Research and Practice for Persons with Severe Disabilities
2022, Vol. 47(3) 137–154

DOI: 10.1177/15407969221113590
rpsd.sagepub.com
SAGE

Vocabulary Acquisition by Multilingual Students With Extensive Support Needs During Shared Reading

Adriana Frates[1], Fred Spooner[2], Belva C. Collins[2], and Candi Running Bear[1]

Abstract

The current study examined the effects of a shared reading instructional package on the receptive identification of English sight vocabulary in multilingual learner students with extensive support needs. Two participants received the intervention, one in a face-to-face format and one in a videoconferencing format (due to the COVID-19 pandemic). To establish experimental control, the researchers used a multiple probe design with conditions across word sets and replicated across participants. Results showed both students met criterion on word sets as a result of the intervention. Considerations in interpreting the results for classroom implementation and future research are discussed.

Keywords

sight vocabulary, shared reading, task analysis, system of least prompts, extensive support needs, multilingual learners, online learning, videoconferencing

According to Tonsing and Soto (2020), language impacts life goals and is significant as a social construct. In particular, literacy skills (i.e., the ability to read and write) are an important aspect of using language. For example, those who are literate are better equipped to interact with others through the written word, access environments by following written signage, perform tasks by following written directions, and enjoy literature and other printed materials.

Students with extensive support needs (ESN; that is, those who need ongoing pervasive and significant assistance in their daily lives) include those with intellectual disability, autism, and multiple disabilities who are typically eligible to participate in their state's alternate assessment (Kurth et al., 2019; Taub et al., 2017). In addition to addressing the role of literacy across the daily needs and activities of students with ESN, the acquisition of literacy skills can also impact quality of life by increasing self-determination (Wehmeyer & Palmer, 2003). Therefore, it is critical that students with ESN be provided with the reading instruction that typically developing students receive to facilitate success in school, home, and community (Kamil, 2003).

A challenge confronted by teachers of students with ESN in teaching literacy is the lack of research to determine research- or evidence-based practices (Hudson & Test, 2011; Toews et al., 2021). Much of the previous research on literacy for students with ESN has focused on functional skills (e.g., sight word recognition;

[1]Northern Arizona University, Flagstaff, USA
[2]The University of North Carolina, Charlotte, USA

Corresponding Author:
Adriana Frates, Northern Arizona University, PO BOX 1244, Somerton, AZ 85350, USA.
Email: am3744@nau.edu

Jenkinson, 2006); recent research, however, suggests students with ESN can build strong literacy skills through research-based reading instruction (Browder et al., 2007; Rivera et al., 2014, 2017). For example, Browder et al. (2012) found that students with ESN who received a multicomponent early literacy curriculum achieved higher scores in literacy than students who only received sight word instruction.

The authors of additional studies and literature reviews have made recommendations for teaching literacy skills to students with ESN. These include having students select letters, words, or pictures from an array (Johnston et al., 2018); using modeling, guided practice, verbal prompts, prompting hierarchy, opportunities for practice, error feedback, and time delay (Fallon et al., 2004; Fredrick et al., 2013); and incorporating essential reading elements (e.g., phonics, phonemic awareness, fluency, comprehension, vocabulary) in instruction (Allor et al., 2014).

Shared reading is a literacy intervention that involves interactive reading with a child to develop language and increase literacy skills (U.S. Department of Education, 2015). The child engages in a book by pointing to the title, pointing to and following words, turning pages, and answering questions about the text throughout the story (Spooner et al., 2009). Holdaway (1979) alluded to shared reading by suggesting that students benefit from the teacher pointing to words so they can follow the relationship between written and spoken words and observe that print moves from left to right and from top to down. Hudson and Test (2011) found shared reading to have a moderate level of evidence for students with ESN. Researchers have embedded a number of components in shared reading that have a strong research base, including task analysis (Browder et al., 2007, 2008) and a least-to-most prompting procedure (Mims et al., 2009).

The National Reading Panel (2000) has listed the five essential components of reading as phonemic awareness, phonics, vocabulary development, reading fluency, and reading comprehension. A number of researchers have found that shared reading, when used as part of a package, has been effective in teaching vocabulary skills, in particular (Brady et al., 2015; Coogle et al., 2018, 2020; Fleury & Schwartz, 2017; Yorke et al., 2018). Sight words are those that students can read without effort through memorization, whereas vocabulary knowledge is when students understand the meaning of a word. Sight vocabulary occurs when students can read and also understand the words they are reading without using context clues, which builds on overall comprehension and increases fluency (Baker & Bradley, 2021). The acquisition of sight vocabulary (i.e., combination of sight words and vocabulary knowledge) can help build early literacy skills (Ehri, 2005).

Addressing literacy skills can be especially challenging when teaching students with ESN who are learning English as a second language. English-language learner students can also be referred to as multilingual learners (MLL) because they are becoming multilingual as they learn the English language. MLL students with ESN are "individuals who have one or more disabilities that significantly limit their intellectual functioning and adaptive behavior as documented in their Individualized Education Programs (IEP), and who are progressing toward English language proficiency in speaking, reading, writing, and understanding" (Christensen et al., 2018, p. 2). Mueller et al. (2006) found that only 37% of those working with these students were properly trained.

Based on interviews with teachers, Yahya et al. (2013) determined that the use of native language can be effective in transferring knowledge to the second language and providing frequent opportunities for practice can promote sight vocabulary acquisition. In addition, researchers have used a number of strategies to teach literacy to MLL students with ESN. These have included teaching comprehension skills using task analysis, story-based lessons with native language instruction, and relevant cultural content (Spooner et al., 2009); using a prompting hierarchy and visual supports (Whalon et al., 2015); using shared reading and a least to most prompting hierarchy to increase pointing and verbal commenting (D'Agostino et al., 2020); and coaching parents to implement reading and naturalistic communication teaching strategies to increase communication and engagement during shared reading (Akemoglu & Tomeny, 2021). Finally, two studies (Rivera et al., 2012, 2014) have shown multimedia shared reading with explicit and systematic instruction to be effective in teaching both English and Spanish vocabulary.

In this study, the researchers implemented a shared reading intervention package to increase the acquisition of sight vocabulary in two MLL students (i.e., Spanish speakers learning English) with ESN. Specifically, this study addressed the following question: Will there be a functional relation between shared reading and receptive identification of English sight vocabulary in MLL students with ESN?

Table 1. Student Demographic Information.

Student	Age/grade	Label	IQ	Vineland-II[a]	VMI-6[b]	Target words
Anna	11 years/6th grade	Autism, Moderate Intellectual Disability, Speech/ Language Impairment	Unable to obtain valid results (UNIT[c])	45 SS[d]	48 SS	Book 1: split & kit Book 2: dip & grip Book 3: grin & twin
Luis	11 years/6th grade	Mild Intellectual Disability, Speech/Language Impairment	59 SS (CTONI-2[e])	63 SS	73 SS	Book 1: silly & woke Book 2: bright & fireflies Book 3: beautiful & chrysalis

Note. IQ = intelligence quotient.
[a]*Vineland-II, 2nd edition, Adaptive Behavior Scales* (Vineland-II; Sparrow et al., 2005). [b] *Beery-Buktenica Development Test of Visual-Motor Integration, 6th edition* (VMI-6; Beery & Beery, 2004). [c] *Universal Nonverbal Intelligence Test* (UNIT; Bracken & McCallum, 1998). [d] SS = Standard Score (SS). [e] *Comprehensive Test of Nonverbal Intelligence, 2nd edition* (CTONI-2; Hammill et al., 2009).

Method

Participants and Target Skills

The primary researcher (first author) in this study was a classroom special education teacher who taught students with moderate to severe disabilities in an elementary school that served Grades K to 6. She was a native Spanish speaker and became bilingual in English when she was a child and began school. She had 6 years of experience working with students with ESN and is a part-time doctoral student with a focus on special education. Prior to the study, the teacher obtained approval from her university's institutional review board and permission from the principal. She subsequently recruited two students with ESN who were in her classroom to participate in the study.

Student Participants

Both student participants were in sixth grade, were classified as having an intellectual disability based on intelligence quotient (IQ) and adaptive assessments, and qualified for the Multi-State Alternative Assessment. In addition, they met the following criterion for inclusion in the study: (a) were identified as English language learners, (b) had IEP literacy goals relating to identification of letter sounds or sight words, and (c) had challenges in communication with goals for increasing receptive language. Table 1 lists educational diagnoses, assessments, and target words used in the study for both Anna and Luis, the two student participants.

At the start of the study, Anna was 11 years of age with a primary placement in the life skills classroom for students with ESN. Data from the evaluation report indicated that Anna had a moderate intellectual disability (see Table 1). Assessment data indicated that she needed to improve functional communication, adaptability, socialization, functional skills, and attention. Anna received academic instruction in the life skills classroom, attended lunch with peers, and received one-on-one support from an instructional assistant. Although the home language was Spanish, she received instruction in English. Anna had no oral verbal communication and received speech services to work on picture selection. She used visual supports and gestures for communication (e.g., pointing to snack cabinet for snack) and was learning, through modeling and physical prompts, to use an augmentative communication device (i.e., *GoTalk 4+*). Anna responded to basic directives in both English and Spanish with minimal prompting (e.g., ask her to dispose of trash while pointing to trashcan or to get backpack while pointing to backpack). As evidenced by her IEP reading goals, Anna was working on emergent literacy skills that included identifying letters and letter sounds (e.g., letters in her name).

At the start of the study, Luis also was 11 years of age with a primary placement in the life skills classroom for students with ESN. Although data from the evaluation report (see Table 1) indicated that he had a mild intellectual disability, Luis was considered to have ESN because he exhibited a need for specialized

instruction in all academic areas and adaptive behavior; thus, he received academic instruction in the life skills classroom. Prior to the pandemic, he received speech services and worked on language development in a general education classroom for 1 hr each day. His communication was unintelligible and he only spoke in one- to three-word sentences. Although he mainly spoke in his native language of Spanish, Luis spoke a few words in English when prompted. He could follow two- to three-step directions in English and Spanish. As evidenced by his IEP goals, Luis was working on reading recognize sight words; his annual IEP updated halfway through the study included a goal of reading consonant–vowel–consonant (CVC) words.

Screening and Sight Vocabulary Selection

The teacher screened the two participants to identify unknown sight vocabulary to be taught during the study. As was typical during instruction, screening materials consisted of cards, each with a picture and the corresponding word underneath. The words consisted CVC and blends/digraphs. The teacher selected a total of 18 words from the three books to be used in the study. For each word, she placed three cards in front of the student, stated the word, and asked the student to select the correct word. She conducted one screening session per day across 3 days with three trials per word in each session. Due to school pandemic options, Anna took part in the screening sessions in the classroom setting, whereas Luis took part in the screening sessions in his home following COVID-19 procedures.

Anna correctly identified two of 18 words across three screening sessions, so the teacher selected two words per book that Anna missed across the sessions. During the first screening session, Luis correctly selected all words by identifying the first and last letter of each word; thus, the teacher subsequently selected three additional books with more advanced vocabulary. The second set of words consisted of all nouns, verbs, and adjectives in the three new books, for a total of 28 words. Luis correctly identified three of 28 words across two sessions. The teacher selected two words from each book that Luis missed across the sessions.

Setting

The study took place in a rural public school in the southwest United States. In addition to being a Title I school where children receive free and reduced-price lunch, the school was in a border town where most people were primarily Spanish speakers and many students were part of the MLL program. Although the teacher initially planned to conduct the study in the life skills classroom, the school began providing options of face-to-face or remote (i.e., videoconferencing) instruction due to the COVID-19 pandemic. Anna participated in the study in the life skills classroom where the teacher conducted probe and intervention sessions at a table in one corner of the classroom as she sat across from Anna. There was only one other student in the classroom who sat in another corner working with an instructional assistant. Luis participated in the study at a distance using Google Meet, a videoconferencing platform. Prior to the study, Luis had practice using Google Meet functions (e.g., mute, turn on/off camera, hang up). The teacher conducted probe and intervention sessions using technology at her desk and the student participated at home without parental assistance. When Luis had difficulty following along with his book, the teacher paused and asked him to show where he was pointing to ensure that both were pointing to the same words on the same page at the same time.

Materials

According to Anderson and Scanlon (2020), early readers use meaning-based strategies for word-solving skills and teachers should use books with similar word and sentence patterns to facilitate reading. As the participants in the study were early readers, the teacher selected books with similar word and sentence patterns. The teacher used the following three Lakeshore word family big books with Anna with no modifications: *Chip on His Ship* (Jackson, 2006a), *Min and Lin* (Jackson, 2006b), and *The Split Sweater* (Jackson, 2006c). These books incorporate basic sentences with CVC, blends/digraphs, and sight words. The teacher used word cards for probe and intervention conditions. Each card consisted of a target sight vocabulary word handwritten in the center of the card in approximately 3-in letters with a black marker. Mucchetti

(2013) successfully engaged children with ESN in shared reading by adding three-dimensional (3D) objects, so the teacher also used objects (e.g., 3-D object of a house) as a concrete representation of each sight vocabulary word during intervention. D'Agostino et al. (2020) suggested using distracters and randomly switching positions to reduce position bias, so the teacher used distracter objects (e.g., wood block) to help the student discriminate between words. A distracter object was any 3D object that did not have a resemblance to the target vocabulary. The teacher followed a task-analyzed lesson plan to implement probe and interventions sessions (see Table 2) and each lesson plan included a data collection section.

Luis had access to Google Meet for online sessions through a school iPad provided by the teacher. In addition, the teacher provided Luis with copies of the three books used in the study: *In the Tall, Tall Grass* (Fleming, 1991), *Silly Sally* (Wood, 1992), and *From Caterpillar to Butterfly* (Heiligman, 1996). The teacher also had copies of the books and used Google Slides to teach sight vocabulary. Vocabulary on each slide consisted of a target word in Times New Roman 50-point font size and with a 2-in picture representation. During sessions, each slide had three words and the teacher used the computer mouse to point to each word. As with Anna, the teacher also used objects representing words and distracters with Luis. To ensure student engagement during sessions, the teacher used a token economy for participation with Anna, as was typical classroom practice. The token economy consisted of 5 stars, with the teacher giving Anna a star after responding to each task directive, regardless of a correct or incorrect answer. When Anna obtained 5 stars, she received a gummy bear, which was her favorite snack.

Independent Variable

The primary independent variable was shared reading, which fosters emergent literacy development in print awareness, phonological awareness, alphabet knowledge, and metalinguistic awareness (Justice & Kaderavek, 2002) and is typically implemented as a package (as in this study) by systematically employing several practices with a strong research base (e.g., task analysis, reinforcement). In this study, instruction of sight vocabulary words within the context of shared reading occurred by modeling a match between a word and an object. For example, the teacher showed a card with the word "twin," read the word aloud, and pointed to two dolls that looked alike. The teacher also emphasized the sight vocabulary words when reading each book by pointing to the word and the picture that matched the word.

Dependent Variable and Data Collection Procedures

The dependent variable was the student's receptive identification of sight vocabulary in each word set with criterion set at 100% correct responses in two of three sessions. After giving a directive to identify a sight vocabulary word during probe and intervention sessions, the teacher recorded a correct response for Anna if she independently pointed to the correct word and a correct response for Luis if he stated "yes" to identify the correct word. During shared reading, the teacher only recorded data during sight vocabulary identification at the end of the session.

Experimental Design

The researchers used a multiple probe across behaviors design with probe conditions and replicated across participants (Gast et al., 2018) to determine whether shared reading increased sight vocabulary acquisition in MLL students with ESN. In this variation, stimuli (sight vocabulary) are presented across tiers within the context of formal probe and intervention conditions. The study included the following conditions: (a) probe, (b) intervention, and (c) maintenance. In each probe condition, the teacher asked the students to identify all six targeted words (two words per tier) across a minimum of three sessions. Once data were stable during the first probe condition, the teacher implemented instruction with the first set of words until the student met criterion. The alternating presentation of probe and intervention conditions, staggered across tiers, continued until the independent variable was introduced in all tiers of word sets. Each student started with Sight Vocabulary Set 1 and then continued with the next set after mastery of the previous set. Three maintenance

Table 2. Task Analysis Steps-Intervention for Anna.

Instructional component	Steps in task analysis
Anticipatory set	Teacher shows book.
	Teacher places two picture-word cards in front of student and tells student to point to picture of what student thinks story will be about.
	Teacher uses system of least prompts procedure if no response after 4 s. Following correct response, teacher provides praise in English and Spanish.
Instruction of sight vocabulary	Teacher states *first sight vocabulary word* while showing word card.
	Placing real object representing word and distracter object in front of student, teacher tells student to point to object related to card: "Point to the object that matches this word."
	Teacher uses system of least prompts procedure if there is no response after 4 s. Following correct response, teacher provides praise in English and Spanish.
	Teacher states *second sight vocabulary word* while showing word card.
	Placing real object representing word and distracter object in front of student, teacher tells student to point to object related to card: "Point to the object that matches this word."
	Teacher uses system of least prompts strategy if there is no answer after 4 s. Following correct response, teacher provides praise in English and Spanish.
Shared reading	Teacher points to title and asks student to point to title as teacher reads title of book.
	Teacher points to author name and asks student to point to author name as teacher reads author name.
	Teacher models turning first page and tells student to turn pages throughout book.
	Teacher tells student to point to each word as teacher points and reads sentence.
	When sight vocabulary word is stated in story, teacher shows word card and tells student to point to picture and word in book.
	Teacher asks comprehension question (who, what, where, when, or why) at the end of each page.
Intervention task directions (for one vocabulary set)	Word 1, Trial 1: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.
	Word 1, Trial 2: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.
	Word 2, Trial 1: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.
	Word 2, Trial 2: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.
	Word 1, Trial 3: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.
	Word 2, Trial 3: Teacher presents three random choices and tells student, "Point to the word ___;" waits 4 s before prompting, praises correct response, and then records response.

Note. In the task analysis for Luis, the interventionist used the same procedures above, except used slides of words in place of word cards and asked Luis to indicate the correct choice through a yes/no response instead of pointing.

sessions on all word sets followed the fourth probe condition. Experimental control was established when the independent variable repeatedly caused an increase in the dependent variable. The design was replicated across two participants. The teacher used visual analysis of graphed data to determine the effectiveness of the intervention by examining patterns in immediacy of effect, level, trend, variability, overlap, and consistency (Ledford & Gast, 2018).

Procedures

During the study, the teacher conducted experimental sessions at least twice per week. Methods for conducting probe, intervention, and maintenance sessions follow.

Probe condition. In a one-on-one format, the teacher asked each student to identify six words per session (i.e., three trials each of two-word set for total of 18 trials) for a minimum of three sessions per probe condition. After presenting the student with three choices of word cards, the teacher asked the student to identify a specific word and then waited 4 s for a response. For Anna, the task direction was "Point to ___." For Luis, the task direction was "Is this ___?" as the teacher pointed to options. The teacher did not provide any prompting or feedback for correct or incorrect answers. Probe sessions continued until there were at least three stable data points before starting intervention on a word set (see Table 2 for probe session task analysis).

Intervention. The teacher implemented the shared reading intervention package in a one-to-one format across three sets of words, one set at a time. Each sight vocabulary set consisted of two words from a single book. The shared reading package consisted of providing an anticipatory set, providing sight vocabulary instruction, reading the book, and asking the student to follow task directions for sight vocabulary (see Table 2 for task analysis of intervention).

Each shared reading intervention session started with the teacher presenting a book to the student and asking the student to make predictions about it by pointing to the pictures in the book. During sight vocabulary instruction, the teacher introduced two sight vocabulary cards and explained these two important words would be in the book. The teacher showed the word card, showed the object that represented the word, and defined the word. Next, the teacher placed an object and a distracter (e.g., wood block and grinning Mr. Potato head for the word "grin") in front of the student. Then, the teacher showed the word card, read it, and asked the student to point to the object representing the word. When the student indicated the correct answer, the teacher provided specific praise both in English and in the student's native language of Spanish (e.g., "Good job, this is the word butterfly/mariposa"). If no response or an incorrect response occurred after a 4-s delay, the teacher used a system of least prompts procedure (Collins, 2022; Doyle et al., 1988) with the following prompt hierarchy: (a) gestural, (b) model, and (c) full physical for Anna and (a) gestural and (b) model for Luis.

After sight vocabulary instruction, the teacher placed the book on the table facing the student. She then pointed to and read the title while also asking the student to point to the title. The teacher repeated the procedure for the first page. At the end of each page, the teacher asked comprehension questions (i.e., who, what, when, where, why) related to the picture and sentence on that page. For example, the teacher asked, "Who is the girl with a grin?" and the student would point to the picture of a girl with a grin. The teacher used these questions to keep the student engaged in reading but did not collect data on comprehension question responses. The student interacted during reading by pointing to the words as the teacher read. After the teacher modeled turning the first page, the student turned the remaining pages. The teacher continued with this procedure throughout the book. When a sight vocabulary word appeared in the story, the teacher showed the word card and the student pointed to the picture and word in the story. After pointing, the teacher stated, "Yes, that is a picture of [word in English and Spanish]" and "Yes, you found the [English word]."

After reading the story, the teacher conducted six trials on sight vocabulary identification for Sight Vocabulary Set 1 (i.e., two words with three trials per word). During each trial for Anna, the teacher presented three-word cards and asked her to point to a word. During each trial for Luis, the teacher presented

a slide with three words and asked him to respond with "yes" or "no" as she used the mouse to point to each word. If no response or an incorrect response occurred after a 4-s delay, the teacher used the system of least prompts procedure as she had during sight word vocabulary instruction. The teacher only recorded and counted independent correct responses toward criterion. She provided specific praise for correct response in both English and Spanish.

Maintenance. After a student met criterion on all three words sets, the teacher conducted formal maintenance sessions at intervals of 1 week, 2 weeks, and 4 weeks following the final probe condition. During maintenance condition, she presented the students with six words for three trials each as during probe conditions.

Interobserver agreement (IOA). In addition to collecting data across conditions, the teacher recorded all sessions on an iPad and stored the recordings in an encrypted file. A student in the teacher's doctoral program collected data for both IOA and procedural fidelity by watching a minimum of 20% of the recorded sessions (an average of one session per week). The teacher trained the observer to collect data during a trial run. First, she explained the lesson plan. Then, the second observer watched a recording and completed the checklist. At the end of the recording, the teacher and the observer discussed their responses. When the observer recorded data on all student responses and all lesson steps with 100% accuracy, the teacher determined no further training was necessary.

To collect IOA data, the observer viewed the video to record student responses and emailed her data to the teacher. Then, the teacher compared the observer's data sheet with hers and calculated IOA by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100%. The observer recorded baseline/probe data on 11 of 22 (50%) sessions and intervention data on 16 of 27 (59%) sessions for Anna. IOA average for Anna was 99.5% (range = 94%–100%) during baseline/probe and 100% during intervention. The observer recorded baseline/probe data on four of 17 (24%) sessions and intervention data on four of 15 (27%) sessions for Luis. IOA average for Luis was 97.3% (range = 89%–100%) during baseline/probe and 100% during intervention.

Procedural fidelity. To record procedural fidelity, the observer viewed the videos and placed a checkmark on the task analysis lesson plan if she observed the teacher perform a step or an X if she did not observe a step. The teacher calculated procedural fidelity using the number of observed steps divided by the number of planned steps multiplied by 100. The observer recorded baseline/probe data on 11 of 22 (50%) sessions and intervention data on 16 of 27 (59%) sessions for Anna. The observer recorded baseline/probe data on four of 17 (24%) sessions and intervention data on four of 15 (27%) sessions for Luis. Procedural fidelity for both Anna and Luis was 100% for baseline/probe and intervention data. Due to high fidelity recorded by the observer, a second observer did not record data on these sessions to determine IOA on procedural fidelity.

Social Validity

To assess social validity, the teacher questioned the parents as stakeholders in their children's education by providing the parents of both students with a literacy questionnaire, a common instrument to assess social validation (Snodgrass et al., 2018), in Spanish and English before and after the study (Wolf, 1978). The questionnaire consisted of seven statements and parents responded using a 3-point scale (*agree, no opinion, disagree*). As the parents expressed difficulty in responding, the teacher read the statements and provided elaboration, if needed, over the phone. The statements allowed parents to indicate the following: (a) if they had books in the home; (b) if their child read books at home at least once per week; (c) if someone read to the child in the home at least once per week; (d) if the child, when reading or being read to, pointed to pictures or made a comment about the book; (e) if the parent discussed a book after reading it; (f) if they felt it was important for their child to engage with a story; and (g) if it was important for their child to learn vocabulary. In analyzing parent responses, the researchers hoped to determine the social validity of the *goals* (importance of learning vocabulary) and *procedures* (importance and acceptability of engaging the child in shared reading). By gathering pre- and postintervention responses, the researcher hoped to

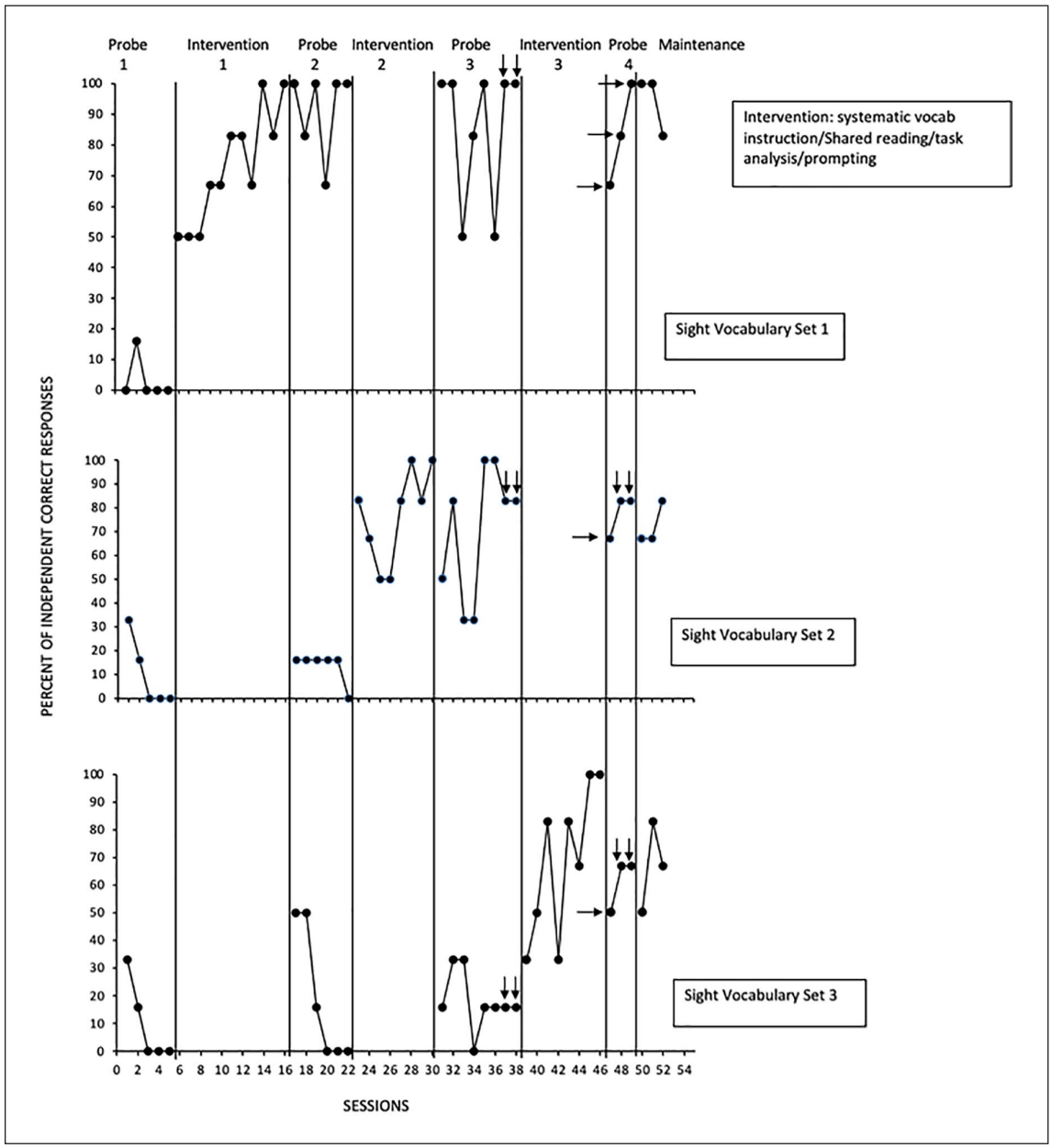

Figure 1. Graph of Anna's correct responses.
Note. Closed circle = percent of independent correct responses; arrow = conducted booster session.

determine social validity of the study's *outcomes* (change to having books in the home and engaging the child in shared reading after realizing the importance of this in teaching vocabulary).

Results

In this study, a shared reading intervention package was effective in teaching three sets of sight vocabulary to two participants with ESN. The percent of correct independent responses across conditions are shown in Figure 1 for Anna and in Figure 2 for Luis.

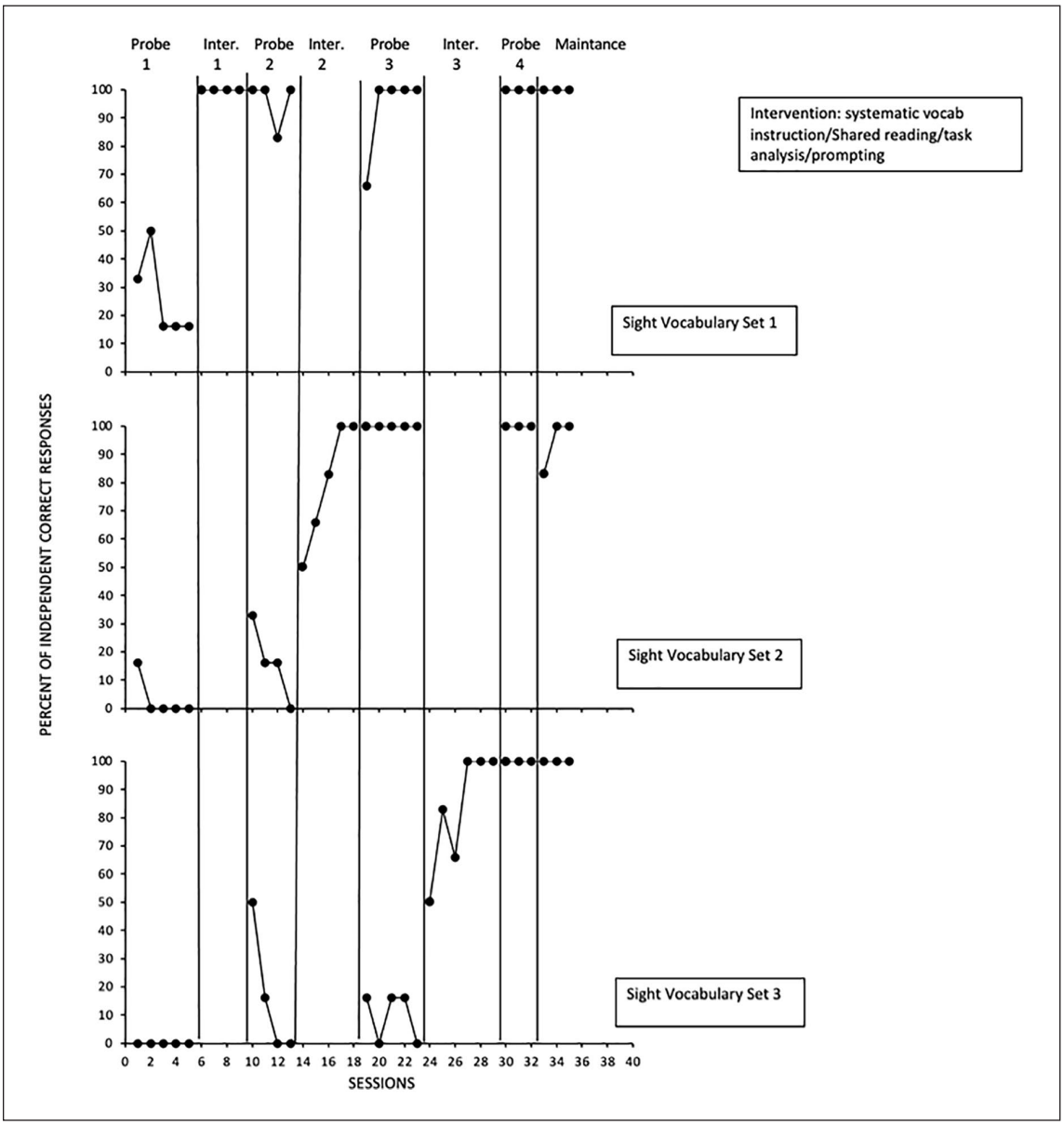

Figure 2. Graph of Luis's correct responses.
Note. Closed circle = percent of independent correct responses; arrow = conducted booster session.

Anna

During the first two probe sessions, Anna's correct responses on sight vocabulary sets showed variability because she kept choosing the card on her right side without paying attention to all words (i.e., Set 1—increase of 0%–20%, Set 2—decrease of 33%–16%, Set 3—decrease of 33%–16%). To address this, the teacher refrained from putting the correct word on the right side to determine whether Anna would look at the other words. This resulted in Anna's data stabilizing at 0% correct. Overall, the average of correct responses was 3% (range = 0%–16%) on Set 1, 10% (range = 0%–33%) on Set 2, and 10% (range = 0%–33%) on Set 3 during Probe Condition 1. During intervention on Set 1, Anna's data showed a therapeutic trend from 50% to 100%,

meeting criterion of two sessions of 100% correct responses across 11 sessions of shared reading. Due to the pandemic, Anna only attended school 3 days per week. Each time she returned to school after no intervention (Thursday–Sunday), she seemed to have difficulty focusing on the words. The days where data points declined can be traced to Mondays, her first day after 5 days of no intervention. There was an immediacy of effect from the last day of probes to the first day of intervention with 0% overlap.

During the second probe condition, Anna maintained Set 1 at an average of 92% (range = 67%–100%) across six sessions. When she did not know the words in Sets 2 and 3 during Probe Condition 2, she reverted to random selection without looking at the words, with correct responses averaging 13% (range = 0%–16%) on Set 2 and 19% (range = 0%–50%) on Set 3. To decrease variability during probe sessions, the teacher began putting down the cards, covering them with her hands, calling the student's name to gain attention, and asking her to pick the word as the teacher removed her hands. This seemed to redirect Anna's focus to looking at the cards and words. She then returned to mastery criterion on Sight Vocabulary Set 1 during Probe Condition 2. During intervention on Set 2, Anna's correct responses showed a therapeutic trend from 50% to 100%, meeting criterion across eight sessions of shared reading. There was an immediacy of effect from the last day of probe to the first day of intervention with 0% overlap.

During Probe Condition 3, Anna maintained the first two sight vocabulary sets with an average of 85% (range = 50%–100%) on Set 1 and 71% (range = 33%–100%) on Set 2. She averaged 18% (range = 0%–33%) correct responses on Set 3. The teacher began to implement booster sessions during the seventh and eighth sessions of Probe Condition 3 to decrease variability. This consisted of reviewing the previously taught sight vocabulary by showing the word, saying the word, having the student point to the word, and showing the object related to the word. These booster sessions averaged 5 min each. During intervention on Set 3, Anna's correct responses initially showed an increase; however, due to a holiday, she had additional days off school. Consequently, on the fourth day of intervention (first day back to school), her correct responses decreased. After that, her data showed a therapeutic trend until she reached criterion across a total of eight sessions. There was an immediacy of effect from the last day of probe to the first day of intervention with 37.5% overlap across conditions.

During Probe Condition 4, the teacher incorporated boosters across all three sessions. Anna maintained an average of 83% (range = 67%–100%) on Set 1, 78% (range = 67%–83%) on Set 2, and 61% (range = 50%–67%) on Set 3. During the later maintenance condition, she scored an average of 94% (range = 83%–100%) on Set 1, 72% (range = 67%–83%) on Set 2, and 67% (range = 50%–83%) on Set 3. In summary, Anna reached criterion on all sight vocabulary sets during intervention and maintained all sets at a higher average than during baseline probe conditions. In total, it took 28 intervention sessions (average of nine sessions per word set) to reach criterion.

Luis

During Probe Condition 1, Luis's correct responses averaged 26% (range = 16%–50%) on Set 1, 3% (range = 0%–16%) on Set 2, and 0% (range = 0%–0%) on Set 3 across five sessions. During intervention on Set 1, Luis immediately reached mastery criterion during the first session and continued to maintain a criterion of 100% across three additional sessions during the rest of the week with 0% overlap across probe and intervention conditions.

During Probe Condition 2, Luis maintained Vocabulary Set 2 at an average of 96% (range = 83%–100%). His correct responses averaged 16% (range = 0%–16%) on Set 2 and 17% (range = 0%–50%) on Set 3 across four sessions. During intervention on Set 2, his correct responses showed a therapeutic trend from 50% to 100% across five sessions of shared reading. There was an immediacy of effect from the last day of probe to the first day of intervention with 0% overlap.

During Probe Condition 3, Luis maintained the first two sight vocabulary sets at an average of 93% (range = 66%–100%) on Set 1 and 100% (range = 100%–100%) on Set 2. His correct responses averaged 0% (range = 0%–16%) on Set 3 across five sessions. During intervention on Set 3, his correct responses showed a therapeutic trend from 50% to 100% across five sessions. There was an immediacy of effect from the last day of probe to the first day of intervention with only one overlapping data point (17%) across conditions.

During Probe Condition 4, Luis maintained correct responses at an average of 100% on Sets 1, 2, and 3 across three sessions. During the later maintenance condition, Luis's correct response averaged 100% on Set 1, 94% (range = 83%–100%) on Set 2, and 100% on Set 3. In summary, Luis reached criterion on all sight vocabulary sets during intervention and demonstrated maintenance at criterion level during maintenance probe conditions. In total, it took Luis 12 intervention sessions (average of four sessions per word set) to reach criterion of 100%

Social Validity

Having parents complete a pre- and postsurvey also allowed the researchers to determine whether parent responses changed as their children participated in shared reading to learn vocabulary. In regard to the *goal* of teaching vocabulary, the parents of both Anna and Luis agreed that instruction on vocabulary was important. In regard to the *procedures* (i.e., shared reading package) used in the study, Luis's parent agreed that it was important for the child to engage in a story preintervention while Anna's parents left this item blank; both parents agreed on the importance of engagement postintervention. The remaining items allowed the researchers to determine whether parents valued the *outcome* of the study (i.e., learning vocabulary during shared reading) enough to create opportunities to read with their child in the home. During both pre- and postintervention questions, both parents agreed that they did not have books in the home, their children did not look at books weekly, the parents did not read books to their children, and their children did not point to or comment on book pictures. Both pre- and post-intervention, Anna's parent agreed that the parents discussed stories with the child while Luis's parent agreed that they did not. Although they valued the goal of learning vocabulary and believed it was important for children to engage with books, it appears that having their children participate in a study to learn vocabulary through shared reading did little to change the viewpoints or practices of Anna's and Luis's parents over time and there may be reasons for this, as presented in the "Discussion" section.

Discussion

This study examined whether a shared reading package increased receptive learning of sight vocabulary for MLL students with ESN and whether this occurred in a face-to-face or online (i.e., videoconferencing) format. In a short period of time, both students met criterion (i.e., 2 days of 100% correct responses in receptively identifying sight vocabulary across words sets). Both students maintained sight vocabulary at higher levels than baseline over time (Luis at 100%).

Although the basic methods remained the same in both face-to-face and online delivery, the teacher had concerns about conducting shared reading in an online format when the family of Luis selected this option during the pandemic. Luis, however, progressed more quickly to criterion than Anna. This may be due to the fact that Anna only attended school 3 days per week in the face-to-face option while Luis received instruction 5 days per week in the online option. In spite of his ESN in communication, Luis also needed less instructional support than Anna.

Although the shared reading package intervention implemented by the teacher was effective in increasing vocabulary, social validity data indicate that the parents of Anna and Luis did not change practices in the home over the course of the study, even when the parent could observe Luis engaging in shared reading with the teacher in the home through videoconferencing. There may be several reasons for this. The parents may not have been able to afford books or to access them through a free public library. Thus, they could not observe their children looking at books independently or engage in reading to their children. Also, it may have been difficult for Anna's parent to discuss stories with her because she was nonverbal. Still, both parents agreed that it was important for their children to read and to learn sight vocabulary, indicating the importance of providing literacy instruction and access to books (e.g., loaning books from school library) for children who do not have them in their homes, especially books in their native language if parents are non-English speakers.

Considerations in Interpreting This Research

There are several considerations concerning the implementation and outcomes of this study and the implications it may have for future studies. First, the classroom teacher was the primary researcher in this study, serving as the person responsible for designing, implementing, and analyzing the results as part of her doctoral studies under the mentorship of seasoned research mentors, as is often the practice in graduate programs that require student-implemented research (e.g., Britton et al., 2017; Heinrich et al., 2016; Orihuela et al., 2019). Empowering a teacher to conduct classroom research is a leadership skill that is crucial to reducing the research to practice gap (Collins, 2018). The practice, however, raises a risk to integrity in implementation of procedures and analysis of results because a teacher may be biased toward achieving positive results. Therefore, it is crucial that both IOA and procedural fidelity data be collected. In this study, the teacher followed a task analysis in implementation of procedures and archived all sessions on video. Reliability data collected by a trained but independent observer was high, validating the integrity of the study. Still, it may have added strength to the study to have an additional observer collect IOA on the primary observer and this practice is recommended for future studies.

Second, it should be noted that the researchers selected a multiple probe design with formal periodic probe and intervention conditions to establish experimental control in this study. As noted by Gast et al. (2018), this single-case design is considered easier for classroom teachers to implement than a traditional multiple probe design because teachers do not have to make judgments about when to move to baseline, intervention, or maintenance conditions. In addition, the multiple probe design with conditions allows the teacher to only have to implement one type of session per day—either baseline/maintenance probe or intervention sessions—thus making it more time efficient and practical to insert into the daily classroom schedule.

Third, due to the school district's instructional setting options during the pandemic, the teacher implemented the study in different formats across two settings: (a) face-to-face in the classroom for Anna and (b) through videoconferencing in the home for Luis. There are limited data, however, on the effectiveness of online direct instruction strategies, such as teaching vocabulary through shared reading, for students with ESN (e.g., Ault et al., 2020; Stenhoff et al., 2020; Tremmel et al., 2020). As the intervention was effective in both formats, this study adds to the literature on distance education in special education and suggests that teachers should feel comfortable in adapting face-to-face direct instruction to an online video-based synchronous format for MLL students with ESN.

Fourth, the teacher selected vocabulary for Luis that could be linked to science (i.e., silly, woke, bright, fireflies, beautiful, chrysalis). Specifically, the word "chrysalis" aligned with the state's life science standard (1.L1U1.6) that focuses on animal life cycles. Although the researchers failed to assess generalization to science instruction, Rivera et al. (2017) found that teaching science terms can result in generalization during science instruction. Future studies should investigate generalization of vocabulary taught during shared reading to settings where related content is taught.

Fifth, the shared reading package in this study included an MLL component of stating words in both English and Spanish. As demonstrated by Rivera et al. (2014), using the native language during sight vocabulary instruction can be beneficial for students with a native language other than English. Providing a reference in English and Spanish may help MLL students with ESN access information in both languages and make a connection between languages.

Sixth, the social validity data gathered for this study were limited and only addressed the stated opinions of the parents of the participants regarding the goals, procedures, and outcome. At times, the parent responses were confusing. For example, although both parents stated they did not have books at home, nor read books to their children at least once a week, both stated their child pointed to pictures in books and one parent discussed the story. Although it is possible that the parents misunderstood the questions, there may be alternative explanations for their responses. For example, during the pandemic, the teacher sent weekly packets to the home of both students, each including a printed book with directions to parents to read the book, point to words, and discuss the story with their child. Therefore, the parents' response that they pointed to the pictures and discussed the book may be a result of the books sent in these packets even though they did not own books at home.

Future Research

As the population of MLL continues to grow in the educational setting (Alison et al., 2017; Rivera et al., 2014), it is important to continue research to identify best practices for MLL students with ESN. In spite of the positive results, this study had a few limitations that should be addressed in future research. Although there were six replications of effect across word sets to establish experimental control, there were only two participants; thus, there are no data to support whether the intervention would have been effective with additional students. In addition, there was no IOA or fidelity collected on maintenance for either participant. Last, the researchers did not assess generalization of sight vocabulary across other books, people, or settings.

In addition to addressing these limitations, there are implications for future research. Future studies could involve providing vocabulary instruction during shared reading for two or more participants in a small group format to facilitate observational learning (i.e., students learn each other's target words through exposure). Also, the effectiveness of the intervention could be assessed in an inclusive setting with peers without disabilities, such a general education language arts class. Future research could also assess the effectiveness of peer-assisted learning by having same-age students implement shared reading strategies. In addition, future research could assess generalization by asking students to identify sight vocabulary acquired through shared reading in another context (e.g., in novel books; in general education classroom; with a different teacher; during instruction on science or mathematics). While this study relied on books that used basic early elementary words, future research could use adapted books with grade-level content. While this study occurred in both a face-to-face and an online format, future research could determine whether one format is better than the other using a single-case comparison design (e.g., parallel treatments). Finally, future research could focus on coaching other teachers or parents to use shared reading with students with ESN, as in a study by Akemoglu et al. (2021) that used naturalistic communication teaching strategies (e.g., modeling, mand-model, time delay) to train parents to increase language and communication during shared reading with children.

Implications for Practice and Conclusion

This investigation extends the research on shared reading and sight vocabulary for students with ESN (Rivera et al., 2017; Roberts & Leko, 2013) and provides implications for practice. Most notably, teachers should feel comfortable in using sharing reading to teach vocabulary to MLL students with ESN and in using a videoconferencing format to do this. Although there were minor challenges (e.g., guiding student to follow words in a book) in conducting online shared reading with Luis, he mastered the sight vocabulary for each sight vocabulary set within a week. In addition, teachers should view shared reading as a flexible practice for MLL students with ESN in which other research-based strategies (i.e., task analysis, prompting, corrective feedback) can be embedded (e.g., Browder et al., 2008; Mims et al., 2009; Rivera et al., 2014).

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors wish to acknowledge support in part by a grant funded by the U.S. Department of Education, Office of Special Education Programs, H325D180029 awarded to Northern Arizona University under the direction of Dr. Patricia Peterson. In addition to being a full-time doctoral student on this grant, A.F. is a fulltime special education in Arizona.

ORCID iD

Adriana Frates https://orcid.org/0000-0001-5536-2162

References

Akemoglu, Y., Hinton, V., Laroue, D., & Jefferson, V. (2021). A parent-implemented shared reading intervention via telepractice. *Journal of Early Intervention*, *44*(2), 190–210. https://doi.org/10.1177/10538151211032211

Akemoglu, Y., & Tomeny, K. R. (2021). A parent-implemented shared-reading intervention to promote communication skills of preschoolers with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *51*(8), 2974–2987. https://doi.org/10.1007/s10803-020-04757-0

Alison, C., Root, J. R., Browder, D. M., & Wood, L. (2017). Technology-based shared story reading for students with autism who are English-language learners. *Journal of Special Education Technology*, *32*(2), 91–101. https://doi.org/10.1177/0162643417690606

Allor, J. H., Al Otaiba, S., Ortiz, M., & Folsom, J. (2014). Comprehensive beginning reading. In D. M. Browder & F. Spooner (Eds.), *More language arts, math, and science for students with severe disabilities* (pp. 109–126). Brookes.

Anderson, K., & Scanlon, D. (Eds.). (2020). The development of sight vocabulary. *The Reading Teacher*, *74*(3), 346–352. https://doi.org/10.1002/trtr.1953

Ault, M. J., Courtade, G., Miracle, S. A., & Bruce, A. E. (2020). Providing support for rural special educators during nontraditional instruction: One state's response. *Rural Special Education Quarterly*, *39*(4), 193–200. https://doi.org/10.1177/8756870520959653

Baker, E. A., & Bradley, C. (2021). Closing the gap between oral lexicons and sight vocabulary: Examining speech recognition technologies. *Journal of Early Childhood Literacy*, *21*(3), 436–461. https://doi.org/10.1177/1468798419851851

Beery, K. E., & Beery, N. A. (2004). *The Beery-Buktenica developmental test of visual-motor integration: Administration, scoring, and teaching manual* (5th ed.). NCS Pearson.

Bracken, B. A., & McCallum, R. S. (1998). *Universal nonverbal intelligence test*. Riverside.

Brady, N. C., Storkel, H. L., Bushnell, P., Barker, R. M., Saunders, K., Daniels, D., & Fleming, K. (2015). Investigating a multimodal intervention for children with limited expressive vocabularies associated with autism. *American Journal of Speech-Language Pathology*, *24*(3), 438–459. https://doi.org/10.1044/2015_AJSLP-14-0093

Britton, N. S., Collins, B. C., Ault, M. J., & Bausch, M. E. (2017). Using a constant time delay procedure to teach support personnel to use a simultaneous prompting procedure. *Focus on Autism and Other Developmental Disabilities*, *32*(2), 102–113. https://doi.org/10.1177/1088357615587505

Browder, D. M., Ahlgrim-Delzell, L., Flowers, C., & Baker, J. (2012). An evaluation of a multicomponent early literacy program for students with severe developmental disabilities. *Remedial and Special Education*, *33*(4), 237–246. https://doi.org/10.1177/0741932510387305

Browder, D. M., Mims, P. J., Spooner, F., Ahlgrim-Delzell, L., & Lee, A. (2008). Teaching elementary students with multiple disabilities to participate in shared stories. *Research and Practice for Persons with Severe Disabilities*, *33*(1/2), 3–12. https://doi.org/10.2511/rpsd.33.1-2.3

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. https://doi.org/10.1177/10883576070220040301

Christensen, L. L., Gholson, M. L., & Shyyan, V. V. (2018, April). *Establishing a definition of English learners with significant cognitive disabilities ALTELLA Brief No. 1* (ALTELLA Brief No. 1). ATELLA. http://altella.wceruw.org/resources.html

Collins, B. C. (2018). *Eight paths to leadership: A guide for special educators*. Brookes.

Collins, B. C. (2022). *Systematic instruction for students with moderate and severe disabilities* (2nd ed.). Brookes.

Coogle, C. G., Floyd, K. K., & Rahn, N. L. (2018). Dialogic reading and adapted dialogic reading with preschoolers with autism spectrum disorder. *Journal of Early Intervention*, *40*(4), 363–379. https://doi.org/10.1177/1053815118797887

Coogle, C. G., Parsons, A. W., La Croix, L., & Ottley, J. R. (2020). A comparison of dialogic reading, modeling, and dialogic reading plus modeling. *Infants & Young Children*, *33*(2), 119–131. https://doi.org/10.1097/IYC.0000000000000162

D'Agostino, S. R., Dueñas, A. D., & Plavnick, J. B. (2020). Increasing social initiations during shared book reading: An intervention for preschoolers with autism spectrum disorder. *Topics in Early Childhood Special Education*, *39*(4), 213–225. https://doi.org/10.1177/0271121418816422

Doyle, P. M., Wolery, M., Ault, M. J., & Gast, D. L. (1988). System of least prompts: A literature review of procedural parameters. *Journal of the Association for Persons with Severe Handicaps*, *13*(1), 28–40. https://doi.org/10.1177/154079698801300104

Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, *9*(2), 167–188. https://doi.org/10.1207/s1532799xssr0902_4

Fallon, K. A., Light, J., McNaughton, D., Drager, K., & Hammer, C. (2004). The effects of direct instruction on the single-word reading skills of children who require augmentative and alternative communication. *Journal of Speech, Language, and Hearing Research*, *47*(6), 1424–1439. https://doi.org/10.1044/1092-4388

Fleming, D. (1991). *In the tall, tall grass*. H. Holt.

Fleury, V. P., & Schwartz, I. S. (2017). A modified dialogic reading intervention for preschool children with autism spectrum disorder. *Topics in Early Childhood Special Education*, *37*(1), 16–28. https://doi.org/10.1177/0271121416637597

Fredrick, L. D., Davis, D. H., Alberto, P. A., & Waugh, R. E. (2013). From initial phonics to functional phonics: Teaching word-analysis skills to students with moderate intellectual disability. *Education and Training in Autism and Developmental Disabilities*, *48*(1), 49–66.

Gast, D. L., Lloyd, B. P., & Ledford, J. R. (2018). Multiple baseline and multiple probe designs. In J. R. Ledford & D. L. Gast (Eds.), *Single case research methodology: Applications in special education and behavioral sciences* (3rd ed., pp. 238–281). Routledge.

Hammill, D. D., Pearson, N. A., & Wiederholt, J. L. (2009). *Comprehensive test of nonverbal intelligence—second edition* (CTONI-2). PRO-ED.

Heiligman, D. (1996). *From caterpillar to butterfly*. HarperCollins.

Heinrich, S., Collins, B. C., Knight, V., & Spriggs, A. D. (2016). Embedded simultaneous prompting procedure to teach STEM content to high school students with moderate disabilities in an inclusive setting. *Education and Training in Autism and Developmental Disabilities*, *51*(1), 41–54.

Holdaway, D. (1979). *The foundations of literacy*. Ashton Scholastic.

Hudson, M. E., & Test, D. W. (2011). Evaluating the evidence base of shared story reading to promote literacy for students with extensive support needs. *Research and Practice for Persons with Severe Disabilities*, *36*(1–2), 34–45. https://doi.org/10.2511/rpsd.36.1-2.34

Jackson, S. (2006a). *Chip on his ship*. Lakeshore Learning Materials.

Jackson, S. (2006b). *Min and Lin*. Lakeshore Learning Materials.

Jackson, S. (2006c). *The split sweater*. Lakeshore Learning Materials.

Jenkinson, J. C. (2006). Word recognition and the nature of reading difficulty in children with an intellectual disability: A review. *International Journal of Disability, Development and Education*, *36*(1), 39–56. https://doi.org/10.1080/0156655890360105

Johnston, S. S., O'Keeffe, B. V., & Stokes, K. (2018). Early literacy support for students with physical disabilities and complex communication needs. *TEACHING Exceptional Children*, *51*(2), 91–99. https://doi.org/10.1177/0040059918802808

Justice, L. M., & Kaderavek, J. (2002). Using shared storybook reading to promote emergent literacy. *TEACHING Exceptional Children*, *34*(4), 8–13. https://doi.org/10.1177/004005990203400401

Kamil, M. L. (2003). *Adolescents and literacy: Reading for the 21st century*. Alliance for Excellent Education.

Kurth, J. A., Ruppar, A. L., Toews, S. G., McCabe, K. M., McQueston, J. A., & Johnston, R. (2019). Considerations in placement decisions for students with extensive support needs: An analysis of LRE statements. *Research and Practice for Persons with Severe Disabilities*, *44*(1), 3–19. https://doi.org/10.1177/1540796918825479

Ledford, J. R., & Gast, D. L. (2018). *Single case research methodology: Applications in special education and behavioral sciences* (3rd ed.). Routledge.

Mims, P. J., Browder, D. M., Baker, J. N., Lee, A., & Spooner, F. (2009). Increasing comprehension of students with significant intellectual disabilities and visual impairments during shared stories. *Education and Training in Developmental Disabilities*, *44*(3), 409–420.

Mucchetti, C. A. (2013). Adapted shared reading at school for minimally verbal students with autism. *Autism*, *17*(3), 358–372. https://doi.org/10.1177/1362361312470495

Mueller, T., Singer, G., & Carranza, F. (2006). A national survey of the educational planning and language instruction practices for students with moderate to severe disabilities who are English language learners. *Research and Practice for Persons with Severe Disabilities*, *31*(3), 242–254. https://doi.org/10.1177/154079690603100304

National Reading Panel. (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child Health and Human Development, National Institutes of Health. https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf

Orihuela, S. M., Collins, B. C., Spriggs, A. D., & Kleinert, H. (2019). Including nontargeted information when teaching multiple exemplars of geometric shapes to elementary students with moderate intellectual disability. *Journal of Behavioral Education*, *28*(2), 169–186. https://doi.org/10.1007/s10864-018-09314-5

Rivera, C. J., Hudson, M. E., Weiss, S. L., & Zambone, A. (2017). Using a multicomponent multimedia shared story intervention with an iPad to teach content picture vocabulary to students with developmental disabilities. *Education and Treatment of Children*, *40*(3), 327–352. https://doi.org/10.1353/etc.2017.0014

Rivera, C. J., Mason, L., Moser, J., & Ahlgrim-Delzell, L. (2014). The effects of an iPad® multimedia shared story intervention on vocabulary acquisition for an English language learner. *Journal of Special Education Technology*, *29*(4), 31–48. https://doi-org.libproxy.nau.edu/10.1177%2F016264341402900403

Rivera, C. J., Wood, C. L., & Spooner, F. (2012). Comparative effects of Spanish and English vocabulary instruction for English language learners with moderate intellectual disability. *Multiple Voices for Ethnically Diverse Exceptional Learners*, *13*(1), 42–55. https://doi.org/10.5555/muvo.13.1.yp4312725mh153uw

Roberts, C. A., & Leko, M. M. (2013). Integrating functional and academic goals into literacy instruction for adolescents with significant cognitive disabilities through shared story reading. *Research and Practice for Persons with Severe Disabilities*, *38*(3), 157–172. https://doi.org/10.1177/154079691303800303

Snodgrass, M. R., Chung, M. Y., Meadan-Kaplansky, H., & Halle, J. W. (2018). Social validity in single-case research: A systematic literature review of prevalence and application. *Research in Developmental Disabilities*, *74*, 160–173. https://doi.org/10.1016/j.ridd.2018.01.007

Sparrow, S. S., Cicchetti, D. V., & Balla, D. A. (2005). *Vineland-II Adaptive Behavior Scales, Second Edition, Survey Forms Manual*. PsychCorp.

Spooner, F., Rivera, C. J., Browder, D. M., Baker, J. N., & Salas, S. (2009). Teaching emergent literacy skills using cultural contextual story-based lessons. *Research and Practice for Persons with Severe Disabilities*, *34*(3–4), 102–112. https://doi.org/10.2511/rpsd.34.3-4.102

Stenhoff, D. M., Pennington, R. C., & Tapp, M. C. (2020). Distance education support for students with autism spectrum disorder and complex needs during COVID-19 and school closures. *Rural Special Education Quarterly*, *39*(4), 211–219. https://doi.org/10.1177/8756870520959658

Taub, D. A., McCord, J. A., & Ryndak, D. L. (2017). Opportunities to learn for students with extensive support needs: A context of research-supported practices for all in general education classes. *The Journal of Special Education*, *51*(3), 127–137. https://doi.org/10.1177/0022466917696263

Toews, S. G., McQueston, J., & Kurth, J. A. (2021). Evaluation of the evidence base for shared reading to support literacy skill development for students with extensive support needs. *Research and Practice for Persons with Severe Disabilities*, *46*(2), 77–93. https://doi.org/10.1177/15407969211008531

Tonsing, K. M., & Soto, G. (2020). Multilingualism and augmentative and alternative communication: Examining language ideology and resulting practices. *Augmentative and Alternative Communication*, *36*(3), 190–201. https://doi.org/10.2080/07434618.2020.1811761

Tremmel, P., Myers, R., Brunow, D. A., & Hott, B. L. (2020). Educating students with disabilities during the COVID-19 pandemic: Lessons learned from Commerce Independent School District. *Rural Special Education Quarterly*, *39*(4), 201–210. https://doi.org/10.1177/8756870520958114

U.S. Department of Education. (2015). *Shared book reading*. What Works Clearinghouse. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_sharedbook_041415.pdf

Wehmeyer, M. L., & Palmer, S. B. (2003). Adult outcomes for students with cognitive disabilities three-years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities*, *38*(2), 131–144.

Whalon, K., Martinez, J. R., Shannon, D., Butcher, C., & Hanline, M. F. (2015). The impact of reading to engage children with autism in language and learning (RECALL). *Topics in Early Childhood Special Education*, *35*(2), 102–115. https://doi.org/10.1177/0271121414565515

Wolf, M. M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. *Journal of Applied Behavior Analysis*, *11*(2), 203–214. https://doi.org/10.1901/jaba.1978.11-203

Wood, A. (1992). *Silly sally*. Harcourt Brace Jovanovich.

Yahya, S., Yunus, M. M., & Toran, H. (2013). Instructional practices in enhancing sight vocabulary acquisition of ESL students with autism. *Procedia-Social and Behavioral Sciences*, *93*, 266–270. https://doi.org/10.1016/j.sbspro.2013.09.187

Yorke, A. M., Light, J. C., Gosnell Caron, J., McNaughton, D. B., & Drager, K. D. (2018). The effects of explicit instruction in academic vocabulary during shared book reading on the receptive vocabulary of children with complex communication needs. *Augmentative and Alternative Communication*, *34*(4), 288–300. https://doi.org/10.1080/07434618.2018.1506823

Author Biographies

Adriana Frates completed her Ph.D in Curriculum and Instruction at Northern Arizona University. Her research addresses instructional strategies for multilingual learners with extensive support needs.

Fred Spooner is a professor of special education at the University of North Carolina. His research addresses students with extensive support needs and access to the general education curriculum.

Belva Collins served as a professor of special education and chair in the Department of Special Education and Child Development at the University of North Carolina. Her research addresses systematic instruction in special education.

Candi Running Bear is a doctoral candidate in Curriculum and Instruction at Northern Arizona University. Her research addresses instruction for Native American preschoolers receiving special education services.

Received: August 25, 2021
Final Acceptance: May 4, 2022
Editor in Charge: Robert E. O'Neill.