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ASSESSING DIVERSE COMMUNITY COLLEGE STUDENTS' VOCABULARY
COMPREHENSION THROUGH CONTEXT CONSTRUCTION

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Running Head: ASSESSING DIVERSE COMMUNITY COLLEGE STUDENTS'
VOCABULARY COMPREHENSION THROUGH CONTEXT CONSTRUCTION

Summary. Sixty-nine community college students completed a study which assessed their vocabulary comprehension based on their ability to define randomly selected Scholastic Aptitude Test (SAT) words and construct their own sentences that illustrated the meaning of the word. This research assessed students' vocabulary comprehension through their ability to construct context. The information provided from this study demonstrates the variability of students' vocabulary comprehension. The results of this repeated measures design, demonstrated that students mean scores were very low (5.67, 4.54, 5.54, and 5.91 out of a possible score of 50) for vocabulary definition and comprehension. This indicates that this was a challenging task for the community college students in this study. Overall, the results of this study indicate the need to identify how students comprehend words and improve vocabulary comprehension for students' academic success.

There are numerous methods used to assess vocabulary comprehension. Often these methods involve some type of multiple-choice test, with either the words presented independently or within a context. One example is the Nelson-Denny Reading Test which includes a vocabulary section with 80 items, each with five answer choices and a time limit of 15 minutes (Haught and Walls, 2002). Another widely used method is the Test of English as a Foreign Language (TOEFL) vocabulary item measure which measures the breadth and depth of vocabulary comprehension (Qian, 2002). Still other measures include the Gates-MacGinitie Reading Tests (GMRT) and SDRT tests which are multiple-choice tests (Joshi, 2005). McDaniel and Pressley (1989) conducted research on vocabulary words used in the context of three-sentence passages and try to infer the meaning of the word by answering 15 true-false test questions to measure comprehension of story.

Vocabulary tests that provide a context are the basis for measuring reading comprehension (Qian, 2008). Use of contextual cues to measure students' vocabulary comprehension can enhance students' ability to derive the meaning of words that they would not be able to otherwise comprehend. However, for the present study, it was decided to first assess vocabulary comprehension without use of contextual cues as in standardized tests or other multiple-choice measures. The first goal of this study was to determine how many words from a given list that students could define and use in a sentence that demonstrates the meaning of the word without contextual cues from reading passages or multiple-choice items. This measure was designed to test students' vocabulary comprehension based on their use of prior knowledge to construct their own context in order to help them define the word and use it in a sentence. The second goal

was to gain information on how students interpret words. That is, to understand the contexts in which the students create meaning out of words. This understanding can be very helpful for educators when preparing lessons, exams and various course materials. The third goal of this study was to determine the level of improvement of vocabulary comprehension when the students were given time to review the definitions of words and sample sentences. It was hypothesized that students would score significantly better on vocabulary comprehension after the review time.

Community college students were chosen for this study based on their need for improvement in vocabulary comprehension and the many factors that play a role in this population of students' academic success. The following studies describe some key factors of the community college students, including, first-generation college students and students enrolled in remedial courses simultaneously with college-level courses.

Pascarella et. al (2004) conducted a study on the academic outcomes of first-generation college students reported that 53% of students starting at two-year colleges were first-generation college students. Further, Pascarella et al. (2004) found that first-generation college students had lower grades through the third year of college than did peers with parents who had both graduated from college. Also, first-generation college students had lower levels of extracurricular involvement, athletic participation and significantly lower levels of non-course-related interactions with peers in their third year of college.

Terenzini et al. (1996) also compared first-generation college students to students whose parents attended college and reported that first generation college students completed fewer first-year credit hours, took fewer humanities and fine arts courses,

studied fewer hours, worked more hours per week and made smaller first-year gains on a standardized measure of reading comprehension.

Illich et al. (2004) conducted a study of college students who were enrolled in college-level courses as well as in remedial courses. Remedial courses refer to courses in reading, writing, and mathematics for college students lacking those skills necessary to perform college-level work at the level required by the institution. The study revealed that the college-level pass rates were much lower among students who are also enrolled in remedial courses and who do not successfully complete one or more of the remedial courses. Further, a reported 41% of freshmen enrolled in community colleges were enrolled in at least one remedial course (Lewis and Farris, 1996).

Research has demonstrated the need for under-prepared college students to improve reading comprehension and writing performance (Duggan, 2010), academic achievement, retention and graduation rates, including first-generation college students and students taking remedial courses. This study seeks to identify how students construct their own context from words and to provide evidence on how to improve under-prepared community college students' vocabulary comprehension.

The author wishes to acknowledge that there are multiple reciprocal factors involved in the amount and level of students' vocabulary comprehension. These factors are based on Social Cognitive Theory (SCT), which is a comprehensive theory of human behavior, where an important principle of SCT is reciprocal determinism. Reciprocal determinism includes three factors: (1) behavior; (2) the environment; and (3) the person which simultaneously influence each other (Bandura, 1986). These interrelated factors affect students' vocabulary comprehension by (1) their amount and

level of reading; (2) the students' exposure to and social interactions with various levels of vocabulary comprehension; and (3) their thoughts and feelings in regards to their own vocabulary comprehension. In regards to the students' amount and level of reading, studies have shown extensive reading to be beneficial for students' vocabulary comprehension (Fernandez de Morgado, 2009). Extensive reading refers to the reading of large quantities of material for information or pleasure in an autonomous way.

The present research demonstrates how many words from a given list that community college students could define and use in a sentence that demonstrates the meaning of the word without contextual cues.

Method

Participants

This study was a repeated measures design where 81 female and nine males ($M = 21.63$, $SD = 4.08$) community college students were recruited to participate in this study. Of the 90 students recruited, 69 completed the study. The ethnic diversity of the participants included 16 Black, 18 Hispanic/Puerto Rican, 14 White, nine Asian/Pacific Island, and 12 Other. Forty-nine of the participants (71%) spoke English as their first language and 20 of them (29%) listed another language as their first language. In regards to their reading comprehension abilities, 35 passed the college's reading placement test, 24 were exempt (based on their secondary school Regents' and Scholastic Aptitude Test scores) and 6 students failed.

Measures

Procedures

Each participant completed the profile questionnaire then the participants were given the first set recall and comprehension tests. The recall and comprehension tests were tests to measure verbal performance and consisted of 10 randomly selected Scholastic Aptitude Test (SAT) words that the students defined and used in their own sentence that illustrated the meaning of the word, to the best of their ability within 10 minutes. SAT vocabulary words were selected based on the reliability and validity of standardized tests of academic aptitude that have been used for decades in efforts to predict success (Marsh, Vandehey, and Diekoff, 2008). The participants completed the second set of recall and comprehension tests a week later, to minimize any potential learning effect from the first tests. After completing each set of pretests, students were given the correct definitions and sample sentences to review in preparation for posttest measures.

The students' answers on the tests were scored from 0 to 50 points for definition and 0 to 50 points for sentence construction. Their score was based on the number of word definitions that they wrote correctly, or partially correct, and the number of sentences in which they have correctly or partially correctly used the SAT words, within the given time period, according to the table 1, definition rubric and sentence completion rubric in table 2.

Table 1

Definition Rubric

Defined word correctly	5 points per word
Defined word mostly correct	3 – 4 points per word
Indicates some recognition of the definition	1 – 2 points per word
Defined word incorrectly (or no answer)	0 points per word

Table 2

Sentence Completion Rubric

Correctly used the word in a sentence that shows the meaning of the word.	5 points per word
Mostly correct use of the word in a sentence that shows the meaning of the word.	3 - 4 points per word
Used the word in a somewhat correct sentence that indicates the meaning of the word.	1 – 2 points per word
Incorrectly uses the word in a sentence (or no answer)	0 credit

Data Analysis

Descriptive statistics were used to calculate the means and standard deviations for GPA, recall and comprehension pretests and posttest. Also, means and frequencies were tested for gender, ethnicity, and pass/fail or exempt from the Compass Placement Reading Test. The recall and the comprehension tests were tested to determine if there were any significant differences between recall pretests 1 and 2 scores and comprehension tests 1 and 2 scores. Independent t-tests were conducted to determine the significant difference between recall test 1, comprehension test 1, recall test 2, and comprehension test 2. A chi-square analysis was conducted test whether or not there were any significant differences between students who withdrew from the study and those that remained. All statistical tests were performed using IBM SPSS Statistics 20.

Results

Descriptive Statistics

Ninety students were recruited to participate in this study and 69 students completed the study. 64 were female and five were male. The ethnic diversity of the participants included 16 Black, 18 Hispanic/Puerto Rican, 14 White, nine Asian/Pacific Island, and 12 other. 49 of the students (71%) spoke English as their first language and 20 of them (29%) listed another language as their first language. Of the 69 participants who completed the study, 35 passed the reading placement test, 24 were exempt and 6 students failed. Overall, 92% of the participants who completed the study either passed or were exempt from taking the reading placement test.

The means and standard deviations for the definition and sentence completion pre- and posttests appear in table 3.

Table 3 lists the overall means and standard deviations for independent and dependent measures (N = 69).

Table 3

Means and standard deviations for independent and dependent measures

	<u>Mean</u>	<u>Standard deviation</u>
Age	21.63	4.08
GPA	2.79	0.70
Definition pretest A	5.67	7.89
Sentence Construction pretest A	4.54	6.96
Definition test B	5.54	7.47
Sentence Construction pretest B	5.91	8.05

Note. N = 69

The average for definition pretest A was 5.67 out of a possible 50 points or 11 percent correct. The average for sentence construction pretest A was 4.54 out of a possible 50 points or nine percent correct. Taken together, the students scored 10.21 out of a possible 100 points for test 1 or 10 percent correct.

Similarly, the average for definition pretest B was 5.54 out of a possible 50 points or 11 percent correct. The average for sentence construction pretest B was 5.91 out of a possible 50 points or 12 percent correct. Taken together, the students scored 11.45 out of a possible 100 points for test 2 or 11 percent correct. As a result of rehearsal time, the students were able to significantly improve their scores where increases in learning were

greater for definition recall (26.99 and 29.41) measures than sentence construction comprehension measures (20.52 and 23.45).

Discussion

Overall, the students had low test scores means (5.67 for *recall A*, 4.54 for *sentence construction A*, 5.54 for *definition B* and 5.91 for *sentence construction B* out of a possible 50 points for each test). This indicates that this cognitive task was difficult for the community college students in this study, regardless of their current grade point average (2.79), whether or not English was their first language or whether or not they passed the Compass Reading Test. (Over 70% of the students indicated that English was their first language and 92% of the students passed or were exempt from taking the Compass Reading Test), a gateway measure of reading skill.

Sources of Cognitive Difficulty on the Comprehension Task

A qualitative analysis of pretest A revealed that many students recognized the word *fanaticism* as being related to “being a fan” or “obsessed.” Yet, they had difficulty using the word *fanaticism* in a sentence. For example, one student wrote, “The movie star don’t know how to talk with his *fanaticism* fan.” Alternatively, the word *induce* was frequently used in a sentence as it relates to pregnancy, and giving birth, but many students could not actually define the word. Instead they gave definitions such as “to force something open” and “to take in.” Also of interest was the word *scrutinize* where some students recognized the word but gave varied definitions such as “to put down,” “punish,” “to make smaller,” “to make fun of or pick on someone (harshly),” “to torment,” “to scold,” “to mis-read something,” “to look up and down,” and “stubborn.” The definition provided during the intervention phase for the word *scrutinize* was to

“examine closely and critically.” Many students could not identify the word *rancor* and one student gave the definition, “very rude” and wrote the sentence, “Now a days everyone is so rancor to one another.” The definition provided during the intervention phase for the word *rancor* was “bitterness; hatred.”

In the recall and comprehension test B, more students were able to define and/or use the words *reprimand* and *surpass* in a sentence as compared to the other words. They had difficulty with the other words and many students confused *exhaustive* with the word *exhausted* since their definitions made references to “being tired” instead of the actual meaning, “thorough; comprehensive.”

As a result of the rehearsal time, the students were able to significantly improve their scores where increases in learning were greater for definition recall measures than sentence construction comprehension measures. This demonstrates that the sentence construction comprehension task was more difficult.

Limitations of the Study

Although, the vocabulary words were randomly selected from an SAT preparation workbook, the selected words were not assessed for individual level of difficulty. However, the word difficulty issue would not affect the interpretation of the present findings because all students were exposed to the same lists of words.

Future Research

Future research of vocabulary comprehension might wish to include a test of self-efficacy (one’s personal beliefs concerning one’s capabilities to learn or perform behaviors at designated levels, Bandura, 1997) on students’ confidence level in how well they think that they defined the words and used them in a sentence. A test of self-

efficacy for vocabulary comprehension would inform the researcher as to how well the students think they perform on vocabulary comprehension tests. Then the researcher can assess the relationship between vocabulary comprehension and self-efficacy for vocabulary comprehension. Self-efficacy is an important determinant of whether or not an individual will choose to seek ways to improve their vocabulary comprehension. Therefore, students may need to improve their self-efficacy in order to improve their vocabulary comprehension.

Educational Implications

In view of these findings, it is recommended that instructors be aware of the potential for student discrepancies in vocabulary comprehension and develop ways to enhance student vocabulary knowledge in all aspects of student learning so they may perform better on reading and writing assignments and examinations. It can not only help students improve their general vocabulary knowledge but can also, significantly improve comprehension of course content. Clearly, this research has important implications for community college instructors as well as students.

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