Espin, C.A., Busch, T.W., & Shin, J. (2001). Curriculum-based measurement in the content areas: Validity of vocabulary-matching as an indicator of performance in social studies. *Learning Disabilities Research & Practice, 16*(3), 142–151.

Summary: Fifty-eight, seventh-grade social studies students were studied to examine the effectiveness of two curriculum based measures (CBM) of performance in a content-area classroom. Specifically, the CBM, student- and administrator-read vocabulary-matching probes, was evaluated in its effectiveness of indicating student achievement on the social studies subtest of the *Iowa Test of Basic Skills* (ITBS), knowledge-based tests, and end of quarter grades. Single probe measurements failed to be reliable indicators of achievement in criterion measures; however, once probes were combined they were determined to be reliable sources of future achievement on criterion measures. Moreover, correlations were moderate to moderately strong between both predictors and criterion variables, with the sole exception between vocabulary-matching probes and students' grades. Observed scores trended lower for students with learning disabilities (LD). This reaffirmed the significant relationship between CBM and criterion measures.

Assumptions:
- CBM can be used as a system within the classroom to monitor progress and intervention needs.
- CBM can be used with students with learning disabilities.
- Grades and high-stakes tests fail to provide ongoing information to teachers (e.g., progress and performance).

Results:
- The alternate-form reliability of both types of vocabulary-matching measures was low.
- Combining scores across probes resulted in higher alternate-form reliability.
- There were moderately strong to strong correlations between vocabulary-matching measures and criterion measures. The sole exception was end-of-quarter grades, where the correlation was only low to moderate.
- There was no significant difference in the correlation between administrator-read and student-read vocabulary-matching probes and criterion measures.
- Due to a small sample size of students with LD (n=5), researchers were unable to ascertain, systematically, test differences and draw conclusions. However, trends indicated a lower score on vocabulary-matching probes, which supports earlier findings of correlation between CBM and criterion measures.

Conclusions:

- Results affirm the reliability and validity of vocabulary-matching measures as indicators of students' performance and progress, with the exception of end-of-quarter grades.
- Two probes should be combined to attain acceptable reliability scores.
- There was no statistical difference between student- and administrator-read vocabulary-matching probes.
- The lower scores for students with LD affirm the positive relationship between CBM and criterion measures.

Suggestions for Teachers:
- Practice trials should be conducted before using CBMs to add validity to the measurement.
- Students need to be kept motivated to maintain accurate scores from vocabulary-matching probes. Students can chart their own results on a weekly or bi-weekly basis.
- Increasing the length of the probes can increase reliability.
- Probes can assist in indicating if a student needs intervention.

Suggestions for Literacy Leaders:
- Multiple sites should be chosen to test the effectiveness of CBM as indicators of criterion measure success.
- Due to the small LD sample size in this study, the use of vocabulary-matching probes should be evaluated further in the classroom to determine its effectiveness with a LD population.
- CBM data could be used for placement considerations. Students may be passing a class due to other factors but not understanding the course-content.
- Teachers should be trained in using vocabulary-matching probes, including their effectiveness and the how often probes should be used in the classroom.