Research Note

Using VocabularySpellingCity with Adult ESOL Students in Community College

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Vocabulary acquisition is central to language learning, and many instructors believe that technology can facilitate this core activity. While numerous websites and apps offer language-learning activities and games, not all provide evidence that their content and techniques are effective. VocabularySpellingCity (VSC), however, commissioned a study in 2016 to document its effectiveness. Researchers at McREL, a nonprofit education research and development organization, found favorable results among mostly native English-speaking primary school students, including a 43% increase in vocabulary retention scores as measured by pre- and post-tests of 143 students in a southeastern U.S. elementary school (Arens & Mace, 2017).

VSC is a website and app that provide users with activities to learn vocabulary, spelling, phonics, and writing. Instructors create study lists by specifying words, definitions, and sample sentences before assigning activities. They can also monitor individual student progress (scores) as well as participation (time spent and number of activities completed).

Although designed for K-12 students, VSC is popular among my community college colleagues, and I was interested in learning if findings by McREL hold true for adult ESOL students. Therefore, in fall 2017, I conducted a study similar to Arens & Mace (2017) that involved 22 intermediate writing students and 18 academic reading students at Portland Community College in Portland, Oregon. I wanted to know if students who chose to use VSC would demonstrate greater improvement in vocabulary retention compared to those who chose other study methods.

Before the term began, I prepared word lists for each course. The intermediate writing course was assigned 10 weekly lists, each containing eight words drawn from the course's grammar textbook, *Grammar for Great Writing A* (Blass, Folse & Mitchell,

2017). The reading course was assigned 10 weekly lists, each containing 10 words drawn from course readings on CommonLit, a website that provides reading passages and instructional material. In choosing words, I gave preference to those with high relevance to course topics and high frequency on the Academic Word List (Coxhead, 2017).

Participants in the study first completed a pre-test at the start of the term by matching a random sample of the words with their definitions or by using them to complete sentences. Then I described a number of common ways to study vocabulary (e.g., flashcards, journals) before demonstrating VSC and distributing individual premium accounts provided by the college. Each week, participants received a new word list with a set of five recommended VSC activities (Which Word? Sentences; MatchIt Definitions; Parts of Speech; Flashcards; and Practice Vocabulary Test). While all participants were assigned the same words to learn, use of VSC was voluntary. Participants could complete the assigned VSC activities; select different VSC activities; or utilize other study methods of their choosing. During the final week of the term, participants completed a post-test identical to the pre-test as part of their final exam.

I downloaded VSC usage data and calculated differences in test scores to identify changes from beginning of term to end of term. I first sorted the data by time spent using VSC, dividing each class into two groups following a naturally occurring separation in the data. Among writing students, the range for "non-users" was 0-59 minutes over 11 weeks compared to 165-570 minutes over 11 weeks for "users." Among reading students, the range for "non-users" was 0-37 minutes over 11 weeks compared to 118-752 minutes over 11 weeks for "users." While average scores for both groups increased, Table 1 shows that the change for students who used VSC was greater than the change for students who did not use VSC: 50.0% versus 30.3% for writing students; 137.0% versus 47.5% for reading students.

To further explore the characteristics of successful students, I re-sorted the "users" of each course into two groups equal in size according to the change in scores from pre-test to post-test. Table 2 shows that, on average, participants with lower pre-test scores saw the largest change. Conversely, on average, participants who started the term with higher pre-test scores made less improvement over the course of the term despite spending a higher number of minutes per week using VSC.

I theorize that this result is at least partially due to advanced students spending an inordinate amount of time practicing words they had already mastered instead of focusing on unfamiliar words. This is because each VSC activity repeats the complete set of words on a list rather than providing a dynamic assessment that recognizes student errors and shifts focus to those words automatically. While VSC does have an option to create personalized review lists based on past performance, preparing those lists is a manual process for the instructor, and therefore not utilized in this study concerning adult ESOL

Table 1: Change in scores by time spent using VocabularySpellingCity (VSC)

	Range of average minutes per week using VSC (mean)	Mean pre-test scores	Mean post-test scores	Percent increase
Level 5 Intermediate Writing - "Non-Users" (n=10)	0.0 to 5.4 (2.4)	8.9	11.6	30.3%
Level 5 Intermediate Writing - "Users" (n=12)	15.0 to 51.8 (24.3)	7.5	11.3	50.0%
Level 8 Academic Reading - "Non-Users" (n=8)	0.0 to 3.4 (0.8)	9.9	14.6	47.5%
Level 8 Academic Reading - "Users" (n=10)	10.7 to 68.4 (32.6)	5.4	12.8	137.0%

Table 2 Time spent using VocabularySpellingCity (VSC) by change in test scores

	Mean pre-test scores	Mean post-test scores	Percent increase	Range of average minutes per week using VSC (mean)
Level 5 Intermediate Writing - Lower Change (n=6)	8.5	10.0	17.6%	16.0 to 51.8 (26.9)
Level 5 Intermediate Writing - Higher Change (n=6)	6.5	12.5	92.3%	15.0 to 30.7 (21.7)
Level 8 Academic Reading - Lower Change (n=5)	7.0	10.2	45.7%	17.5 to 68.4 (36.3)
Level 8 Academic Reading - Higher Change (n=5)	3.8	15.4	305.3%	10.7 to 52.7 (29.0)

students using VSC independently outside the classroom. Study results, however, suggest that incorporating this step might be necessary to improve the performance of advanced students.

This study has a number of limitations and, therefore, questions for further research. The first is how VSC compares with other tools and strategies, and what advantages one may have over the other. In other words, can higher scores be attributed to VSC specifically, or were they simply the result of more intentional study? Could another tool, such as Quizlet, provide the same results? A second question concerns time and motivation. What is the minimum number of minutes per week for learners to make reasonable gains in vocabulary, and at what point do they begin to see diminishing returns? A third question is what factors differentiate implementation in a community college setting wherein adult students are more likely to work independently rather than in class under the direction of a teacher. For example, will scores increase further if advanced students create their own review lists for more efficient study? If community college instructors identify best practices and carefully curate the experience, then the data suggest their adult ESOL students are likely to benefit from using VSC.

References

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