

Signing for Success: Using American Sign Language to Learn Sight Vocabulary

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Many school systems mandate sight word mastery by their students, and this can be challenging for certain student populations. With a Professional Development School, college interns conducted an inquiry project with struggling first graders to learn required sight vocabulary. The inquiry project explored the use of American Sign Language to facilitate their sight word acquisition. In this article, rationale and research for vocabulary instruction and for using ASL to enhance sight word acquisition will be provided before presenting the background and procedures used in implementing this strategy. Lastly, the results and reflections of this inquiry project will be shared.

Rationale and Research—The why of vocabulary instruction

Vocabulary has long been viewed as an important element in reading comprehension, although it has come in and out of vogue over the last 50 years. More recently, there has been a refocus on promoting vocabulary development with students because of its effect on comprehension (Dalton & Grisham, 2011). The vocabulary-comprehension connection is clear and well supported by research (Beck, McKeown, & Kucan, 2008; Blachowicz & Fisher, 2006). The more words youngsters know, the more connections, concepts, and schema they can bring to the comprehension process (Stahl & Nagy, 2006; Newman & Dwyer, 2009). It stands to reason, therefore, that reading success is greatly influenced by the size of a student's vocabulary bank.

Vocabulary size in first grade is a strong predictor for reading comprehension throughout a child's school career (Cunningham & Stanovich, 1997). Researchers have shown that the strongest readers at age 10 have heard 45 million words

from birth to age 3. In contrast, those youngsters who were lower performing readers were reported to have heard 13 million words (Hart & Risley, 1995). This disturbing fact illustrates a dramatic difference in the auditory word banks of children, especially children who experience reading difficulties. Of increasing concern is the vocabulary difference seen between high and low SES students (Marzano, Pickering, & Pollack, 2001). It is a real issue as low SES youngsters are entering school with half the word bank their higher SES counterparts have (Cunningham & Stanovich, 1997). This concern is supported by findings reported in Scarborough's (1998) two-year meta-analysis of 61 studies where a significant correlation between kindergarten vocabulary acquisition and reading achievement was noted. Realizing how powerfully vocabulary knowledge affects comprehension, teachers of young readers are well aware of the importance of working with youngsters on vocabulary acquisition.

The primary objective for vocabulary development is to increase the conceptual network for words, but it is felt that not every

word has to be thoroughly and completely known for a student to have at least some measure of understanding (Greenwood & Flanigan, 2007). Some words such as the, can, and is may not carry much meaning but are so frequently used that students need to know them automatically as they read so that comprehension isn't hindered. These are called sight words, and accurate recognition of these can greatly facilitate fluency. The more fluent readers are, the less cognitive energy they spend on decoding, leaving more to spend on comprehension. That's why sight word proficiency is often an instructional focus in the primary grades.

Rationale and Research—The how of vocabulary instruction

The issue is not whether or not to teach vocabulary but how to teach it. Synthesizing the research on teaching vocabulary, effective best practices include the following (Newman & Dwyer, 2009; Flynt & Brozo, 2008; Beck, McKeown, & Kucan, 2008; Lawrence, 2001):

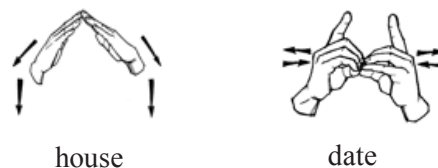
- Provide multiple exposures and lots of practice
- Make instruction interactive
- Use a multi-sensory approach
- Create associations and personal connections
- Present systematic and explicit instruction
- Involve students in novel and unique learning opportunities

American Sign Language (ASL)—What is it? Why use it?

ASL is a communication system used primarily by deaf and/or hard-of-hearing individuals. Deaf culture has promoted and expanded its use so that it is commonly accepted as a legitimate language. Basically, ASL uses hand signs to represent words and phrases. Without going into detailed specifics, ASL does differ from Signed English and does not use fingerspelling. ASL is highly iconic in that many

signs motorically represent the word's concept by making a physical gesture. For examples, the sign for house has the fingertips of both hands meeting together to make a rooftop then separating to come down vertically to make the house sides. The sign for date represents two people getting together. Figure 1 illustrates these two signs well.

Figure 1: ASL sign for “house” and “date”



I have long believed in the efficacy of using ASL as a cognitive instructional tool and have seen the dramatic impact that using ASL has on vocabulary acquisition. Signing is the perfect “brain food” as it involves so many of those elements that research has identified as facilitating learning, especially for learning vocabulary words (Daniels, 2001; Lawrence, 2001). Revisiting those research-based best practices for vocabulary instruction, using ASL meets all criteria.

- Multiple exposures and practice opportunities are easily incorporated into the instructional day. Because of the high interest and motivation in using signs, children spontaneously use and practice the signs they have learned throughout the day, not just during reading group. It's quick and involves no special materials other than your hands, so signing can be done in any setting. Practicing words can be done while doing classroom activities such as lining up, transitioning, waiting for class to begin, etc.
- Signing, by its very nature, is highly interactive and uses multiple modalities. Signing is far from being a passive activity. You absolutely have to be moving to do it! This motoric involvement makes it especially appropriate for young learners. Using a

multisensory strategy to teach enhances learning (Gardner, 1999), and using ASL allows hearing students to see, say, and sign words. Signing increases overall brain activity, stimulating the formation of more synapses, or connections, among brain cells. Because sign language enhances brain activity on both sides of the brain, students have more ways to make learning connections and to retrieve information (Daniels, 2001; Lawrence, 2001; Cooper, 2002). Although research has been limited, ASL use has proven to be an effective technique particularly because of the multi-modality link (Cooper, 2002; Lawrence, 2001; Brennan & Miller, 2000).

- ASL is highly iconic, creating mental pictures that, in turn, represent definitional concepts and associations. These ideographic images facilitate word retention (Lawrence, 2001; Hafer & Wilson, 1986). In addition, as the sign is taught, a brief explanation or story to explain the sign can be given. For example, for over, the ASL sign has one hand going over the other. The mental picture clearly demonstrates the concept of over as one of position. We share with students that this sign reminds us of a horse jumping over a fence and ask them to make a personal connection by telling us what the sign reminds them of.
- Instruction has to occur explicitly and directly. Obviously, this has to occur in order for students to learn the correct ASL signs for words. Signing is highly motivating and is an ideal technique to use as there is no other activity that is more novel and engaging to youngsters, making instruction easy and enjoyable. Although the initial instruction needs to be done by the teacher, we've found that the students themselves become skillful mentors.

Background

Hood College is a private college of approximately 1800 undergraduate students located in Frederick County, Maryland. The undergraduate education program offers degrees in early childhood, dual certification in special education and elementary education, and secondary education. In their first semester of their senior year, interns spend 2 1/2 days each week in a Professional Development School (PDS) and 2 days on campus taking required education courses, one of which is a reading assessment class which I teach. The collaborative effort between the Hood College and the PDS, Walkersville Elementary School (WES), enables our interns to put into immediate practice theory and techniques relevant to assessing and promoting literacy skills. In addition, they are able to observe and interact with a very diverse student population as WES is fortunate to have a rich mixture of cultural and SES groupings.

Believing in a strong partnership between college and public school to promote student achievement, my class supported a WES literacy initiative which had been identified by the school's Literacy Team. After examining relevant data, the school saw a real need for first graders in the area of acquiring sight vocabulary. To help the school in this area of need, we decided my class should work with selected first graders to learn county-mandated sight vocabulary. To emphasize the worthiness of trying new techniques to determine instructional practices, I wanted my interns to try using American Sign Language (ASL) with these first graders to see if this innovative technique would facilitate sight word acquisition.

Procedures

Frederick County uses a county-developed list of high frequency sight vocabulary. All kindergarten, first, and second grade students are expected to meet benchmark criteria on these lists

with an 80% mastery level and are tested four times a year to monitor progress. At the beginning of the school year, the reading specialist identified eleven first grade students who had missed the same five words. These children became the target group for my eleven Hood students. Together, the reading specialist and I developed a schedule and procedure to facilitate sight word acquisition using ASL for this group of children.

We didn't want to interrupt the classroom schedule, so we used the arrival time before the actual school day began. Each intern was paired with a first grade student and met with the student for 10-15 minutes on the day class was held, once a week. Because this was an assessment class, I wanted my eleven Hood students to practice administering, scoring, and analyzing test results to make data-based instructional decisions. To do this, the project was set up as a modified inquiry research activity to compare two techniques to teach sight vocabulary.

One technique involved sight word instruction using ASL and the other was sight word instruction not using ASL. Interns and WES students were randomly divided into two groups: Group A with five students and Group B with six. Both intern groups followed the same presentation procedure and spent the same amount of time (10 minutes) with their student. The sole difference was that Group B also taught the ASL sign to go with the sight word. The sight vocabulary procedures for the two treatments were as follows.

GROUP A

The intern....

1. Showed the sight word on a word card.
2. Said the word.
3. Had the child say the word together several times.
4. Had the child say the word independently several times.

5. Had the child use the word in a sentence. If unable to do so, the intern used it in a sentence and had the student repeat it.
6. Read the selected book to the child. Together, the intern and child located and read the sight word in context.

GROUP B

The intern....

1. Explained what ASL is and that they would be learning some ASL signs to help them remember their special reading words. The intern talked about how the sign makes a "picture in your mind" of what the word means and had the child make a personal connection to the word.
2. Used the SEE-SAY-SIGN method by having the child simultaneously SEE the word on the word card, SAY the word, and SIGN the word. The child did this with the intern several times, then did it independently.
3. Had the child use the word in a sentence. If unable to do so, the intern used it in a sentence and had the student repeat it.
4. Read the selected book to the child. Together, the intern and child located, read, and signed the sight word in context using the SEE-SAY-SIGN method.

The goal was to work with one sight word each week for five weeks. The same five sight words were used with both groups and were introduced in the same order. Starting with the first session and continuing through the fifth, these words were the following: could, from, or, over, where.

Anecdotal observations and field notes were kept by each intern. After each session, interns observed and reflected on student behaviors, performances, and interactions. At the end of the five weeks, the interns administered a sight vocabulary test consisting of the five words used in the project. The posttest format was to have the WES student read the word as presented on

a flashcard with the intern noting responses on the posttest form. (See Table 1.) Pre-and posttest results were tabulated and analyzed. The anecdotal observations and field notes served as qualitative data and were also analyzed for trends. The Hood students summarized their findings, shared hypotheses, and reflected on the action research activity.

six, five youngsters (83%) knew every sight word. (See Table 2.)

It is clear that the 1:1 intervention our interns provided was beneficial, especially for those youngsters who learned the ASL signs to accompany the sight words. Of special interest were the dramatic increases between pre-and

Table 1 Posttest Form

| | Read Correctly? Y/N | If nor read correctly record miscue. | Signed on own? Y/N | Signed w/prompting? Y/N |
|-------|--------------------------------|---|-------------------------------|------------------------------------|
| could | | | | |
| from | | | | |
| our | | | | |
| over | | | | |
| where | | | | |

Results and Reflections

Informally examining the results, it was noted that both groups of WES students demonstrated success in learning their five targeted words. On the pretest, no student, regardless of the grouping, knew any of the five sight words. Posttest scores indicated growth in sight word acquisition as all students knew at least three or more sight vocabulary words on the posttest. In fact, for both groups combined, 89% of the students knew four or all five of the taught sight words. This increased proficiency was very encouraging and rewarding.

Group A students learned their words using just the flashcards and reading the words in context with a 76% accuracy rate. There were no students (0%) who knew all five of the words although four children did read four of the five sight words correctly. Group B students who learned the ASL sign for the words accurately read 96% of the required words. In this group of

posttest scores for ELL students who learned the ASL signs with the vocabulary. The ELL students’ pretest scores indicated they knew none of the required sight vocabulary. On their posttest evaluation, all three achieved a perfect score of 100% mastery of the targeted words. (See Table 2.)

The interns who used ASL identified several interesting qualitative findings from their anecdotal observations. In general, the level of enthusiasm for learning the ASL vocabulary words was extremely high. As R. reported, during the first two sessions, Y. was quiet and barely talked, even when encouraged to do so. For the remaining three sessions, “She came to me very excited and was enthusiastic to show the signs for the previous words which she had practiced during the week.”

All WES students who had the ASL intervention were eager to practice their signs with the interns. Most of the children proudly shared that they were signing at home and were

Table 2 Posttest Summary

Group A (without ASL): 76% accuracy rate (total number of words identified correctly)
0% knew all 5 words

Group B (with ASL): 96% accuracy rate (total number of words identified correctly)

| Groups | Number correct on pretest | Number correct on posttest |
|----------------------------|---------------------------|----------------------------|
| Group A students (w/o ASL) | | |
| A* | 0 | 4 |
| B* | 0 | 4 |
| C | 0 | 4 |
| D | 0 | 3 |
| E | 0 | 4 |
| Group B students (w/ASL) | | |
| F | 0 | 4 |
| G* | 0 | 5 |
| H* | 0 | 5 |
| I* | 0 | 5 |

teaching their friends and family the signs. As one Hood intern reported, “Signing went awesome! J. was always excited to sign and said that she had been signing at home, too.” For children who were reluctant to volunteer in class, this increase in self confidence was, as one first grade teacher said, “...so rewarding to see and probably a bigger plus than learning the words! I would never have believed the day would come when D. could stand in front of the class to teach the signs. How cool that he knew something they didn’t! What a boost to his ego!”

An interesting practice that has been noted before in the research (Hafer & Wilson, 1986) was also seen with some of our WES youngsters. One of the interns worked with an ELL student who was having particular difficulty recognizing the sight words in context. H. noted that M. would spontaneously sign the vocabulary word when she would see it in context during thereading activity. At first, M. would need H. to SEE-SAY-SIGN the word when reading, but when they went back and reread a section, M. went through this procedure

on her own. As H. theorized, “This seemed to help her recognize the word, almost as if the sign were a study aid.”

Final Thoughts

Although this inquiry project was conducted for only five weeks and with only eleven children, the impact was far-reaching in terms of instructional practice. One of the goals was to help struggling first graders learn required sight vocabulary. Several of the students were ELL youngsters and not knowing the English language was an additional roadblock. Clearly, this was met as supported by posttest score. Another goal was for the college interns to experience the value of carefully examining instructional strategies for their efficacy. As teachers, we are always looking for techniques that will meet the needs of the hugely varying needs of our students. All too often, we keep using the same old techniques even though we see minimal positive results, or we jump on every new bandwagon that comes down the pike even though little proof is out

there to support its use. Using ASL to help young students learn words was the focus of the inquiry project. Would it work? Would it be practical for teachers to use? Does it meet criteria for good teaching practices? By having interns examine the results of their ASL use, they were able to make educated and substantiated decisions as to whether or not to continue using ASL in their teaching. Overwhelmingly, the answer was a resounding, “YES!!!”

From the responses of the WES teachers, this inquiry project was a particularly rewarding experience. Many of them are beginning to use ASL in their classroom instruction. Many of the original six students have continued and expanded their use of ASL, some even becoming classroom leaders in signing. All have benefitted from this experience. Hood College interns gained an additional learning experience in the field using real students in a real setting. The PDS benefited by gaining extra support to increase student achievement. The PDS students gained ASL skills and sight vocabulary knowledge while increasing their self esteem. This truly exemplifies a powerful college-public school collaboration and what the college-PDS connection is all about.

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