2018

Using American Sign Language to Support Sight Word Acquisition in English Learners

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Abstract

English Learners constitute a growing, and important, portion of our school communities, yet the research base regarding evidence-based practices to support effective instruction for English Learners is minimal, especially for those with disabilities. American Sign Language has effectively supplemented curriculum for different student populations, but there has been little research on how sign language can be used to teach English Learners. Sight word acquisition is often a challenge for English Learners so this alternating treatment, single subject research design explored if adding American Sign Language to sight word instruction of first grade English Learners would increase learning of sight words compared to the typical drill-and-practice. Results indicated that American Sign Language can be used to help students experience mastery of sight words and also engage them in the process of learning.

Keywords

American Sign Language, Sight Words, Acquisition, English Learners

Cover Page Footnote

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There are 4.3 million English Learners (ELs) in U.S. schools, constituting over 9% of the school population (National Center for Educational Statistics, 2017). These students often attend underfunded schools, and experience disproportionate representation in special and gifted education with higher retention and lower graduation rates (Fenner & Synder, 2017). Improving this achievement gap requires knowledge of evidence-based practices specific to the EL population, yet the research base is scarce.

Teaching ELs is often difficult because of the language struggles. One possible way to promote learning is by adding visual and kinesthetic stimuli. American Sign Language (ASL) is one possible option. Cooper (2002) explained that signing gives an additional visual tool for struggling readers, enriches advanced readers' learning, and helps all students with words by providing various cues. Wurm (1986) used ASL in her classroom to teach sight words to kindergartners. Given the lack of evidence based practices specific to ELs and the need to better support this population, this pilot study explores adding ASL to sight word instruction for ELs. Using an alternating treatment single subject design, the following research questions are addressed: (a) Can ASL be an effective strategy to promote sight word acquisition for ELs in primary elementary grades? and (b) Can ELs learn sight words at a faster rate using ASL than the standard practice of repetition and exposure?

Methods

Setting and Participants

This study took place at a public elementary school in the Southeast region of the United States. The school is identified as 100% free and reduced lunch and has a student population representing various countries with over 40 languages spoken. The selection criteria included students who were in a primary grade and received English as a Second Language (ESL) services for a portion of the day in the ESL room; these were the students in most need of language support. Consent forms translated in these students' native language were sent home with four first graders returning signed forms. Assent was provided by each of the four students: Elsa, Spiderman, Roy, and Jerry (participants were asked to choose their own pseudonym).

Materials

The researcher selected lists of Dolch pre-primer and primer words that could have ASL sign equivalents. After using a pre-assessment to identify ten sight words unknown to the student, the researcher then developed a deck of ten flashcards for each of the participants (see Table 1). Within each deck, five words were randomly selected as Flashcard Sight Words (FSW), and five were Sign Language Sight Words (SLSW).

Data Collection

Prior to beginning the intervention, a baseline was determined for each student. The ten randomly selected unknown words (see Materials above) were shuffled and randomly presented to the student. Words incorrectly identified for three consecutive sessions were included in the deck of flashcards used for the intervention.

The researcher conducted individual tutoring sessions with each participant. Each session was conducted 2-3 times a week and lasted 5-10 min. The days were identified by the ESL teacher as times that would not interfere with typical class instruction. A

computer randomizer identified which days a student would have FSW or SLSW. Each

method could not be repeated more than two consecutive times. For every session, the

researcher followed a script with the same protocol to ensure procedural fidelity. At the

start of each session, the student was asked to read all ten of their words to identify which

sight words the student could read. The researcher then recorded the number of correct

responses. If a student read all five words for either FSW or SLSW for two consecutive

days, they reached mastery for that deck.

   Flashcard sight word (FSW). For the FSW method of instruction, the researcher

incorporated standard notecards with the sight words written on them. Participants were

taught each word three times during one session using a gradual release of responsibility.

This instructional strategy involved the researcher modeling a step first ("I do it"),

performing that step with the participant to provide guided support and practice ("We do

it"), and then allowing the participant the opportunity to try the step independently ("You

do it"). If the FSW word was correctly identified, the researcher would move on to the

next word in the shuffled deck of FSW cards and follow the same procedure. If the

student incorrectly identified the word, the researcher asked the participant to repeat the

word together and requested the participant say it one more time independently. If it was

correct, the researcher moved to the next word; if it was incorrect again, the researcher

would say it correctly and then continue to the next word.

   Sign language sight words (SLSW). The protocol for the SLSW intervention

was similar to that of the FSW method. For SLSW, however, an ASL sign accompanied

the word being spoken aloud. The researcher followed the same script as the FSW

ASL TO SUPPORT SIGHT WORDS IN ENGLISH LEARNERS   4

intervention with the same gradual release of responsibility and error correction

procedures as the FSW condition.

Preferred method of learning. To reach mastery, at the beginning of a session

for two consecutive days, the student had to either correctly identify the five sight words

for FSW or the five SLSW words. When a student reached mastery on all five cards for

either SLSW or FSW, his or her preferred method of learning was established and the rest

of the participant's cards that were not yet mastered were switched to the preferred

method. For example, if a student mastered all SLSW words first, a sign was added to

the remaining FSW words that had not been mastered for two or more sessions.

Results

Each participant's correct identification of the sight words for both the FSW and

SLSW words are graphically displayed for Elsa, Roy, Spiderman, and Jerry in Figures 1–

4, respectively. Elsa reached mastery of the sight words concurrently for the FSW and

SLSW after 10 sessions of intervention. Roy reached mastery on SLSW flashcards after

seven sessions of intervention. He had one FSW word left to consistently identify and

was switched to SLSW to learn this word. He reached mastery after five SLSW

intervention sessions, requiring 12 intervention sessions total. Spiderman reached

mastery on SLSW after eight intervention sessions. His remaining four unknown FSW

words were switched to SLSW. He steadily improved, but due to the end of school, the

intervention sessions ended before he could reach mastery. Jerry never reached mastery

of all ten words, but the intervention could not continue due school ending.

Discussion

The single subject design of this study provided insight into the varying degrees of growth among the students. Elsa mastered all 10 words on the same days, implying she can learn in multiple environments. Her prior sight word knowledge was slightly ahead of the other EL students in the study, providing insight into why she progressed faster and reached mastery with both methods of instruction. Spiderman exemplifies how students might benefit from adding sign language into instruction. Based on his success with word recognition, incorporating sign language into other areas, such as vocabulary instruction, may support learning. Roy also showed a slight differentiation in favor of SLSW. Building on this pilot project, research could be conducted with more students in small guided group settings or as a type of independent station within the classroom.

Jerry provided a unique perspective as an EL student with a disability. His data show the variability, and slower progress, often seen in students with disabilities. Based on his results, Jerry would likely benefit from a more consistent schedule with daily instruction. Additional research specifically focusing on EL students with developmental disabilities can benefit future learning, and Jerry showed how important it is for educators to consider this, and similar, student groups.

Although this pilot study is limited by the small number of participants, it serves as an initial look into how ASL can be incorporated to support ELs. Hopefully it serves as an introduction for further study and replications to determine whether ASL can be added to instruction as an effective strategy to promote learning in English Learners.

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Table 1

Selected Words for Students

	Sign Language Sight Words (SLSW)					Flashcard Sight Words (FSW)				
Elsa	fly	how	think	again	after	once	give	every	take	old
Spiderman	blue	help	see	two	little	play	red	come	where	here
Roy	what	our	out	good	soon	under	with	must	please	ride
Jerry	look	can	not	big	make	and	up	find	we	for

ucky Teacher Education Journal: The Journal of the Teacher Education Division of the Kentucky Council for Exceptional Children, Vol. 5 [2018], Iss. 1, A

ASL TO SUPPORT SIGHT WORDS IN ENGLISH LEARNERS   8
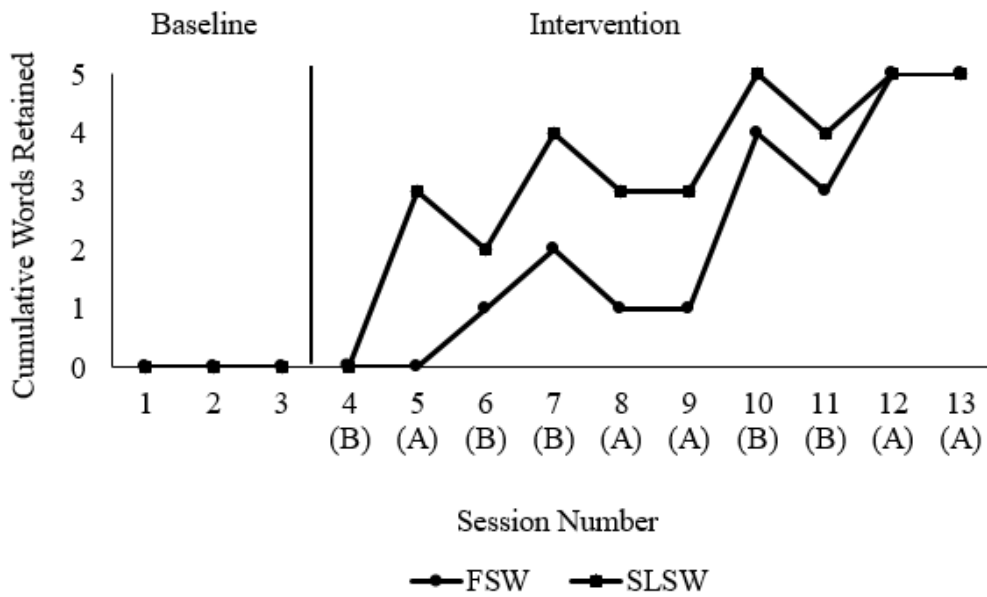
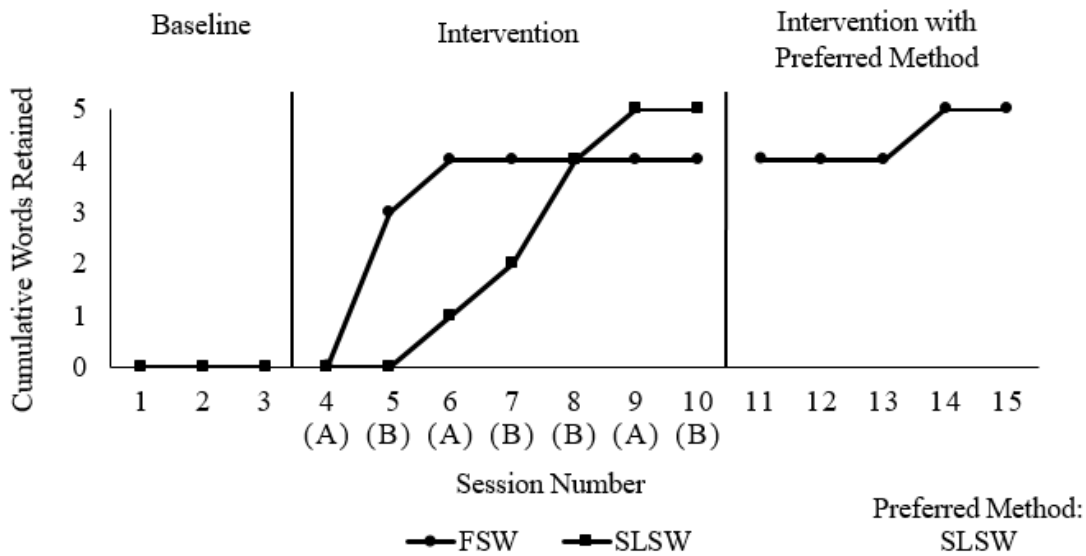Figure 1. Total words for SLSW and FSW for Elsa

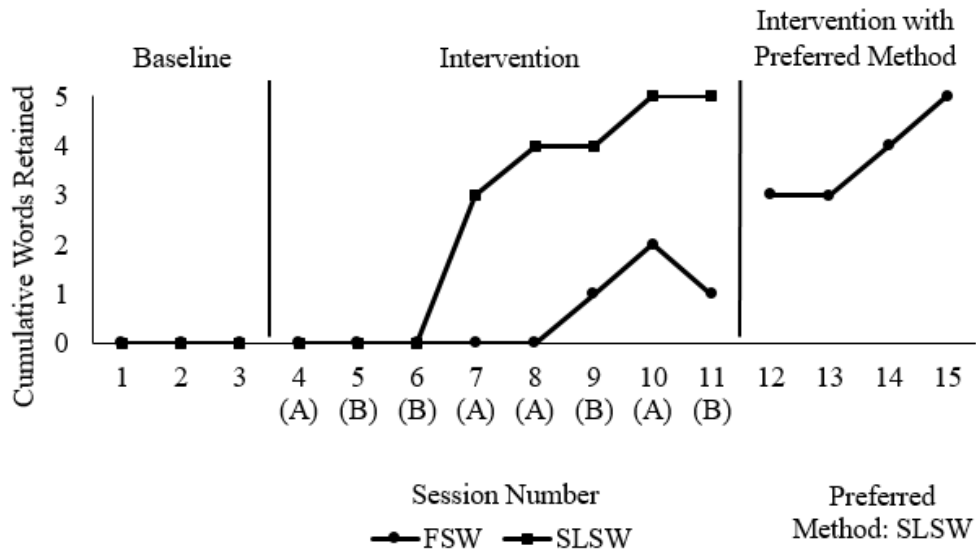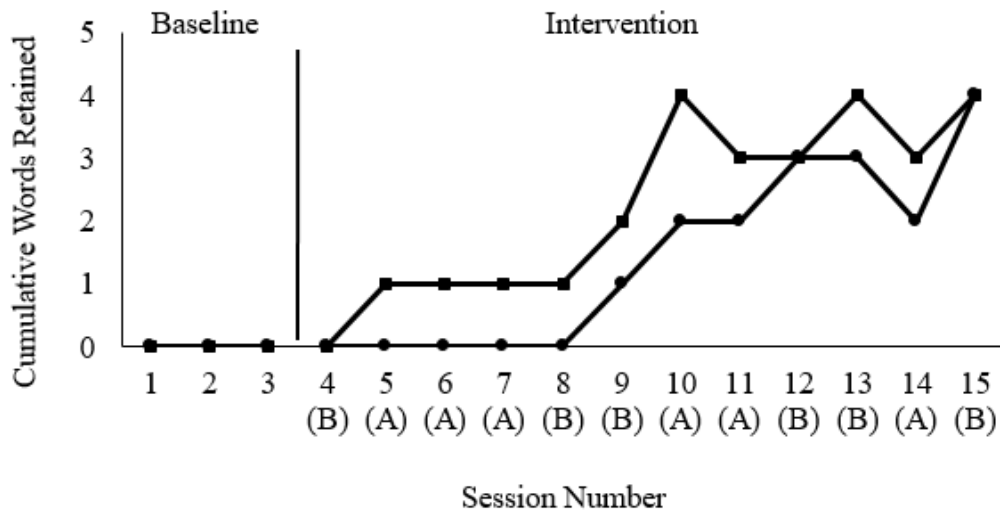Figure 2. Total words for SLSW and FSW for Roy

Figure 3. Total words for SLSW and FSW for Spiderman

Figure 4. Total words for SLSW and FSW for Jerry