allowing students adequate processing time. Sound and word activities were designed to promote automaticity; therefore, teachers gradually reduced processing time until student responses became quick and automatic. Second, behavior management techniques were used to decrease time off task. Teachers developed routine prompts to quickly remind students to stay on task, and they reinforced on-task behavior. A third method for increasing intensity was to spend less time on clearly mastered skills, allowing more practice time for skills not mastered. The students in our study required extensive practice on all skills, yet their skill development was sometimes uneven across skills. For example, often students had clearly mastered letter-sound correspondences reviewed in a lesson, yet struggled with the phonemic awareness activities within the same lesson. Therefore, we reduced the time spent on letter-sound correspondences, reviewing these briefly in each lesson or skipping that activity on some days.

### **Methods for Selecting and Designing Activities for Additional Practice**

During our project, we developed additional activities to enable us to better provide the extensive practice needed for our students to master skills. Through these activities students practiced the skills and strategies taught within the primary curriculum. Some of these additional activities were used during teacher-led sessions, but many were specifically de-

signed to provide independent practice and practice supported by peers or adults other than the teacher. We have organized our recommendations for specific activities into four primary categories: (a) word level practice, (b) sentence level practice, (c) text level practice, and (d) words within text practice (i.e., responding to word level errors occurring during text reading). As we discuss each of these activities, we will explain how we applied the key factors described earlier.

### *Designing Word Level Activities*

We created puzzles and games to provide interesting and motivating ways to practice individual words and word recognition strategies taught in the primary curriculum. As is common practice in teaching early reading, students were taught to recognize irregularly spelled, high frequency sight words (e.g., *was*, *come*) and they were taught to sound out regularly spelled decodable words (e.g., *can*, *sit*). As students advanced, they learned increasingly complex spelling patterns (e.g. *ar*, *aw*). We developed sets of words designed specifically to provide practice applying strategies, cumulative review, and multiple exposure to common words. Many students struggled to unitize words, meaning they experienced difficulty reaching the stage of reading when words were recognized quickly and automatically without slowly sounding out words one sound at a time. Over time, students mastered sounding out words, but even after repeated exposure to common words during teacher-led lessons, they were not unitizing these words. Rather, they still needed to sound each word out to identify it. We used the word games and puzzles to provide extensive exposure to words, particularly common words.

One student who experienced significant challenges unitizing words was Jacob, a student with moderate ID who was 11 years old by the end of the study. His teacher began each lesson with a quick flashcard review of common words. He also completed puzzle pages at home and played flashcard games with his peers. Jacob responded well to these additional activities, generalizing his skills to books and oral reading fluency passages. By the end of the study, Jacob's scores on *Dynamic Indicators of Early Literacy Skills* (Good & Kaminski,

2002) improved, with Oral Reading Fluency scores increasing to 36 correct words per minute (on first-grade level passages) and Nonsense Word Fluency scores increasing to 76 sounds per minute. Importantly, Jacob began reading the nonsense words as whole words, rather than reading sound by sound, demonstrating his ability to transfer his ability to unitize to words he had not practiced. We also wish to emphasize the length of time required for Jacob to acquire these skills. He participated in our study for four years and did not begin unitizing words until the final year of the study. For further information about Jacob's progress during the first three years of the study, see Allor, Mathes, Jones, et al. (2010).

We employed several techniques in selecting words to practice in activities. We selected words from the curriculum and words made up of the sound patterns taught in the curriculum. We targeted high frequency words, both those that students had been taught to memorize (i.e., irregularly spelled words such as *was* and *come*) and those they had been taught the necessary skills to sound words out (i.e., regularly spelled words such as *had* and *sit*). See Table 1 for a partial list of words that are both high in frequency and regularly spelled. The advantage of using these words was that students could apply their decoding strategies to words that they would likely see frequently in connected text. In addition to the high frequency words (i.e. both regularly spelled high frequency words and irregularly spelled high frequency words), we included other regularly spelled words that we thought would be meaningful to our students. Although these words are not on popular high-frequency word lists, they are words typically used by young children in both oral and written language. They provided students with opportunities to apply their decoding skills and ensured that students were processing all of the letters in words. For example, we included the word *sand* because it was likely to be meaningful and students needed to look at every letter in *sand* to differentiate it from high frequency words, such as *said* and *sad*. We avoided words we thought would be unfamiliar to our students, even if they were regularly spelled (e.g., *fig*, *tam*). By avoiding these

**TABLE 1**

**Partial List of High-Frequency Regular Words**

<i>a</i>	<i>e</i>	<i>i</i>	<i>o</i>	<i>u</i>
am	bed	big	dog	bus
an	best	did	got	but
and	end	hill	hop	cut
ask	get	him	hot	fun
at	help	if	lost	jump
bag	hen	in	mom	just
can	left	it	not	must
cat	leg	its	off	run
dad	let	miss	on	sun
fast	men	pig		up
fat	pet	sit		us
had	red	six		
hand	set	will		
hat	tell			
land	ten			
last	well			
man	went			
pan				
ran				
sat				

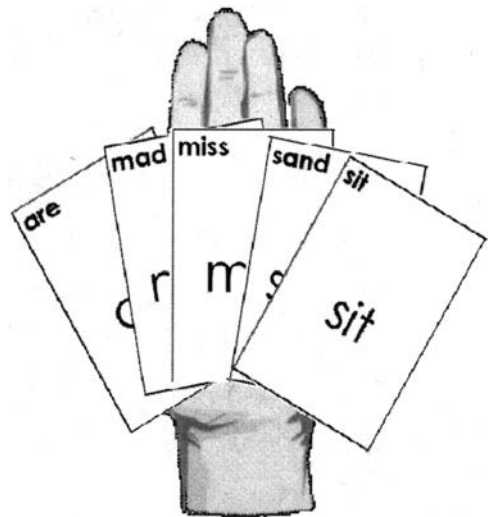
words, we were able to reinforce the concept that reading always includes meaning.

After developing sets of words emphasizing high frequency words and meaningful words made up of skills taught in the primary curriculum, we created cards and word puzzles for students to use both independently and in supported practice (i.e., with a peer or adult). We made sets of cards that included two cards for each word in a set of words so students could play matching games including Concentration, Old Maid, or Go Fish (see Figure 1). We also created word puzzles, such as the one in Figure 2. Occasionally, the games were played during teacher-led sessions, but most often they were used during supported practice with peers, volunteers, or paraprofessionals. They were also sent home where they could be played with family members. Similarly, the puzzle pages could be completed either independently or with the support of peers or adults.

*Designing Sentence Level Activities*

As soon as students knew enough words to build sentences, sentences were included in

most activities. Most puzzle pages included practice with sentences. For example, in the activity in Figure 3, students cut out words, unscrambled them to form sentences, and then wrote the sentences on the page. In other puzzles, students read sentences and



**Figure 1. Word Level Activity Example**

# Seek and Find



Color the boxes with these letters:

	m	p	c	a	S	t
1.	m	a	p	x	k	
2.	d	z	c	a	t	
3.	g	v	a	m	d	
4.	S	a	m	w	h	

Use the words you colored in the sentences below. Practice reading the sentences.

1. Can I see the little \_\_\_\_\_?
2. The \_\_\_\_\_ is fast.
3. I \_\_\_\_\_ happy.
4. \_\_\_\_\_ and I are happy to see the cat.

Figure 2. Word Puzzle Example

then matched them to pictures representing the sentence or they identified words to complete sentences, as in the crossword puzzle in

# WORD TILES

Cut out the tiles. Unscramble all the tiles with the same number to make a sentence. Write the sentence beside the matching number below.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

1	up	1	Sam	1	bat.	1	at	1	is
2	the	2	ball?	2	Will	2	hit	2	Sam
3	ball	3	will	3	the	3	Where	3	land?
4	likes	4	Sam	4	play	4	to	4	ball.

Up at Bat

Figure 3. Sentence Puzzle Example

# CROSSWORD PUZZLE FUN

Use the words in the Word Box to complete the sentences. Write the words in the crossword puzzle.

Across	Down
1. I _____ hit the ball. 	1. Do you _____ to hit the ball? 
3. He can run _____.	2. The ball did _____ in the tree. 
4. You can pitch. I _____ bat.	3. It is so much _____ to play! 

		1		2	
		3			
4					

Up at Bat

Word Box		
fast	fun	can
land	will	want

Figure 4. Sentence Puzzle Example

Figure 4. Basic practice pages, such as the one in Figure 5, were also developed to provide students with targeted reading practice that could easily be supported by peers or adults other than the teacher. These were frequently read during the day to peers and volunteers or sent home to be read to a family member.

Another activity we used frequently during teacher-led lessons was to put the words or phrases of a sentence in order. Teachers wrote sentences on sentence strips and then cut the sentences into words and/or phrases. Students practiced reading the words and then used those words to build sentences. In this activity they practiced word recognition, comprehension and oral language skills. Teachers created sentences using words the students had been taught or they selected sentences from the connected text being read by the student. One student who responded well to this activity was Bart, a student with moderate ID who participated in our study three years. He began the study when he was seven years old with very few literacy skills and limited oral



## Read, Read, Read!

### Sound out and Say

hit did run it bam  
can will still he go

### Look and Say

said like want you I

### Write and Read

1. Tom  , "You can do it!"  
 said  see
2. I did   want to miss the ball.   
 no  not
3. Will   hit the ball?   
 me  he
4. Sam   do it!  
Up at Bat  will  still

Figure 5. Word and Sentence Level Practice Activity

language skills. Bart's teacher selected sentences from the stories that were critical to the story development. After Bart would read the words and put them into a meaningful sentence, his teacher would discuss the meaning of the sentence with him. When rereading the story later, his teacher found that his fluency, including prosody improved, along with his comprehension as he was able to discuss the basic events in the story more readily after having practiced sentences in isolation. Although Bart's reading did not reach high levels of fluency prior to the end of the study (i.e., his Oral Reading Fluency scores were 38 words per minute at the end of the study), he did read simple mid first-grade level text successfully, identifying words accurately and describing the main events in stories (See Allor, Mathes, Jones, et al., 2010, for further information about his progress). To make the activity even more meaningful to students, teachers added occasional words the students chose, even if students had not been taught to recognize those words in print (e.g., *baseball*, *gymnastics*). These words were used less frequently as they did not provide opportunities to practice word recognition skills, but they were helpful in increasing student interest

and fostering oral language development and comprehension.

### Designing Text Level Activities

In our study, we supplemented the text from our curriculum in two ways. First, for students who were successfully moving through our curriculum, we worked to ensure that they were reading books at an appropriate difficulty level outside of teacher-led instruction. We taught our students how to select appropriate text and assisted them in locating text that would be meaningful and interesting to them but not frustrating. Students were taught that if they missed more than one word out of any ten words in a book, it was probably too difficult. We also located books with them using various resources, including websites of leveled text such as [www.lexile.com/find-a-book/](http://www.lexile.com/find-a-book/) and [www.readinga-z.com/](http://www.readinga-z.com/). We tracked their progress, providing forms on which they could write down the titles of books read and the amount of time spent reading. Forms were signed by family members, teachers, or school-based volunteers. We used incentive programs sponsored by corporations who supplied various rewards for reaching goals. These included everything from free pizza to free theme park tickets. We even collaborated with a local professional sports organization to provide incentives for students. Students with disabilities may not always be included in these types of programs, so it is important for special education teachers to ensure that they have access to incentive programs. Another way we encouraged motivation was by reinforcing oral reading fluency goals with tangible rewards. Teachers shared graphs of progress with students, discussing their progress in relation to their goals and working together to map out ways to improve or maintain growth. Students needed to be explicitly taught that their hard work and practice resulted in meaningful improvement. Of course, ensuring that books were not too difficult for students and were interesting to students was extremely important.

A second way we supplemented the text in the curriculum was by creating lessons specifically designed to teach students to transfer skills to connected text. Several students experienced extreme difficulty applying skills in

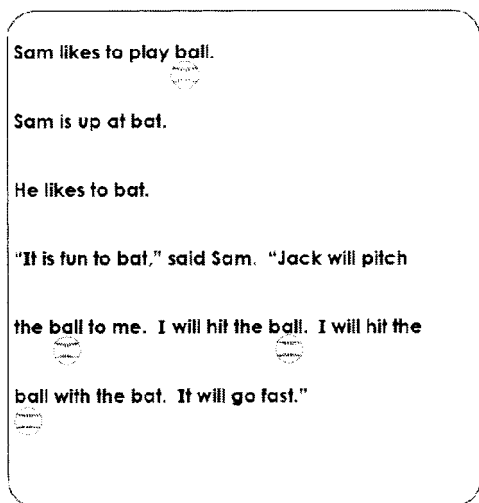


Figure 6. Sample text from book, Up at Bat

text. Words they read correctly during our intervention were frequently missed in connected text. Further, these students read the stories in our curriculum multiple times; therefore, new stories were needed to increase motivation. In our study, we wrote several stories that were at an appropriate difficulty level and then created a series of lessons for students to practice the exact words from those stories. See Figure 6 for sample text. Although teachers do not have the time to write books specifically for their students, they could create *application* lessons that parallel their curriculum and prepare students to read new text. We did this by implementing the same activities used in our curriculum (Mathes & Torgesen, 2005) with the exact words from the new text. See Figures 7 and 8 for example scripts and presentation pages from one of our application lessons. To create these, we used the same language as the lessons in our primary curriculum.

One student who responded particularly well to the application lessons was Kristen, a student with moderate ID who participated in our study for three years. Kristen, who was 12 years old by the end of the study, was able to successfully participate in many activities within the curriculum and showed progress on letter-sound correspondence and phonemic awareness. She was not successful in connected text even though she was able to de-

**Activity A: Sounding Out**  
*Group Practice:* Students sound out words.

**Script:** Here are some words to sound out on your own. When I tap, say the sound until I tap again. Hum the word. Then read the word. (Demonstrate by placing your finger next to the first word.) When I tap, say the first sound. (Tap once and move on for stop sounds. Tap and hold the tap for two seconds. Tap for each sound in the word.) Read it. (Students read the word.) Repeat the process with the rest of the words. Good job sounding out by yourselves. Now we will read the words the fast way. First sound the word out to yourself in your head, and then read it. I will do the first one for you. My turn. (Demonstrate.) Your turn. I will point to a word and then give you a few seconds to sound out the word in your head. When I cue, read the word the fast way. (Point to the first word and then pause.) Read it. (Students respond.) Repeat the process with the rest of the words.

*Individual Practice:* Provide individual practice with 1-2 words per student.  
*Closing of Activity:* Good job sounding out words!

**Activity A**

in	at	Tom
still	hits	is
up	bat	will
wish	fast	not
hit	did	it

20 Up at Bat Sounding Out

Figure 7. Application Lessons: Sounding Out Example

code a few very simple regular words and recognize a few sight words during teacher-led lessons. After participating in the application lessons, she recognized the words in connected text more readily and began to see the relationship between reading lessons and reading books. Before participating in the application lessons, Kristen was able to quickly (within two to three seconds each) identify only five of the words in the newly written books. After participating in application lessons and reading three books, she was able to identify 50 words quickly. These were a combination of regularly spelled short vowel words and a set of irregularly spelled high frequency words. (See Allor, Gifford, Champlin, Oliphint, & Miller, 2010 for further information.)

#### *Designing Activities to Target Words within Text*

In addition to increasing the amount of text read, we also worked to ensure that the errors students made when reading text were cor-

**Activity B: Tricky Words**

Group Practice  
Students read all the tricky words they know.

Script: Now it's time to review the tricky words we have learned so far. (Hold up the first word.) Read it. (Students respond.)  
Again. Read it. (Students read the word again.)  
What will you say when you see this word in a story? (Students read the word again.)

Repeat the process with the rest of the words.

Individual Practice: Provide individual practice with 2-3 words per student.

Closing of Activity: Good job remembering those tricky words!

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**Activity B**

come	do	you
you	here	look
look	play	the
very	said	do
the	comes	play

18 Up at Bat Tricky Words

Figure 8. Application Lessons: Sight Word Example

rected and individual words requiring more instruction or practice were identified and incorporated into future lessons or practice activities. When reading passages during teacher-led instruction, teachers kept notes of which words were missed. We used a simple error analysis chart (see Figure 9) to keep track of errors. The chart included a column to write the word from the text as well as a column to write the way the student pronounced the word. For example, from the chart in Figure 9 we see that the student did not correctly identify the word *sport*. Teachers

Word in Text	Student said...
sat	sit
slip	--
sport	spot

Figure 9. Error Analysis Chart Example

then responded to errors by including the word and/or skill (e.g. words with *or*) in teacher-led lessons or in other practice activities. The teachers also taught volunteers and para-professionals to complete the same chart as the students read to them.

Another technique we used was to encourage the students to write any words they were learning in a word journal or mark them with removable adhesive flags. Students were instructed to write or mark any words that they did not read very quickly. This technique was helpful, particularly for older students, because it increased their independence and motivation. In this way they could see difficult words as opportunities to learn new words, rather than be frustrated by them. This also helped teachers to quickly and easily recognize when books were too difficult and students needed to be encouraged to select more appropriate books. These words were then incorporated into teacher-led lessons and additional practice activities.

### Summary

In summary, educators who teach students with ID to read need to provide instruction and practice that is extremely intense. Students need consistent, explicit, systematic teacher-led instruction over a long period of time. Students with ID require extensive practice on critical skills to make meaningful literacy gains. Educators must be creative and persistent as they plan instruction and reading practice that is intense, motivating, and meaningful. Further, educators must use ongoing progress monitoring data to ensure that instruction and practice matches the student's current stage of reading development. We hope the techniques and activities described in this article will assist educators in effectively teaching reading to students with ID.

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