

Teaching Literacy to Students With Significant Cognitive Disabilities

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Albert is a second-grade student with cerebral palsy, seizures, and significant cognitive disabilities. He has controlled movement in his left arm and with his head. For years he received systematic instruction on goals such as pointing to his name, identifying colors, stamping his name, reading sight words, and recognizing numbers. During many of the one-on-one sessions, he closes his eyes, puts his head on his chest, or just says "NO."

Mrs. Sweeny knows that time delay is very effective in teaching students with significant cognitive disabilities sight words and other discrete skills. However, she noticed low rates of participation from many students including Albert, and she is required to teach more than just sight words. Furthermore, she needs to teach the links to the Standard Course of Study (SCOS) along with additional individualized education program (IEP) goals. Mrs. Sweeny looked for some suggestions. She collaborated with the general education teachers, special education teachers, families, and therapists. Together they blended their knowledge of systematic instruction with the thematic unit approach general education teachers use to teach the SCOS. Mrs. Sweeny was excited to be able to teach a larger range of content to multiple students while still using best practices such as systematic instruction. She reported higher levels of student participation and a higher frequency of correct answers from many students, including Albert.

In 1997, the Individuals With Disabilities Education Act (IDEA) mandated that students with disabilities have access to the general education curriculum. Access means more than being exposed to language arts, math, and science; access means academic progress (Spooner & Browder, 2006). In addition, the No Child Left Behind (NCLB) Act of 2001 requires that all

students have access to language arts, math, and science while showing annual yearly progress. The Individuals With Disabilities Education Improvement Act (IDEA 2004) ensures that students with disabilities have access to the general education curriculum and aligns the legislation with the NCLB Act (Westling & Fox, 2009). This ensures that students with disabilities participate in mandated assessment programs that are aligned with state standards (Westling & Fox). Although these laws are exciting opportunities, the requirements are proving to be quite difficult for many special education teachers to implement, especially with students with significant cognitive disabilities. Historically, special education teachers were not required to teach the SCOS to students with significant cognitive disabilities; they taught life skills instead. Many states are now creating extensions to the SCOS to enable students to have access to the general education con-

Education (2006), only 13.8% of students with mental retardation and 13.0% of students with multiple disabilities were educated within the general education classroom for most of the day. Half of students with mental retardation were educated outside the general education classroom for more than 60% of the day. A total of 45.1% of students with multiple disabilities and 41.8% of students with autism were also educated outside the general education classroom for more than 60% of the day (U.S. Department of Education). Although we are still working toward full inclusion for all, special education teachers such as Mrs. Sweeny are still required to teach the SCOS to students with significant cognitive disabilities and show annual progress.

Second, how can special educators teach academics that link to the SCOS for multiple children with significant cognitive disabilities at different ages and grade levels within the same class-

[T]he reality is that many students with significant cognitive disabilities are not fully included in the general education classroom.

tent (e.g., www.ncpublicschools.org/curriculum/ncecs; North Carolina Extended Content Standards, 2006).

Problems to Overcome

Special education teachers are struggling with these requirements and are faced with several problems. First, how can they teach academics that link to the SCOS so that students with significant cognitive disabilities can not only understand, but also show yearly progress? Including students with significant cognitive disabilities in the general education classroom with all necessary supports is the ideal way to provide access to the SCOS (Downing, 2005). However, the reality is that many students with significant cognitive disabilities are not fully included in the general education classroom. According to the U.S. Department of

room? Many self-contained special education classrooms have children from as many as five different grade levels.

Third, how can special education teachers instruct children to participate in a group setting? Many children with significant cognitive disabilities have historically been instructed in one-to-one instructional sessions. Although group instruction provides opportunities for multiple children to acquire academic skills, teachers first need to teach the skills of "participating while in a group" (e.g., getting materials, walking to group area, locating seats, sitting next to peers while attending to the speaker, etc.).

Finally, what instructional approach(s) should teachers use to teach these academic skills when research shows that strategies such as

Table 1. Summary of Steps for Teaching Literacy

Author(s) Name/ Literacy Approach	Browder, Courtade-Little, Wakeman, & Rickelman (2006)	Downing (2005)	Smith, Demarco, & Worley (2009)	Copeland & Keefe (2007)
	Teaching students with significant cognitive disabilities by embedding functional sight word instruction in comprehensive literacy instruction.	Teaching literacy to students with significant disabilities in the inclusive classroom.	Using thematic units collaboration and assistive technology to teach literacy to students who have severe disabilities.	Teaching literacy to students with severe disabilities in the general education classroom.
Step 1	Select reading curriculum.	Importance of literacy for each person.	Plan with student needs in mind.	Create a rich literacy learning environment for all students.
Step 2	Adapt units and lesson plans of the general education teacher.	Relationship between communication and literacy.	Create a team.	Language and communication as the basis for literacy.
Step 3	Choose a theme.	Use of alternative and augmentative communication devices to provide access to literacy.	Thematic units with age-appropriate literature.	Strategies for teaching literacy skills (e.g., word recognition, fluency, reading comprehension, etc.).
Step 4	Link a series of lessons and activities.	Plan literacy activities (environment, materials, related services).	Build a theme with literature, vocabulary, family involvement, and community experiences.	Supporting literacy with assistive technology.
Step 5	Synthesis and assessment.	Strategies for teaching literacy in the general education classroom.	Prepare materials and technology. Use assistive technology.	Organize literacy instruction—Literacy Planning Wheel or matrix (creating a unit).
Step 6	Adaptations and support.	Evaluate student progress.	Instructional strategies in the lesson plans.	Evaluate student progress.
Step 7			Provide homework to connect with families and provide practice.	
Step 8			Evaluate student progress.	

time delay are effective in teaching discrete academic skills in one-to-one training sessions? How can we blend what we know works with what is expected?

Teaching literacy requires that literacy instruction occur in context with meaningful learning situations. The instructional components identified in the National Reading Panel report (oral language, phonics, vocabulary, and text comprehension, etc.) are what should be taught to all students (Copeland & Keefe, 2007). Reading is

not just word recognition; it includes comprehension of the text. Comprehension of sight words has not been taught to students with significant cognitive disabilities (Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006).

Models for Teaching Literacy

There are several comprehensive approaches for teaching students with significant cognitive disabilities literacy that can be used to address Mrs. Sweeny’s problems (see Table 1).

Browder, Courtade-Little, Wakeman, and Rickelman, (2006) indicate literacy should be taught using the methods that research currently shows to be effective with these students, specifically functional sight-word instruction using time delay. Browder, Courtade-Little, et al. suggest a 6-step approach that embeds sight-word instruction in a comprehensive literacy program. Downing (2005) describes a 6-step process for teaching literacy using effective communication systems to students with significant disabilities in

Figure 1. Examples of Lesson Plans That Make a Unit Overview

Thematic Unit: <i>The Season of Fall</i> Number of lessons in the unit: 6 Academic content addressed in the unit: reading, math, science, and writing	
Lesson 1 objectives	Teaching parts of the book (front, back, author); vocabulary; turning the page; reading a repeated line; sorting leaves by color.
Lesson 2 objectives	Continue with the reading from lesson 1 and add sorting and counting colors of leaves, number recognition, counting out candy corns.
Lesson 3 objectives	Continue with literacy objectives and counting, then add writing using vocabulary, fill-in-the-blank sentences, and chart writing.
Lesson 4 objectives	Teaching seasons of the year/things change (e.g., in fall, the weather turns cooler, the leaves change color, and we wear a jacket or sweater).
Lesson 5 objectives	Read the book, focusing on the part about eating cookies. Write the “cooking” procedure on chart paper. Make leaf cookies using the recipe.
Lesson 6 objectives	Wrap up the unit with a review of the literacy, math, and science skills while making a leaf collage.

the general education classroom. Smith, Demarco, and Worley (2009) describe an 8-step process for teaching students with severe disabilities literacy skills using thematic units. Copeland and Keefe (2007) emphasize a 6-step process of teaching literacy within the general education classroom.

Key Steps for Teaching Literacy to Students With Significant Cognitive Disabilities

In order to address the many challenges special education teachers face when meeting the academic needs of students with significant cognitive disabilities, the following key steps are compiled from the research literature. Planning literacy instruction for these students requires a collaborative team that may include the special education teacher, general education teacher, librarian, guidance counselor, speech therapist, art teacher, physical education teacher, music teacher, and teacher assistants. Literacy lessons for students with significant cognitive disabilities can be implemented in the general education classroom or in the special education classroom with or without peer tutors. There are seven key steps teachers can use when

teaching comprehensive literacy lessons.

Step 1

The team creates an age-appropriate thematic unit. A thematic unit is defined as effective instruction that is organized around a central topic, idea,

or theme that uses related activities and experiments to provide a more in-depth learning experience (Gardner, Wissick, Schweder, & Canter, 2003). Smith et al., 2009 describe teaching middle and high school children with severe disabilities content that is linked to the general curriculum using thematic units. The authors state that a basic theme is selected and all other subjects are connected to that theme. This approach enhances student understanding by creating opportunities for skill synthesis, generalization, ongoing practice, and increased attention to cues. Students can attend to and make connections to key concepts instead of trying to retain isolated

pieces of information for simple factual recall (Smith et al.).

The team selects a theme or topic to teach the students. Common topics come from seasons; animals; age-appropriate literature (e.g., *Island of the Blue Dolphin*, *Whale Rider*, or *Stone Fox*); current events; geography;

The materials and activities should be of high interest to the students with and without disabilities and can be fun for the teachers.

famous people; or any other area (see Smith et al., 2009 for unit plans using graphic organizers). Discussing ideas with the other team members can lead to a list of materials, resources, and activities that can be used in daily lessons. These materials and activities can lead to age-appropriate content and ideas that connect easily to the SCOS. The materials and activities should be of high interest to the students with and without disabilities and can be fun for the teachers. Mrs. Sweeny created a unit on the season of fall (see Figure 1).

It is important to plan the theme first so that the expectation for the content is set and it links to the SCOS. The

possible challenges the students may face should not prevent the development of the unit. Once the unit is planned, the team should include all the needed supports for each student so he or she can be successful regardless of the content.

Step 2

Familiarize yourself with the interests, strengths, needs, and IEP goals of the children in the class. (Mrs. Sweeny created a list of student goals, see Table 2). Identify the possible goals that can be addressed during daily thematic lesson plans. Identify specific SCOS content that can be embedded in the lesson plans to enable the children to explore the theme from an age-appropriate level (e.g., <http://www.ncpublicschools.org/ec/instructional/extended/>).

Step 3

The lesson plan should include objectives, the children’s IEP goals, materials needed, motivators for the students, an attention getter, introductory statement, teacher outline that shows the guided practice sequence, independent practice opportunities, closure of the lesson and assessments (Browder, Courtade-Little, et al., 2006; Smith et al., 2009). Multiple lessons should be created for the teachers to implement the whole unit. The activities in the lesson should enable the children to explore the unit theme and provide practice on the IEP goals. Examples of activities could be pointing or using eye gaze to read vocabulary words, participating in story reading, following a recipe to make a food that was in the book, or playing bingo with the vocabulary list. (See Figure 2 for Mrs. Sweeny’s third lesson from her unit on the season of fall.)

Step 4

Select key vocabulary and concepts the children will learn while participating in the thematic unit (Browder, Courtade-Little, et al., 2006; Copeland & Keefe, 2007; Smith et al., 2009). The vocabulary words will vary per student in number and level of difficulty. The key concept should be a core objective

Table 2. List of Student Goals That Can Be Addressed in One Unit

Student	Extensions to the SCOS and IEP Goals
John	<ul style="list-style-type: none"> Stamp his name using a stamp. Demonstrate awareness that a story is being read to him. Go to the bookshelf to select a book he likes.
Peter	<ul style="list-style-type: none"> Turn the page of a book when the reader stops reading. Show his preference for a story by clapping when it is over.
Daniel	<ul style="list-style-type: none"> Use picture/word vocabulary to complete a sentence. Look at the teacher while she is reading a story.
Angie	<ul style="list-style-type: none"> Participate in “reading” a story by hitting a Big Mac switch with a repeated line when the reader stops reading. Categorize (sort) items based on one attribute.
Albert	<ul style="list-style-type: none"> Stamp his name using a stamp. Learn 5 new picture/text vocabulary words. Count to 3.

in the theme. Smith et al. also recommends vocabulary words should be selected for the following reasons: (a) the word is important to the overall understanding of the literature or theme, (b) the word is present in the literature and teaching it in context will increase the likelihood that it will be learned, (c) there is a need to increase the understanding of certain types of words, (d) students have a right to know all kinds of words, and (e) the word will increase a student’s conversational skills and make it possible to communicate with others. Once the sight words are identified, time delay or other forms of systematic instruction should be used in the context of instruction to enable students to mas-

Courtade-Little, et al., 2006; Copeland & Keefe, 2007; Downing, 2005; Smith et al., 2009). For example, Albert is at an early symbolic level of communication, his vocabulary list is made up of pictures and text to enhance his understanding (see Figure 3). This example includes distracter pictures so the teacher can assess comprehension. Boardmaker (Mayer-Johnson LLC, 2004) is very useful for creating vocabulary pages, picture/text word cards, sentence strips, and adapted versions of the story.

Peter, another student in Mrs. Sweeny’s class, uses a presymbolic level of communication and needs his list modified to include the real objects that represent the items on the vocab-

Every student should have an effective way to communicate his or her understanding of the content, and ask questions or make comments about the content.

ter not only the word but the meaning of the word (Browder, Courtade-Little, et al.).

Step 5

Prepare to adapt the vocabulary, concepts, and materials using assistive technology so the children can actively participate in the lessons (Browder,

ulary list. Angie uses a Big Mac device (www.ablenetinc.com) to read a repeated line in a story and Daniel independently uses a step-by-step device to read multiple lines in a story. Albert and John use a stamper to stamp their names or a magic marker to select the correct answers during a multiple choice picture quiz about the

Figure 2. Lesson Plan Format

<p>Teacher: Mrs. Sweeny Date(s): 10/06</p>	<p>Grade(s): 1–2 Subject: Reading, Writing, Math and Science General Objective: To teach students vocabulary, writing, and sorting skills related to the season of fall</p>	
Preparation Planning	Implementation Planning	Evaluation Planning
<p>Behavioral Objective: Lesson 3 The students will learn 1–4 new vocabulary words. The students will review the front and the back of the book. The students will participate in the reading of the repeated line. The students will fill in the blank with fall words/pictures.</p> <p>Teacher Materials: Adapted book, <i>Fall Leaves Fall</i> Picsym vocabulary words on 4 window overlays in categories with distractors</p> <ol style="list-style-type: none"> 1. food (apples, pumpkins, candy corn) 2. clothes (sweater, jacket, hat) 3. things to do (rake leaves, jump in leaves, play football) <p>Chart paper Pre-typed fill-in-the-blank sheets and picsyms for writing.</p> <p>Student Materials: Three Big Macs Two 7-level communicators with overlays One cheap talk Picsyms</p> <p>Motivation: Football toss</p>	<p>Focus and review including a Statement of Objective: We have been reading a story about fall. Fall is the season when the weather gets cool and we wear a sweater or a jacket in the morning. Fall is the season for football. Catch! Can you throw it to a friend? Catch the ball. Daniel catch the ball? Who's next?</p> <p>Teacher Input and Guided Practice Sequence:</p> <ol style="list-style-type: none"> 1. We will be talking about fall for the next 2 weeks. Today, we will read <i>Fall Leaves Fall</i>. Let's all practice reading the words Fall leaves fall (paras assist hitting switches). Review parts of the book. Tell students to hit switch when you pause at repeated line. Paras assist. Practice. Read story as before. 2. Devices: Big Mac and cheap talk with fall words. 3. Para hits Big Mac with student to practice vocabulary. 4. Points to vocabulary words as teacher reads about them (time delay). 5. Students practice turning the page, repeated lines (time delay). 6. "Let's write about fall. What shall we write? Let's make a list of the things we know about fall. Hmmm . . . what do we eat?" Have students point to vocabulary. Students stamp names on their paper (time delay). 7. Write on chart paper, "In the fall we eat . . ." Ask a student to select a fall word from the food category. Repeat for clothes, "In the fall we wear . . ." and "We like to _____ in the fall." 8. Sort different color leaves into 2 piles. <p>Independent Practice: Provide fill-in-the-blank sentences on individual sheets. Have students choose the word/pic to fill in the blank from a field of 1, 2, or 3. Glue picture to paper. Send a copy of the blank sheet and vocabulary words home for homework.</p> <p>Closure: Today we read <i>Fall Leaves Fall</i> and wrote about fall words. Tomorrow we will read our book and bake some cookies.</p>	<p>Formative / Progress Paras record data on independent skills:</p> <ul style="list-style-type: none"> • Participate in repeated line. • Identify things to eat, wear and do. • Write a fill-in-the-blank story. • Attend to activity w/o hitting. See data sheets <p>Summative / Mastery Students will fill in the blanks with 60% accuracy by the end of the month. Students will point to the vocabulary pictures with 50% accuracy by the end of the month. Students will stamp their names with 50% accuracy by the end of the month. Students will read a repeated line with 40% accuracy by the end of the month. Students will answer comprehension questions with 80% accuracy.</p>

Figure 3. Picture/Text Vocabulary List and Sentence Starters

apple 	pumpkin 	candy corn 	rock 
toothbrush 	sweater 	socks 	jacket 
football 	rake 	jump 	snowman 
yes 	no 	turn the page 	finished 

The Picture Communication Symbols.

Name _____

In the fall, I like to eat _____. In the fall, I wear _____.

In the fall, I like to _____.

key content in the story. Every student should have an effective way to communicate his or her understanding of the content, and ask questions or make comments about the content.

Step 6

Systematic instruction on specific IEP goals needs to be planned so it can be embedded in the daily lessons to enhance skills acquisition (Browder, Courtade-Little, et al., 2006; Browder, Wakeman, et al., 2006; Downing, 2005). For example, Albert is learning to point to key sight words on the vocabulary list, and time delay should be used (see Figure 4). Time delay is a method of systematic instruction used for discrete skills such as learning sight words, stamping a name, pointing to a picture to answer a comprehension question, or number recognition. According to Westling and Fox (2009), the teacher initially presents an attention cue, such as “Let’s read.” Next,

the teacher presents the task direction such as “Read the word.” The teacher then immediately (zero delay) models reading the word and when the student says or points to the word, the teacher reinforces the student for the correct response. This instruction continues for multiple sessions until the student readily repeats the word with the teacher. The teacher will then provide the task direction, “Read the word,” and wait about 5 seconds for the student to respond independently and correctly. If the student responds correctly, the teacher will reinforce the student; if not, the teacher will return to the zero delay instructional sessions.

The system of least prompts can also be used to teach students a chain skill. For example, students putting the pictures of a story in sequence; following picture, objects, or text directions to complete a science experiment; or writing a story all require multiple steps to complete the task. The teacher

identifies the prompts needed to teach the skill and puts them in order of the least to most intrusive sequence (i.e., gesture, verbal, model, and physical). The teacher asks the students to complete the first step and waits 5 seconds. If the student does not respond, the teacher provides a gesture for the first step. If the student still does not respond, the teacher will use a verbal prompt and so on until the student responds or a physical prompt is used to assist the student to complete the step. The sequence is repeated for the second step of the skill and so on until all steps have been taught. If the student responds independently on a step, the teacher provides immediate reinforcement and goes on to the next step. If the student makes an error, the teacher provides the highest level of prompting (usually physical) to show the correct response.

Graduated guidance can also be used to teach children to hold a marker to sign their name, or move their hand from left to right to follow the reader. With this method, the teacher instructs the student on a specific movement by using a full physical prompt (hand over hand). The teacher continues to use this prompt until the student initiates the movement herself. At that time the teacher will prompt by holding the wrist of the student and facilitating the correct movement. The teacher continues fading support as the student begins to master the specific movement. Planning for systematic instruction should be done for the critical skills students need to master during instruction on the theme.

Step 7

Evaluating student progress is a critical component of teaching the lessons. Data collection on the children’s skill performance during the lesson can be conducted in a variety of ways (Browder, Courtade-Little, et al., 2006; Copeland & Keefe, 2007; Downing, 2005; Smith et al., 2009). A frequency count can be taken for children learning to point to their name, hit a Big Mac switch to participate in reading a repeated line, point or verbalize key objects in the lesson, or correctly count

Figure 4. Systematic Instruction Plan (SIP)

Student: Albert **Date Plan Started:** 10/05/08

Target skill: Fall Vocabulary **Routine:** Reading skills

Specific Objective: Albert will show comprehension of new concepts by pointing to picture/text cards that represent that concept with 70% accuracy.

Materials: apple, pumpkin, football, sweater, picture vocabulary list.

Setting and Schedule for Instruction: During reading class, lunch, reading.

Number of Trials: 5 trials @ zero delay for 3 days, 2 warm-up trials at zero delay and 3 trials at 5-second delay for 1 day, 5-second delay only for 1 day.

INSTRUCTIONAL PROCEDURE

PROMPTING (Specific prompt or prompts to be used—list in sequence):
Specific verbal and point

TYPE OF PROMPT SYSTEM (check which applies)
 System of Least Prompts
 Time Delay Constant OR Progressive
 Most-to-least intrusive prompts
 Graduated guidance

Fading Schedule for Time Delay: 5-second delay

FEEDBACK

Correct Responses: Great pointing to the apple word.

Fading schedule for praise: Only praise after every 5 items identified correctly.

Error Correction: No, that is a pumpkin not an apple. Point to the apple. Return to zero delay practice sessions.

Generalization & Maintenance Plan: Albert will point to apples at lunch and footballs at recess.

Table 3. Student Progress on Various Skills in the Season of Fall Unit

Student	Skill	Baseline	Mean After 1 Month	Total Progress
Angie	Sort by color	63%	100%	37%
Albert	Stamp name	10%	70%	60%
Albert	Vocabulary	0%	40%	40%
John	Stamp name	0%	26%	26%
Daniel	Fill in the blank	0%	52%	52%
Peter	Turn the page	0%	80%	80%

Table 4. Data Collected on Student Comprehension of Vocabulary Words

Student:	Task: <i>Albert will learn to show comprehension of new concepts by pointing to picture/text cards that represent that concept with 70% accuracy.</i>										
Academic Content: <i>Reading and Science</i>											
Vocabulary	10/5	10/6	10/7	10/8	10/9	10/12	10/13	10/15	10/16	10/17	10/18
sweater	+	+	-	-	-	+	-	+	-	+	+
football	-	-	+	-	+	-	+	-	+	-	+
pumpkin	-	-	-	-	-	+	+	-	+	+	+
apple	+	+	+	+	+	+	+	+	-	-	+
jump	-	-	-	-	-	-	-	-	-	-	-
Total Independent Correct	2	2	2	1	2	3	3	2	2	2	4
Where	CS	R	CS	H	C	CS	H	H	R	CS	C
With whom	GE	T	A	P	T	A	P	P	T	GE	A

Student Response Code: (+) = Independent Correct; (-) = Incorrect.
 Where Code: CS = Classroom Science; H = Home; C = Special education class; R = Recess.
 With Whom Code: T = Teacher; A = Assistant; P = Parent; GE = General education teacher.

Table 5. Checklist and Data Collection Sheet for the Professionals

Step of Lesson	Student to Be Prompted	Date	Date	Date
1. Tell students we are going to read a story. State the name of the story. Let's all stay in our seats.	John/Daniel			
2. Review the repeated line with the students.	Angie			
3. Review key vocabulary with students using a picture/text vocabulary sheet.	Daniel/Albert			
4. Identify the front of the book; then, prompt students to open the book.	Peter			
5. Read the first page and stop at the repeated line.	Angie			
6. Count the page using the page number.	Albert			
7. Turn the page.	Peter			
8. Ask students a question about the story, so they can use the vocabulary sheet to answer.	Albert/Daniel			
9. Great staying in your seats and looking at me while I am reading.	John/Daniel			
10. Repeat steps 5-9 until finishing the book.				
11. Did anyone like the story?	Peter/John			
12. Hand out a paper with 3 sentence strips on it and pictures/text vocabulary cut out, while asking students to count the materials.	Albert/Angie			
13. Ask students to write/stamp their name on the paper.	John/Albert			
14. Ask students to fill in the sentences with a vocabulary picture/text.	Daniel/Albert			
15. Collect and return all materials.	Angie			

a number of objects. Mrs. Sweeny collected data on six different skills for the students in her class (see Tables 3 and 4). The data show after 1 month of instruction, all children demonstrated progress across all skills.

Evaluating student progress is a critical component of teaching the lessons.

A checklist can assist the teacher and the paraprofessionals to remember the sequence of steps when teaching the lesson and which student(s) to prompt at each step of the lesson as shown in Table 5. As the professionals are conducting the lesson, they can easily record the progress of the student on the checklist. The professionals can enter a + (plus) for independent and correct responses the student made and a - (minus) for the responses the student did not make correctly.

Summary

These models can offer special education teachers such as Mrs. Sweeny a menu of approaches to teach literacy to the diverse students in the general education and special education classrooms. These models help teachers address ways to provide students with access to the SCOS, keep students motivated, teach multiple grade levels of children all in one lesson, and teach students with significant cognitive disabilities in a small group format with or without nondisabled peers.

Our preliminary data using this 7-step comprehensive literacy approach show that 6 middle school students with significant cognitive disabilities instructed on a unit of the book *Hoot* (Hiassen, 2002) made significant progress on both the identification of key vocabulary words and in accurately answering comprehension questions. The children were given a pretest on the identification of 10 vocabulary words (using pictures and text); the average pretest score was 23% with a range of 0% to 60%. All 6 students demonstrated 90% to 100% accuracy on the 10 vocabulary words at the end

of the unit (1 month later). The average pretest score on the 10 comprehension questions was 50% accuracy with a range of 20% to 60%. All 6 students demonstrated 80% to 100% accuracy on all questions at the end of the unit.

Surveying teachers on the pros and cons of this approach could be conducted as future research.

In addition to creating their own thematic unit, teachers can purchase published curriculum. *The Early Literacy Skill Builder* (ELSB; Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Lee, 2007) and *MEville to WEville: Early Literacy and Communication Curriculum* (AbleNet, Inc., 2005) are both excellent tools that provide a thematic unit with multiple lesson plans to direct the teacher on how to teach the content. These tools provide the teacher with a ready-made unit and lesson plans that are easily adapted to meet the needs of a diverse range of learners.

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TEACHING Exceptional Children, Vol. 42, No. 3, pp. 30–39.

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