Training Teachers to Follow a Task Analysis to Engage Middle School Students With Moderate and Severe Developmental Disabilities in Grade-Appropriate Literature

By: Diane M. Browder, Katherine Trela, Bree Jimenez

Browder, D. M., Trela, K., & Jimenez, B. (2007). Training teachers to follow a task analysis to engage middle school students with moderate and severe developmental disabilities in grade-appropriate literature. *Focus on Autism and Other Developmental Disabilities, 22(4)*, 206-219.

Made available courtesy of Sage Publications:
http://dx.doi.org/10.1177/10883576070220040301

Abstract:

The purpose of this study was to train teachers to follow a task analysis to teach a story-based literacy lesson using adapted, grade-appropriate middle school literature to students with moderate and severe developmental disabilities. A multiple-probe-across-participants design was used to examine the effects of training teachers to follow a literacy lesson plan task analysis on the number of steps completed by teachers on the literacy lesson plan template and changes made by students in response to teachers' use of the literacy lesson plan. Results indicated a functional relationship between teacher training and the number of lesson plan steps followed, with a corresponding student increase in both overall and independent correct responses. Implications for practice and future research are discussed.

Keywords: Special education | Developmental disabilities | Literacy | Middle School

Article:

Recently, national attention has been focused on strengthening reading instruction in schools "so that all Americans can develop the literacy skills they need to succeed at work, at home, and in the community" (National Institute for Literacy, 2001). Toward that goal, synthesis reports like *Beginning to Read: Thinking and Learning About Print* (Adams, 1990) and *Put Reading First: The Research Building Blocks for Teaching Children to Read* (National Institute for Literacy, 2001) have provided guidance in effective reading instruction. To ensure a measure of accountability, recent legislation (Individuals with Disabilities Education Improvement Act of 2004 [IDEIA]; No Child Left Behind Act of 2001 [NCLB]) has mandated that all students, including students with disabilities, have access to evidence-based instruction that is aligned with state standards and participate in statewide assessments to measure their progress. Thus, schools are expected to provide all students with instruction informed by research and with opportunities

to participate in assessments that evaluate their progress toward achieving established reading goals.

For measuring progress against NCLB's expectations, states can use alternate assessments judged against alternate achievement standards for students with significant cognitive disabilities, including those with developmental disabilities.

The *Alternate Achievement Standards for Students With the Most Significant Cognitive Disabilities: Non-Regulatory Guidance* states that the content of alternate achievement standards "should be clearly related to grade-level content, although it may be restricted in scope or complexity or take the form of introductory or prerequisite skills" (U.S. Department of Education, 2005, p. 26). Browder, Spooner, Wakeman, Trela, and Baker (2006) described criteria for access to the general curriculum, which include "grade-linked" or "grade-appropriate" instruction that matches the content of the grade level but targets achievement that is reduced in breadth and depth of knowledge. For example, to access middle school language arts instruction, students with developmental disabilities need the opportunity to engage with novels typically read in these grades and to learn skills that make it possible for them to gain meaning from the story. Teaching skills linked to grade-level language arts content is a new idea for this population and requires answering four questions:

1. What literacy outcomes would educators hope students gain?

2. What supports and context would be needed?

3. What research could guide this practice?

4. How can teachers learn this new form of instruction?

Careful consideration needs to be given to the short- and long-term literacy outcomes to be achieved. When students with moderate and severe developmental disabilities enter middle or high school, teachers may be especially reluctant to adapt a beginning reading program given the priority of focusing on skills that promote transition to adulthood and that are age appropriate. Because these students may have had limited prior exposure to literacy (Kliewer & Biklen, 2001), it is important for educational teams to give careful consideration to how students may still become independent readers as adolescents. Beginning reading can be targeted using materials that are age appropriate and that address the components that the National Reading Panel (2000) identified as key to reading success. For example, Bradford, Alberto, Houchins, Shippen, and Flores (2006) successfully used the *Corrective Reading Program* (Engelmann, Becker, Hanner, & Johnson, 1980) to teach decoding to middle school students with moderate intellectual disabilities.

It is possible that not all students with moderate and severe disabilities will become independent readers and that decoding skills alone will have limited effect on long-term reading outcomes. It

is important to target an outcome for literacy that will maximize gaining meaning from text for students who have not yet learned to read. One potential outcome is the acquisition of skills to gain meaning from text through engaging with stories that are read aloud. Even at the middle school level, students with severe developmental disabilities may still be at an emergent level of literacy, with few skills for engaging with books. Research with young children suggests that one of the best ways to promote literacy is to share stories by reading aloud and engaging the children in the stories' meanings and symbols (Roe, Smith, & Burns, 2005). Children who are read to daily tend to score higher on measures of vocabulary, comprehension, and decoding than those who are not (Bus, van Ijzendoorn, & Pelligrini, 1995; Senechal, Thomas, & Monker, 1995). Children gain meaning from the interactive event of shared reading (Vygotsky, 1978). Consistent exposure of young children to read-alouds can contribute to improved comprehension and vocabulary development (Vacca et al., 2006). The benefits of sharing stories with older students with significant disabilities have not been explored in research but may include developing a lifelong leisure skill, building enhanced communication skills, and acquiring a tool for gaining meaning from text that may generalize to other general education contexts (e.g., shared reading of science information). Qualitative and case study research provides some evidence that students with significant disabilities can gain early literacy skills, including enhanced communication, through the sharing of stories (Erickson & Kopenhaver, 1995; Kliewer & Biklen, 2001).

Because of the support and contexts needed to promote literacy for middle school students with significant disabilities, the lesson will need to differ from that used with young children to make it age appropriate. Young children typically share a story on the lap of an adult, or sitting on the floor beside an adult, who shares a book with themes and pictures appropriate for the age group. In contrast, middle school students engage with literature while seated at their desks, using books with more mature themes, more chapters, and fewer illustrations. These novels can be adapted to be accessible, while still being age appropriate, for students with moderate and severe disabilities who have emergent literacy skills. The novels can be rewritten as abbreviated chapters with simpler vocabulary and picture symbols for key words. Adding repetitions of the main idea for each chapter may help create focal points for the students to follow the story. The adapted books can be created to be accessible to students with physical abilities (e.g., sturdy pages to facilitate page turning) and presented in an appropriate format (e.g., three-ring binder). Because of these characteristics, the term *story-based lesson* may be preferable for the literature-based lessons created for older students since *shared stories* is descriptive of early childhood methods.

Ideally, students will have opportunities to use the adapted text to participate in lessons in general education classes. When included in general education classrooms, students with moderate and severe developmental disabilities can have the full range of academic content that is presented to peers without disabilities, instruction by content area experts, and the model of peers who are successfully engaging with the content. Some researchers have suggested that students have greater access to the general curriculum in inclusive versus separate settings

(McDonnell, Mathot-Buckner, Thorson, & Fister, 2001). In contrast, current IDEIA regulations do not require inclusion in general education classes but, rather, require highly qualified special education teachers to provide access to general curriculum content (Assistance to States for the Education of Children With Disabilities and Preschool Grants for Children With Disabilities; Final Rule, 2006, 300.18(c)(1)(2)). There is also a need for models in which special education teachers provide literacy instruction by, for example, teaching novels typically used in middle school. In these contexts, students may still gain the benefits of learning to access text and receive instruction that is linked to their grade.

If the desired outcome of literacy instruction is ultimately for students to gain meaning from text, which for some students may be accessed through story-based lessons, instructional strategies must be identified that promote skills for engaging with the text. In a comprehensive review of reading for students with significant cognitive disabilities, Browder, Wakeman, Spooner, Ahlgrim-Delzell, and Algozzine (2006) found that systematic prompting procedures like time delay were most effective in single-subject studies judged to be of high quality (e.g., Horner et al., 2005). While this procedure was typically used to teach students to recognize specific sight words in a discrete trial format (e.g., drill on a list of sight words), it might also be applicable to teaching engagement with adapted books if the engagement was defined as a specific sequence of responses that could be applied to any book.

Often, in teaching daily living skills, special educators have taught a sequence of responses or task analysis of the activity to be learned. Systematic prompting with feedback has also been effective when used with task analyses to teach first aid (Gast, Winterling, Wolery, & Farmer, 1992) or banking skills (McDonnell & Ferguson, 1989).

Similarly, it may be possible to use task analytic instruction to promote participation in reading a story or other literature. Historically, reading instruction for students with significant cognitive disabilities has been underemphasized. Qualitative research, including content analyses of textbooks (Katims, 2000) and ethnographic studies of children's school experiences (Kliewer, 1998), has revealed a consistent lack of focus on reading for this population. In addition, surveys of and interviews with practicing teachers have shown that their preservice training did not prepare them to use strategies to teach beginning reading skills such as shared story reading (Lyon, Vaasen, & Toomey, 1989; Moats & Lyon, 1996). The provision of a task-analytic approach to sharing literature may make it possible for teachers to gain a method that can be applied across changing stories.

One of the appealing features of task-analytic instruction is that it also lends itself to teacher self-monitoring to ensure inclusion of all lesson components. Although self-monitoring is often employed with students, research shows that teachers can use it to strengthen instructional delivery (Kaplan & Carter, 1995; Reid, 1996; Webber, Scheuermann, McCall, & Coleman, 1993). For example, in a study on curriculum-based measurement, Allinder, Bolling, Oats, and Gagnon (2000) found that the use of self-monitoring prompted teachers to examine instructional

components of their lessons more closely, rather than targeting the conditions under which students were tested. Similarly, through self-monitoring teachers may track whether they give all students a turn to make each target response during a literacy lesson.

The purpose of the present study was to train teachers to monitor their own use of a task analysis for sharing literature typical of middle school language arts and to promote the skills of the participating students for engaging with books. Teachers developed a plan for teaching an age-appropriate book by using a template that prompted individualizing each step of the task analysis for the book and the students in the reading group. Through systematic prompting, students were encouraged to keep pace with the story as it was read by the teacher, to read key phrases and words themselves, and to answer comprehension questions.

Method

Participants and Setting

Three teachers of students with significant disabilities from a large urban school system in the southeastern United States participated in the research. To be eligible, teachers needed to be serving middle school students classified as having moderate or severe intellectual disabilities or autism. All teachers were certified in special education, had a bachelor's degree, and had between 2 and 13 years (M = 7.4) of experience. Only one teacher had had a course in reading instruction at the preservice level. All three reported some exposure to literacy instruction through in-service training, but their implementation of literacy instruction was limited (see "Prebaseline Phase").

Each teacher recruited from her class two students who were nonreaders but who could identify some pictures. To be eligible, students with sight-word reading needed to read and comprehend fewer than 20 words. Students could be verbal or nonverbal and had to have an IQ score below 55. As shown in Table 1, students ranged in age from 12 to 14 and had IQs from 42 to 50; some IQ scores had been estimated by a psychologist due to the difficulty of testing the students. All IQ scores were obtained from students' most recent psychological evaluations. The teachers also recruited a language arts teacher from their school to participate in training with them and to serve as an ongoing resource for planning literacy lessons. All assessments and interventions were conducted by the students' classroom teachers in the special education classrooms where the students received instruction. Teachers asked to include other students in the instructional group besides the target students and typically taught groups of 4; teachers sometimes implemented the lessons with their entire class (8–10 students). Teacher training occurred in a university conference room.

Materials: Adapted Books

The researchers selected eight novels from the school system's middle school supplementary reading list (*Call of the Wild; The Cay; Island of the Blue Dolphins; Roll of Thunder, Hear My*

Cry; I, Juan de Parejo; Cheaper by the Dozen; Taking Sides). Each book was then adapted in the same style with text and picture symbol support. In this study, strategies such as embedding definitions of new or unfamiliar words as they appeared in the story, supporting key vocabulary with picture symbols, and retelling the story at an early reading comprehension level were used to support students' understanding. In this way, the text communicated essential ideas using controlled vocabulary at a listening comprehension level of Grades 2 to 3 as measured by the *Lexile Framework for Reading's* Lexile Analyzer (Meta Metrics, 2004). This listening level was selected from an informal estimate of the level to which most students with moderate and severe developmental disabilities responded during earlier pilot work in other classrooms. The text was arranged in chapters that corresponded to those of the original book. In each chapter, four to five key vocabulary words were selected and printed with combination word–picture symbols developed using *Writing With Symbols* (Mayer-Johnson, 2000). Whenever the key word appeared in the text, it was accompanied by a picture symbol so students could track across lines of text as the teacher read (average, two pictures per line). The chapter summaries were four to six pages long, with a story line to support the main idea of the chapter repeated at the end of each page (see Figure 1). Teachers also received a copy of the original novel and transparencies of the book pages so that they could refer to the pages using an overhead projector. Each student received a laminated copy of the adapted book placed in 3-inch (approximately 8-cm) ring binders. The teachers and students received a new book about once per month.

TABLE 1. Student Characteristics

Student	**Age at start of study**	**IQ score**	**Test administered**	**classification**	**Other disabilities**	**Language and reading skills**
Karen	13 yrs 6 mo	47	Universal Nonverbal Intelligence Test (UNIT) (Bracken & McCallum, 1996	Moderate intellectual disabilities	None	• Nonverbal • Uses AC • Limited sight word recognition (10–20 words)
Ann	14 yrs	42	Stanford-Binet (Thorndike, Hagen, & Sattler, 1986)	Moderate intellectual disabilities	Cerebral palsy, seizure disorder	• Nonverbal • Uses AC • Limited sight word recognition (10–20 words)
Cheryl	13	<50	Bayley's (Bayley, 1993)	Severe intellectual disabilities	None	• Nonverbal • Recognizes own name and 5 picture symbols
Sam	12 yrs	<50	Bayley's (Bayley, 1993)	Severe intellectual		• Nonverbal • Recognizes

				disabilities		own name • Inconsistent with picture identification
Josh	12 yrs 3mo	50	PLS-3 (Zimmerman, Steiner, & Pond, 1992	Autism	ADHD	• Limited verbal skills; will imitate • Limited sight word recognition (10–20 words)
Henry	13 yrs 3 mo	<50	Bayley's (Bayley, 1993)	Autism		• Verbal • Large sight word recognition • Limited comprehension (fewer than 20 words)

Note. Yrs = years; Mo = months; AC = augmentative communication; Stanford-Binet = Stanford-Binet Intelligence Scales (4th ed.); Bayley's = Bayley's Scales of Infant Development (2nd ed.); PLS-3 = Preschool Language Scale-3.

Dependent Variables and Data Collection Procedures

Primary Variables. Data were collected on both teacher and student behaviors. The primary dependent variable was the number of steps teachers completed on the literacy lesson plan (task analysis) when teaching the story-based lesson. The task analysis was developed by the researchers to be usable across novels and was validated with a reading expert (faculty member in reading) for its content and adherence to conventions of teaching reading to emergent readers. The task analysis is shown in Figure 2. Data collectors were trained to criterion in scoring the teachers' responses by using the task analysis with videotaped literacy lessons made with teachers in an earlier pilot study. They then observed teachers on an ongoing basis while the teachers implemented the lessons.

To investigate changes in student behaviors in response to each teacher's use of the literacy lesson plan, a task analysis of student responses was used (see Figure 3). Although each teacher conducted the story-based lessons in a group of about four students, only the original two students selected by the teacher served as study participants due to the logistics of data collection. The graduate assistant scored each of the two students' responses on the task analysis during the course of the lesson. Student responses were coded as follows:

- independent correct (I+)
- independent incorrect (I−)
- prompted correct (P+)

- prompted incorrect (P−)
- no response (NR)
- no opportunity (NO) to respond

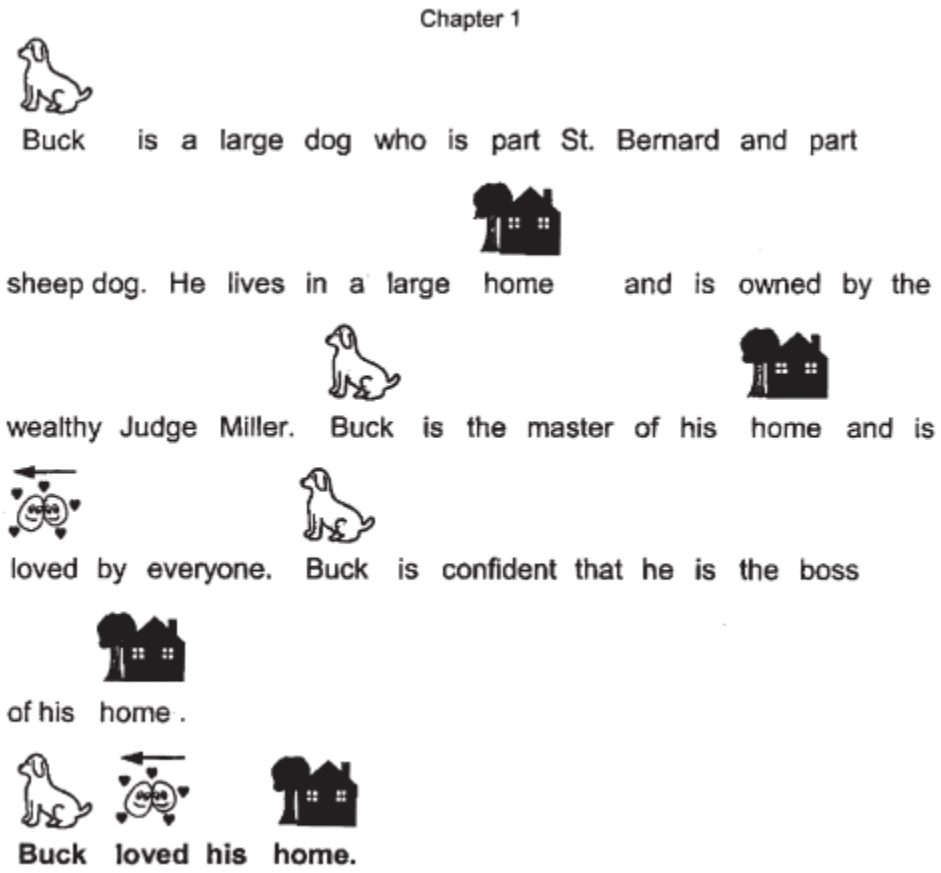

FIGURE 1. Sample page from adapted book, Call of the Wild, by Jack London.

Experimental Design

A multiple-probe-across-participants design was used to examine the effects of training in the use of a literacy lesson plan to deliver literacy instruction. There were three phases of data collection: a prebaseline to determine teachers' level of literacy instruction prior to any training, baseline observations conducted after a general training session, and observations after the intervention in which teachers learned to self-monitor adherence to the task analysis in individual sessions. The individual sessions were staggered across teachers in a multiple probe design. When Teacher 1 was in training, no data were collected for Teachers 2 and 3 or their students. Once Teacher 1 mastered the task analysis, all teachers and students were observed again (reprobed), then Teacher 2 received the intervention. All teachers and students were again

assessed prior to the introduction of Teacher 3. To minimize teacher reactivity to being in baseline, all teachers received a new set of adapted books at the beginning of each round of probes (about once a month). They knew that they would receive some additional information in an individual session, but the official kick-off of the literacy lessons was at the conclusion of the group in-service. Although the multiple probe design was applied primarily to the teachers, consideration was given to concurrent changes in student behavior prior to introducing the intervention to the next teacher.

Intervention

Prebaseline Phase. In the prebaseline phase, the teachers were asked to conduct a literacy lesson to determine the extent to which they already were doing story-based lessons.

During prebaseline, literacy instruction in all three classrooms consisted primarily of reviewing the calendar and the day's schedule. Students practiced sight word identification during this time (e.g., month, name, schedule). Two of the three teachers then read to their students. Teacher 1 read a chapter from a popular young reader's novel (not adapted), but students did not have individual copies of the book and did not participate in this reading. After reading, the teacher asked the students questions about the plot. Teacher 2 had adapted a book and made copies for each student, but the book was not linked to middle school literature (it was for a younger age group). Students also had minimal participation as the teacher read but were asked to answer questions at the end of each chapter. Further, the teacher asked literal questions after the chapters were read, with no opportunity to reference text to support answers. Thus, comprehension questions required students to recall facts from memory. Teacher 3 rarely read to her students. None of the teachers provided vocabulary or phonics instruction during the lesson, nor did students work on identifying sight words or pictures in this context.

Baseline Phase. Prior to beginning baseline observation, teachers participated in a general workshop on literacy instruction with a general education teacher. They received information on the components of a literacy lesson (but not the specific template shown in Figure 2) and planned a lesson using the school system's lesson plan form and with the help of the general education teacher. They also received their first adapted book set, which consisted of student books, a teacher book, the original novel, and transparencies. During the baseline phase, the three teachers began to read the adapted books with their students. As in prebaseline, student opportunities to respond were dependent on teachers giving them turns.

Teacher Intervention. The order in which the teachers entered intervention in the multiple-probe-across-teachers design was determined by the teachers (i.e., they volunteered to receive the additional information beginning with the second, third, or fourth book). Intervention with each teacher did not begin until the prior teacher had demonstrated all 25 steps with his or her students at least once. Each individual training session started with the trainer (the third author) showing the teacher the literacy lesson plan template (teaching task analysis). It was explained that the

template was a task analysis of a literacy lesson and that his or her lessons had been observed using the task analysis. Results of prebaseline and baseline observations for both teacher and student behavior then were shared with the teacher.

Teachers needed to learn three primary components to the intervention. The first was to follow the template (see Figure 2), the second was to use systematic prompting for all steps, and the third was to self-monitor adherence to the template. To help teachers learn to follow the template, the trainer reviewed each step with the teacher, demonstrated it, and asked how each student would make the target response. For example, some students would give verbal answers, while others would use assistive technology. Some could turn the book pages; others would use a voice output device to ask for the page to be turned. The teacher also had some decisions to make prior to the lesson. For the first step, the teacher planned a multisensory experience to engage the students' attention (e.g., playing dolphin sounds while showing pictures of dolphins). Next, key vocabulary and letter sounds were selected for teaching. For example, the teacher might plan to teach the sight word *home*, a picture symbol of home, or the initial consonant sound in *dolphin*. These were listed on the template above Steps 2 and 3 (words) and 4 and 5 (sounds), with the names of students and their response mode noted.

I. OPENING: All students.

___ 1. Attention-grabber activity: Sensory stimulation (AVTKGO*)

Description

*Auditory, Visual, Tactile, Kinesthetic, Gustatory (taste), Olfactory

II. WORD & SOUND STUDY: Words taught in isolation and identified explicitly as target vocabulary.

Student 1 **Vocabulary:** **Target Sounds:** **Response Mode:**	**Number trials at 0 delay:** **Number trials at constant delay:** **Delay interval (e.g., 4 seconds):**
Student 2: **Vocabulary words:** **Target sounds:** **Response Mode:**	**Number trials at 0 delay:** **Number trials at constant delay:** **Delay interval (e.g., 4 seconds):**

___ 2. Teacher says **vocabulary** word and gives student an opportunity to repeat. (0 delay)
___ 3. Give student opportunity to say or recognize vocabulary word. (wait # sec for response; may repeat)
___ 4. Teacher says **letter sound** and gives student an opportunity to repeat. (0 delay)
___ 5. Give student opportunity to say or recognize letter sound. (wait # sec for response; may repeat)

III. TEXT AWARENESS

___ 6. Teacher reads **title.**
___ 7. Give each student an opportunity to point to/say title on own book or checks for group to respond.
___ 8. Teacher reads **author's** name.
___ 9. Gives each student an opportunity to say/point to author's name on own book or checks for group to respond.
___ 10. Teacher models **opening book.**
___ 11. Gives each student an opportunity to open own book (1) without being told, then (2) prompts as necessary
___ 12. Teacher asks **prediction question.**
___ 13. Gives each student an opportunity to answer prediction question.

Reading the Chapter

Read aloud pages:

___ 14. Teacher reads 1 or more pages aloud to get story started. (***Read aloud only*** pages: _____OR may read aloud entire chapter, then go back to do the following:)

Review last page read to practice text-point:

___ 15. Teacher points to each word in chosen sentence while reading aloud on **"text point page."**
___ 16. Gives each student an opportunity to point to chosen line on "text point page" in own book.

Identify vocabulary in context:

___ 17. Teacher reads **vocabulary** in context.
___ 18. Teacher points out (points physically or draws attention to) vocabulary word in context.
___ 19. Gives students opportunity to point to/ say vocabulary word.

Throughout the story, teacher will:

___ 20. Give students an opportunity to anticipate repeated story line.
___ 21. Give students an opportunity to imitate repeated story line.
___ 22. Give students an opportunity to anticipate turning page without being told.
___ 23. Give students an opportunity to turn own page/ask for help to stay on same page with teacher.

IV. COMPREHENSION

___ 24. Teacher asks comprehension question of each student at end OR throughout story.
___ 25. Gives opportunity for student to answer comprehension question.

FIGURE 2. Task analysis for story–based lesson.

Site: _____ Teacher: _____ Date: _____ Lesson: _____

Item		Task	Response: S1	Comment	Response: S2	Comment
Stu	Tchr					
1	1	Makes response to attention-grabber activity.	I+ I– P+ P– NR		I+ I– P+ P– NR	
2	7	Points to/says title.	I+ I– P+ P– NR		I+ I– P+ P– NR	
3	9	Points to /says author's name.	I+ I– P+ P– NR		I+ I– P+ P– NR	
4	11	Opens own book.	I+ I– P+ P– NR		I+ I– P+ P– NR	
5	13	Says/uses AT to make prediction.	I+ P+ NR		I+ P+ NR	
6	16	Points to chosen line of text (3 or more words).	I+ I– P+ P– NR		I+ I– P+ P– NR	
7	19	Says/uses AT to say vocabulary word.	I+ I– P+ P– NR		I+ I– P+ P– NR	
8	21	Says/uses AT to say repeated story line.*	I+ I– P+ P– NR		I+ I– P+ P– NR	
9	23	Turn page/request help (using AT) to turn page.* (1st to 2nd page)	I+ I– P+ P– NR		I+ I– P+ P– NR	
10	25	Answers comprehension question (record 1st question). (May answer by pointing to picture symbol.)	I+ I– P+ P– NR		I+ I– P+ P– NR	
If target student: Use only for words/sounds taught in isolation						
11	2	Repeats vocabulary word (after teacher models once). (May say with voice output AT.)	I+ I– P+ P– NR		I+ I– P+ P– NR	
12	4	Repeats target sound (after teacher models once). (May use voice output AT to say sound.)	I+ I– P+ P– NR		I+ I– P+ P– NR	

*At appropriate time (i.e., following opportunity to anticipate [story line] [turn page]).
I+ = Independent Correct I– = Independent Incorrect P+ = Prompted Correct P– = Prompted Incorrect NR = No Response

FIGURE 3. Student responses task analysis. Note. Stu = student; Tchr = teacher; AT = assistive technology.

The trainer then discussed the use of systematic prompting and feedback, including time delay and the system of least prompts. For introducing words and symbols, the teacher was shown how to use constant time delay. The trainer then asked the teacher to specify the number of trials at 0 delay, the number at some constant delay, and the length of this delay (e.g., 0 s). Some steps (6–10, 15–16, 17–19) had a built-in teacher model (e.g., my turn/your turn). If students did not respond, the teachers were trained to use the system of least prompts for motor responses (e.g., opening the book or hitting the switch of the assistive technology device to ask book to be opened). That is, the teacher waited for the student take a turn (e.g., open the book), and if this did not occur, the teacher guided the student's hand to make the response. Some steps (13, 25) required helping students to generate an answer (making a prediction or answering a comprehension question, respectively). Teachers were taught to wait for the student to make a response to a question (e.g., "Who loved his home?"). If the student did not answer, the teacher could scaffold by redirecting students' attention to picture symbols in the text to answer or for increasing hints:

Teacher: "Who on this page loved his home?"
(Wait for an answer.)
Teacher: "Buck loved his home. Show me Buck."
(Wait for an answer.)
Teacher: "This is Buck. Now you point to him."

Whenever the student answered correctly in any of the prompting systems, the teacher was trained to provide praise (e.g., “Yes, that’s Buck!”). The teacher was also trained to pause for students to anticipate some responses throughout the story (20–23) and praise students who did. For example, if after reading “Buck loved his home” (a repeated story line), a student spontaneously said, “Buck loved his home,” the teacher praised the student, saying, “Good reading with me.” Or, if a student turned the page when the teacher finished reading the page, the teacher would say something like, “Terrific! You are keeping track of the story!”

The third component of the teacher training was self-monitoring adherence to this template (task analysis). The trainer role-played use of the task analysis to teach and self-monitor a lesson, with the teacher using the task analysis to observe and record the number of steps followed in the lesson The teacher then role-played following the task analysis. Immediately after role playing, the teacher practiced self-monitoring by checking the steps she or he had completed and then describing aloud the steps followed or omitted. If needed, the role play was repeated until the teacher followed all steps. Teachers received credit for data collection on the procedural fidelity checklist if they provided the opportunity specified in each step of the task analysis and waited for students to respond; however, consistency in prompting students to respond (i.e., “use 7-second time delay with student who needs time to plan a motor response”) was not factored into this scoring). In contrast, during the training session on self-monitoring, the trainer emphasized not only performing the step but using the planned prompts and feedback consistently with individual students.

After the individual session, the teacher used the template to plan literacy lessons on an ongoing basis and checked the task analysis after each day’s lesson to self-monitor implementation. For at least one session during intervention, the researcher compared the task-analytic ratings for teacher data with the teacher’s self-monitoring data. Using the same method used for interrater reliability, agreement was considered for each step. On all occasions the teachers scored the task analysis and had 100% agreement with the researcher about steps that were taught or omitted.

Interrater Reliability and Procedural Fidelity

The primary data collector was a research assistant who was a special education doctoral student. A second member of the research team accompanied the graduate assistant to collect data concurrently for 25% of the observations. Interrater reliability was computed as agreements divided by agreements plus disagreements. Interrater reliability for teacher data ranged from 80% to 100%, with a mean of 97%. Interrater reliability for student data ranged from 70% to 100%, with a mean of 94%.

Fidelity of the teaching intervention was the primary dependent variable. A task analysis for the individual teacher training sessions was developed to record procedural reliability for the steps the researchers followed when showing the teachers how to self-monitor adherence to all steps of the lesson.

An observer (second member of the research team) marked whether each segment was present (+) or not present (−). Fidelity for training the teachers was 100% steps followed by the trainer.

Results

Number of Steps Followed on Literacy Lesson Task Analyses

Teacher Behaviors. Figure 4 presents the number of steps the teachers followed on the 25-item literacy task analysis (TA) during their lessons. Prebaseline measures were taken before teachers were introduced to the grade-appropriate adapted books at the introductory workshop. As indicated, the teachers were not implementing most steps of the literacy lesson, and one teacher was not using a book. During baseline, teachers received the workshop training as well as adapted books for use. None demonstrated all components of the lesson until they received a lesson plan template and training in self-monitoring. Each teacher's results are shown in Figure 4.

During prebaseline, Teacher 1 completed a mean of 9 steps on the TA, with a range from 6 to 12. With the workshop and receipt of an adapted book, Teacher 1 completed a mean of 13 steps, with a range from 8 to 17. During intervention, the teacher mastered and maintained all 25 components. Results were similar for the second teacher. During prebaseline, Teacher 2 completed a mean of 15 steps on the TA, with a range from 15 to 16. During baseline, Teacher 2's steps ranged from 7 to 13, with a mean of 10. This teacher had grown accustomed to the book she had been using in prebaseline and had some difficulty providing opportunities to respond with the new book. Subsequent to intervention, the teacher performed all steps, or all but one step, of the task analysis (e.g., at Data Point 16, Teacher 2 completed all but Step 19, "Gives student opportunity to point to/say vocabulary word"). Interestingly, through the use of the self-monitoring, this teacher had no difficulty maintaining this high level of responding when a new book was introduced (concurrent with Teacher 3's beginning intervention). The third teacher had prebaseline scores that ranged from 3 to 4, with a mean of 3.5. Although the teacher was not using a book, credit was given for the vocabulary work that occurred. Baseline scores ranged from 6 to 8, with a mean of 7. This increase occurred because the teacher was now using a book. Once the teacher received the task analysis and instructions in self-monitoring, the teacher mastered and maintained all steps of the task analysis.

Total Student Responses. Figure 5 presents total number of independent student responses to teacher direction during literacy lessons. Students could respond to a total of 12 teacher directions. As shown in the graphs, all students made gains in independent responses from baseline to intervention phase. Each student's performance is discussed below by membership in the class of Teacher 1, 2, or 3. Pseudonyms are used to identify each student.

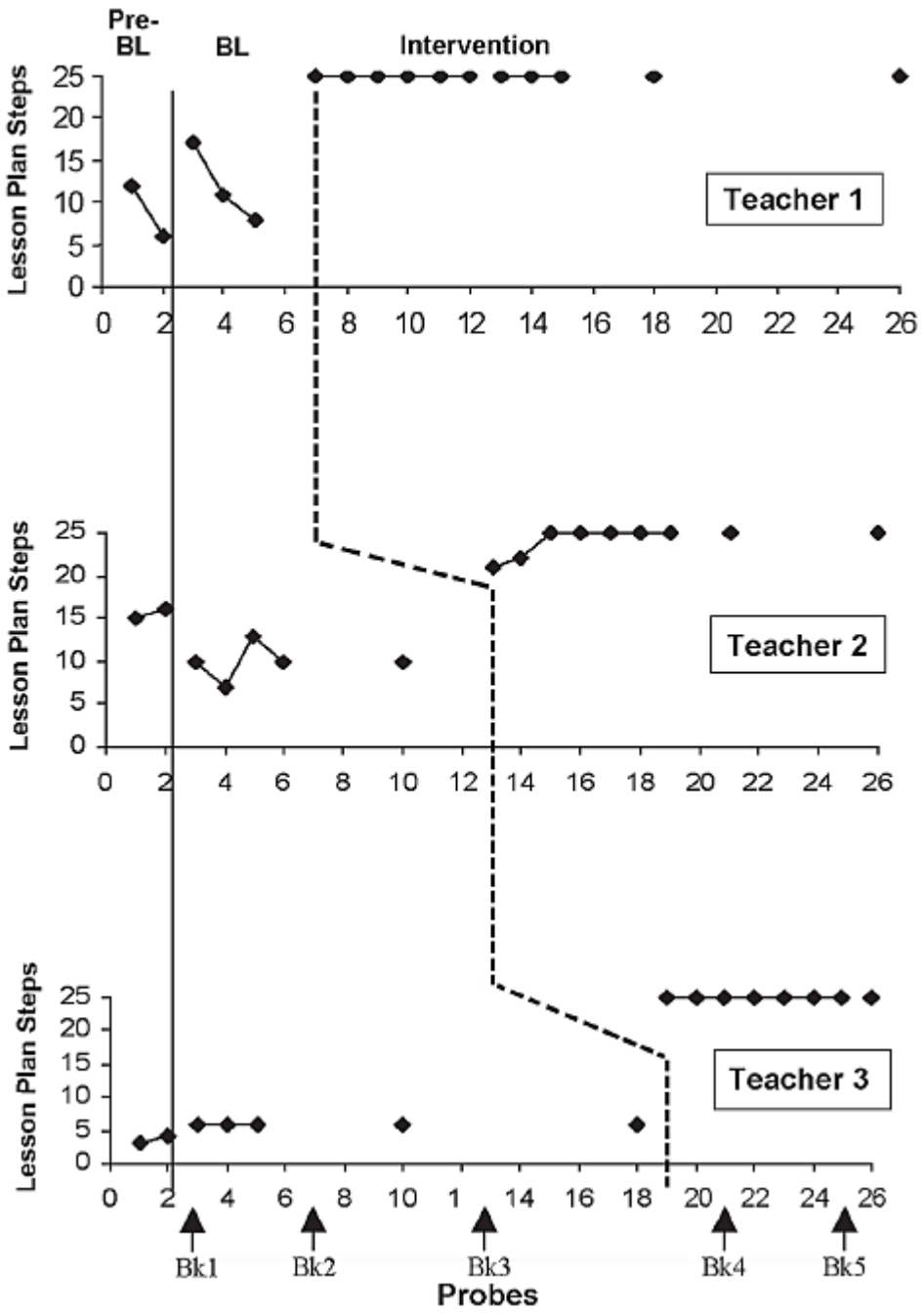

FIGURE 4. Number of steps teacher followed on literacy lesson task analysis.

Students with Teacher 1. Student 1 (Josh) increased the number of independent correct responses from baseline (*M* = 1.4, range = 1–2) to intervention *(M* = 9, range = 8–10). Student 2 (Henry) also increased the number of responses from baseline (*M* = 3.8, range = 3–7) to intervention *(M* = 10.5, range = 9–12).

Students with Teacher 2. Student 3 (Karen) increased the number of unprompted responses from baseline (*M* = 2.1, range = 1–5) to intervention *(M* = 10.5, range = 9–12). Student 4 (Ann) showed similar results, with an increase in independent responses from baseline (*M* = 2, range = 0–4) to intervention *(M* = 9.2 range = 8–10).

Students with Teacher 3. Student 5 (Cheryl) increased the number of unprompted responses from baseline (*M* = 1.5, range = 0–3) to intervention *(M* = 7.6, range = 4–12). Student 6 (Sam) also increased from baseline (*M* = 1.7, range = 1–4) to intervention (*M* = 8, range = 1–11).

Responses by Step of Task Analysis. Because this intervention focused on a range of responses, from those that required minimal text awareness (open the book) to those that required more effort (comprehension), it was important to consider which steps were mastered. Table 2 provides the percentage of sessions this step was observed as independent correct in baseline and intervention for each student. Overall, students increased independent correct responses to all steps from baseline to intervention sessions. Gains were made in early literacy skills such as opening the book (from a mean of 0% in baseline to a mean of 53% in intervention), pointing to text to follow what was read (from 0% to 35%), and identifying the title of the book. In addition, students increased skills in answering comprehension questions (from 14% in baseline to 39% in intervention), identifying target sounds (from 1% to 50%), and reading the repeated story line (from 4% to 29%).

Social Validity. To measure teacher satisfaction with the training, a *Student Intervention Rating Profile* (Snyder, 2002) was modified for teachers and administered at the end of the study. This survey included six statements to which teachers responded using a 6-point Likert scale to indicate their level of agreement or disagreement.

The teachers reported they found the literacy lesson training fair, practical, and enhancing to their teaching skills. Teachers also reported that the training would be good for other teachers and that it was not too difficult. Table 3 shows teacher responses to each item.

Discussion

While most studies on reading for students with moderate and severe developmental disabilities have focused on sight words (Browder et al., 2006), this study uniquely evaluated a method for increasing students' participation in reading middle school literature. Through training the teachers to follow a specific task analysis for presenting the lesson, all students also increased their independence in book awareness, listening comprehension, and other early literacy skills using literature typical of their middle school grade levels. This study has important implications for both what to teach and how to teach literacy to this population.

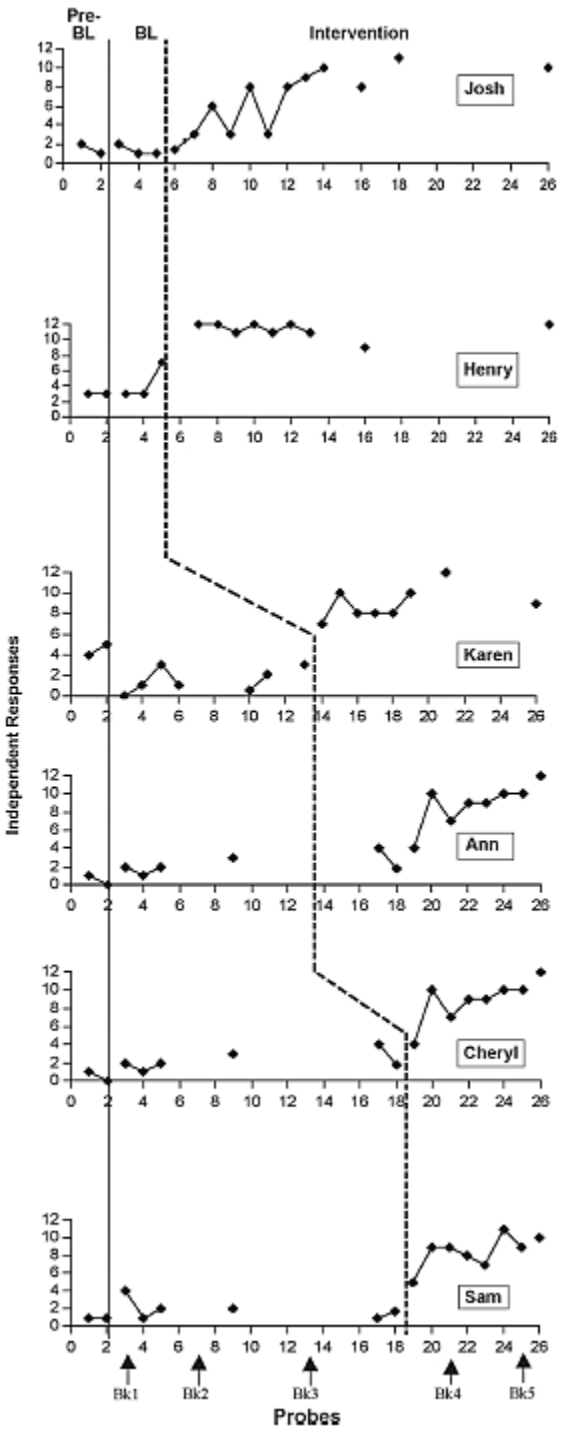

FIGURE 5. Number of independent student responses during literacy lesson.

A long-standing priority in teaching individuals with moderate and severe disabilities is to use materials and activities appropriate to the student's chronological age (Brown et al., 1979). In reading, the focus has primarily been on teaching sight words that relate to activities of daily living (Browder & Xin, 1998). While these words are important for students' increased

independence in the community, teaching only functional words provides a limited approach to literacy. Literature is an important way to share culture. In the current study, students became familiar with stories about growing up in different time periods, racism, and survival, as well as adolescent themes such as coming of age, personal responsibility, and learning to accept cultural differences. To access this literature, the participating students worked with adapted books that summarized the stories and that allowed them to follow the story as it was read through identifying pictures and reading repeated story lines. In addition, teachers used the stories to discuss daily experiences, such as identifying emotions expressed in the story, and helped students relate experiences to those emotions. In another example, a discussion of needs versus wants followed from a chapter in *Call of the Wild* in which characters loaded too many unnecessary items onto a sled and it fell through the ice. This discussion connected the story to a class trip to the grocery store in which the students needed to determine which items were necessary to buy for their chosen menu versus those that were wants. The teacher suggested that although students might be tempted to buy other items in the store, they needed to stay within the budget and only purchase the items on their list. Themes of middle school literature (e.g., war, racism, independence) provide rich possibilities for connecting to relevant experiences in students' lives.

What is not known from the current study is the extent to which these discussions produced student understanding of these abstract concepts. A recommendation for future research is to include comprehension questions specific to these themes. To support student participation in the comprehension lesson, multiple choice response boards may be provided to check for students' understanding of the story's themes and concepts (e.g., "When two countries fight each other, it is called *war* or *march.* The people who fight are *players* or *soldiers*. War is sad because people *work* or *die.*").

TABLE 2. Percentage of Independent Correct Student Responses to Literature-Based Instruction from Baseline to Intervention

	Josh		Henry		Karen		Ann		Cheryl		Sam		Mean %	
Response	BL(%)	INT(%)	BL(%)	INT(%)	BL(%)	INT(%)	BL(%)	INT(%)	BL(%)	INT(%)	BL(%)	INT(%)	BL(%)	INT(%)
1. Attention	0	57	9	72	0	50	0	53	7	57	7	57	3	57
2. Title	0	64	0	63	0	36	0	40	0	50	0	36	0	48
3. Author	0	50	18	72	0	14	0	0	0	21	0	29	3	31
4. Open book	0	50	0	72	0	50	0	53	0	43	0	50	0	53
5. Predict	0	50	9	72	0	50	0	53	7	57	7	50	3	55
6. Text point	0	36	0	63	0	29	0	13	0	36	0	36	0	35
7. Vocabulary	7	50	27	54	7	43	0	33	36	29	14	29	15	39
8. Repeated	0	29	9	54	14	7	6	27	0	36	0	21	4	29

story line														
9. Turn page	0	50	9	63	0	43	0	40	0	7	0	14	1	31
10. Comprehension	14	29	36	72	7	36	13	33	7	43	7	21	14	39
11. New vocabulary	0	57	0	72	0	57	6	47	43	50	29	50	13	55
12. New sound	0	50	0	72	0	57	6	33	0	50	0	43	1	50
Mean %	1	47	9	66	2	39	2	35	8	39	5	36	5	44

Note. BL = baseline; INT = intervention.

TABLE 3. Teachers' Ratings on the Teacher Intervention Rating Profile

Item	Mean	Range
1. The literacy training was fair.	6	6–6
2. The training was not too difficult.	6	6–6
3. There are better ways to train me how to write literacy lessons.	1.6	1–3
4. The training I received would be good for other teachers.	6	6–6
5. The training I received was practical.	6	6–6
6. The training I received has strengthened my skills as a teacher.	6	6–6

Note. Teachers indicated agreement to each statement on a 6-point scale (1= strongly disagree, 6= strongly agree).

Students with moderate and severe developmental disabilities may be at an early literacy instructional level. Most books created for this early literacy instructional level are not appropriate for young adolescents. Adapting books can be a time-consuming process that also requires a level of writing skill to capture the main idea of the text and gauge the level of comprehension. In the current study, these adaptations were developed by the researchers. An alternative would be to hold book summary workdays in which teachers are provided with guidance and materials to create and share text summaries. Teachers may also need copyright guidance in creating these summaries. In the current study, a university librarian reviewed the adaptations for copyright compliance. Teachers also received an original book with each adapted book summary. It also is important for school- and district-level administrators to identify and adopt materials that are developed according to the principles of universal design, or the design of materials that can be used by all students without the need for adaptation or specialized design (Cook & Hussey, 2002). In this way, more time can be spent planning and teaching rather than adapting materials necessary for instruction.

As shown in the baseline data, however, the books alone were not adequate to increase student responding. Instead, students needed specific teacher prompting on each step of a literacy task analysis. There are over two decades of research demonstrating that task-analytic instruction with systematic prompting is effective for teaching this population daily living skills like doing laundry (Cuvo, Jacobi, & Sipko, 1981), food preparation (Griffen, Wolery, & Schuster, 1992),

and banking (McDonnell & Ferguson, 1989). The current study suggests that well-validated methodologies like task-analytic instruction may also hold promise for teaching academic content that links to state standards.

For students to improve, teachers needed to follow a story-based lesson routine. Like most task analyses, there may be alternative ways to define this routine, but because teachers of this population may have so little training in literacy instruction, it may be beneficial to teach a specific task analysis that can then be expanded or adapted in future instruction. Self-monitoring has been effective in helping teachers acquire skills to teach students with moderate and severe disabilities. For example, Belfiore and Browder (1992) used self-monitoring with teachers to support data-based decision making for adults with severe disabilities. Adherence to the process increased when teachers received individual training in using a checklist to monitor their decision making. In this study, teachers' self-monitoring of steps followed in the task analysis led to their consistent delivery of the literacy lesson, with a corresponding increase in student responses (both overall and independent responses) to instruction.

The teachers also strongly agreed that the training package was fair, was useful, and would be helpful to other teachers in need of support in delivering grade-appropriate literacy instruction to students with significant disabilities. For special education teachers, information about the components of reading and strategies for teaching each component were noted as being especially helpful. As one teacher commented on her survey, she had not received instruction in teaching reading other than teaching sight words.

Study Limitations

Although the results of this study were encouraging, several limitations should be noted. First, although collaboration with the general education teacher was encouraged through the joint workshop, anecdotal evidence revealed that teachers had little time to continue these conversations. Students did not participate in general education language arts classes even though the same books were taught specifically to promote this inclusion. While this study focused on creating access to the core language arts curriculum of the middle school, planning for school-based administrative leadership and collaborative school teams is also needed for students to receive inclusive instruction (Kennedy & Fisher, 2001). For example, a planning team might consider which language arts classes have the most opportunities for sharing literature and how students could use their adapted books in tandem with a class reading and discussion of each chapter.

A second limitation is the dependency in the student data. Students could only make as many responses as the turns their teacher gave them. After learning to follow the task analysis, teachers gave the students more turns to respond and asked for more varied responses in intervention. In contrast, only one student (Henry) was able to make nearly all responses as soon as he was given the opportunity to do so. The others showed more gradual increases in independent responding,

suggesting that they needed not only the opportunity but also the teachers' prompting of each step of the task analysis across days to learn the literacy responses. Future research is needed in which the student's responding is the primary dependent variable (e.g., multiple probe across students) to provide a clearer demonstration of the relation between the story-based lessons and students' acquisition of the skills.

A more distinct measure of comprehension versus generalization across books might also be useful. Once students entered intervention, they had at least two new books. There were no clear drops in performance as a new book was introduced since many steps were the same across books. This provided positive support that the students were learning a routine for engaging with text that generalized across books. The students' ability to learn quickly the answers to the comprehension questions (one of the steps of the task analysis) for each new chapter and book suggests that higher expectations could be set for this outcome. In future research, teachers might learn to target more difficult types of comprehension questions across time (e.g., inferential versus literacy questions) while at the same time promoting students' acquisition and fluent use of a text engagement routine (the task analysis).

Conclusion

This research provides a lesson plan model and materials to use with middle school students that focus on grade- and age-appropriate books. Future studies may apply this model of teacher instruction to other content areas (e.g., math, science, social studies) in the general education curriculum. Future research is needed to encourage both access to the general curriculum content and administrative support for collaboration between special educators and general educators to provide well-integrated units of study.

ABOUT THE AUTHORS

Diane M. Browder, *PhD, is the Snyder Distinguished Professor at the University of North Carolina at Charlotte. She is the author of a number of books, book chapters, and journal articles on issues pertinent to persons with significant disabilities. She is the principal investigator on several federally funded research studies on alternate assessment, literacy, and access to the general curriculum.* ***Katherine Trela****, MS, is the research associate for two U.S. Office of Special Education Programs grants on designing reading, writing, math, and science instruction to provide access to the general curriculum for students with significant disabilities. She is coauthor of journal articles on aligning general and special education curriculum.* ***Bree Jimenez,*** *MEd, serves as a project trainer, conducting classroom consultations and training for participants in federal grant programs facilitating teaching academics to students with significant disabilities. She is coauthor of journal articles, book chapters, and presentations about instruction of students with significant disabilities. Address: Diane M. Browder, UNC Charlotte, 9201 University City Blvd., Charlotte, NC 28223-0001; e-mail: dbrowder@uncc.edu*

AUTHORS' NOTES

1. We thank the teachers and leaders of the Charlotte Mecklenburg School System and the parents and students for their partnership in this research.

2. Adapted books are available on the University of North Carolina at Charlotte Reading, Writing, Math, and Science Projects Web site at http://education.uncc.edu

3. Support for this research was provided in part by Grant No. H324M03003 of the U.S. Department of Education, Office of Special Education Programs, awarded to the University of North Carolina at Charlotte. The opinions expressed do not necessarily reflect the position or policy of the Department of Education, and no official endorsement should be inferred.

REFERENCES

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Allinder, R. M., Bolling, R. M., Oats, R. G., & Gagnon, W. A. (2000). Effects of teacher self-monitoring on implementation of curriculum-based measurement and mathematics computation achievement of students with disabilities. *Remedial and Special Education, 21,* 219–226.

Assistance to States for the Education of Children With Disabilities and Preschool Grants for Children With Disabilities; Final Rule, 71 Fed. Reg. (August 14, 2006) (to be codified at 34 C.F.R. pt. 300).

Bayley, N. (1993). *Bayley scales of infant development* (2nd ed.). San Antonio, TX: Psychological Corp.

Belfiore, P., & Browder, D. (1992). The effects of self-monitoring on teacher's data based decisions and on the progress of adults with severe mental retardation. *Education and Training of the Mentally Retarded, 27,* 60–67.

Bracken, B., McCallum, R.S. (1996). *Universal Non-verbal intelligence test: Standardization version.* Chicago, IL: Riverside.

Bradford, S., Alberto, P., Houchins, D. E., Shippen, M. E., & Flores, M. (2006). Using systematic instruction to teach decoding skills to middle school students with moderate intellectual disabilities. *Education and Training in Developmental Disabilities, 41,* 333–343.

Browder, D. M., Spooner, F., Wakeman, S., Trela, K., & Baker, J. N. (2006). Aligning instruction with academic content standards: Finding the link. *Research and Practice for Persons with Severe Disabilities, 31,* 309–321.

Browder, D. M., Wakeman, S., Spooner, F., Ahlgrim-Delzell, L., & Algozzine, B. (2006). Research on reading for students with significant cognitive disabilities. *Exceptional Children, 72,* 392–408.

Browder, D.M., & Xin, P.Y. (1998). A meta-analysis and review of sight word research and its implications fo teaching functional reading to individuals with moderate and severe disabilities. *The Journal of Special Education, 32*, 130–153.

Brown, L., Branston, M. B., Hamré-Nietupski, S., Pumpian, I., Certo, N., & Gruenwald, L. (1979). A strategy for developing chronologically age-appropriate and functional curricular content for severely handicapped adolescents and young adults. *The Journal of Special Education, 13,* 81–90.

Bus, A. G., van Ijzendoorn, M. H., & Pelligrini, A. D. (1995). Joint book reading makes for success in learning to read: A metaanalysis on intergenerational transmission of literacy. *Review of Educational Research, 65,* 1–21.

Cook, A. M., & Hussey, S. M. (2002). *Assistive technologies: Principles and practice* (2nd ed.). St. Louis, MO: Mosby.

Cuvo, A. J., Jacobi, E., & Sipko, R. (1981). Teaching laundry skills to mentally retarded students. *Education and Training of the Mentally Retarded, 16,* 54–64.

Engelmann, S., Becker, W.C., Hanner, S., & Johnson, G. (1980). *Corrective Reading Program.* Chicago: Science Research Associates.

Erickson, K. A., & Kopenhaver, D. A. (1995). Developing a literacy program for children with severe disabilities. *The Reading Teacher, 48,* 676–684.

Gast, D. L., Winterling, V., Wolery, M., & Farmer, J. A. (1992). Teaching first-aid skills to students with moderate handicaps in small group instruction. *Education & Treatment of Children, 15,* 101–124.

Griffen, A. K., Wolery, M., & Schuster, J. W. (1992). Triadic instruction of chained food preparation responses: Acquisition and observational learning. *Journal of Applied Behavior Analysis, 25,* 257–279.

Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71,* 165–179.

Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. §1400 *et seq.* (2004) (reauthorization of the Individuals with Disabilities Education Act of 1990)

Kaplan, J. S., & Carter, J. (1995). *Beyond behavior modification. A cognitive–behavioral approach to behavior management in the school* (3rd ed). Austin, TX: PRO-ED.

Katims, D. S. (2000). Literacy instruction for people with mental retardation: Historical highlights and contemporary analysis. *Education and Training in Mental Retardation and Developmental Disabilities, 35,* 3–15.

Kennedy, C. H., & Fisher, D. (2001). *Inclusive middle schools*. Baltimore: Brookes.

Kliewer, C. (1998). Citizenship in the literate community: An ethnography of children with Down syndrome and the written word. *Exceptional Children, 64,* 167–180.

Kliewer, C., & Biklen, D. (2001). "School's not really a place for reading": A research synthesis of the literate lives of students with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 26,* 1–12.

Lyon, G. R., Vaasen, M., & Toomey, F. (1989). Teachers perceptions of their undergraduate and graduate preparation. *Teacher Education and Special*. *Education, 12,* 164–169.

Mayer-Johnson. (2000). Writing With Symbols (Version 2.519). [Computer software]. Solana Beach, CA: Mayer-Johnson Co.

McDonnell, J., & Ferguson, B. (1989). A comparison of time delay and decreasing prompt hierarchy strategies in teaching banking skills to students with moderate Handicaps. *Journal of Applied Behavior Analysis, 22,* 85–91.

McDonnell, J., Mathot-Buckner, C., Thorson, N., & Fister, S. (2001). Supporting the inclusion of students with moderate and severe disabilities in junior high school general education classes: The effects of classwide peer tutoring, multi-element curriculum, and accommodations. *Education and Training of Children, 24,* 141–160.

MetaMetrics. (2004). Lexile Analyzer [Limited-use Internet resource]. *The Lexile framework for reading.* Available at http://www.lexile.com

Moats, L., & Lyon, G. R. (1996). Wanted: Teachers with knowledge of language. *Topics In Language Disorders, 16,* 73–81.

National Institute for Literacy. (2001). *Put reading first: The research building blocks for teaching children to read.* Washington, DC: Author.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

No Child Left Behind Act of 2001, 20 U.S.C. 70 § 6301 *et seq.* (2002)

Reid, R. (1996). Research in self-monitoring with students with learning disabilities: The present, the prospects, the pitfalls. *Journal of Learning Disabilities, 29,* 239–252.

Roe, B. D., Smith, S. H., & Burns, P. C. (2005). *Teaching reading in today's elementary schools* (9th ed.). Boston: Houghton Mifflin

Senechal, M., Thomas, E., & Monker, J. A. (1995). Individual differences in vocabulary acquisition. *Journal of Educational Psychology, 87,* 218–229.

Snyder, E. P. (2002). Teaching students with combined behavioral disorders and mental retardation to lead their own IEP meetings. *Behavioral Disorders, 27,* 340–357.

Thorndike, R.L., Hagen, E.P., & Sattler, J.M. (1986). *Stanford-Binet intelligence scales* (4th ed.). Chicago, IL: Riverside Publishing Company.

U.S. Department of Education. (2005). *Alternate achievement standards for students with the most significant cognitive disabilities: Non-regulatory guidance*. Washington, DC: Author. Retrieved August 12, 2005, from http://www.ed.gov/policy/elsec/guid/altguidance.doc

Vacca, J., Vacca, R., Gove, M., Burkey, L., Lenhart, L., & McKeon, C. (2006). *Reading and learning to read* (6th ed.). Boston: Allyn & Bacon.

Vygotsky, L. S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.

Webber, J., Scheuermann, B., McCall, C., & Coleman, M. (1993). Research on self-monitoring behavior management technique in special education classrooms: A descriptive review. *Remedial and Special Education, 10,* 21–28.

Zimmerman, I.L., Steiner, V.G., & Pond, R.E. (1992). *Preschool language scale-3* (PLS-3). San Antonio, TX: Psychological Corp.