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Incidental Acquisition of Vocabulary by Reading

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ABSTRACT

This study examines the impact of reading on vocabulary development with adult ESL students at the National Institute of Technology (Trichirappalli, India). The researcher analyzes the performance of the students who devoted their time to reading, and the students who learned consciously the meaning of words to develop their vocabulary knowledge. The results of the pre- and posttest confirm that readers were able to use the subconsciously acquired words in sentences, whereas the subjects who spent their time in learning dictionary meaning of words really could not use the learned words in sentences.

INTRODUCTION

It is well established that reading is a powerful source for the acquisition of vocabulary in a second language context, but more than that, it is hypothesized that reading, with no explicit vocabulary learning, can result in *incidental* vocabulary development (Day, Omura, & Hiramatsu, 1991; Krashen, 2004; Lehmann, 2007; Lee & Hsu, 2009; Ponniah, 2009). Every time readers read unfamiliar words they acquire at least partial meanings, and repeated exposure to such words will result in a considerable amount of vocabulary development. This is, of course, incidental learning. Readers acquire vocabulary when they focus on the meaning of the text they read, and not when focusing on unknown words. This process is subconscious—readers do not know that they acquire vocabulary while they read, but, in fact, they subconsciously absorb meaning.

The *comprehension hypothesis* (Krashen, 2004) maintains that reading results in the subconscious acquisition of vocabulary, syntax, and spelling. For ESL Fiji Indian students of the south pacific, Elley (1989) claims that there is a considerable increase in the word knowledge by reading a single story three times without any teacher explanation for words during the treatment period. Kweon and Kim (2008) confirm that second language learners acquire vocabulary incidentally through extensive reading and the acquired vocabulary is retained without much attrition. The study further confirms that the subjects acquire lexical knowledge when they focus on meaning. Day et al. (1991) assert that students reading stories in EFL classrooms absorb the meanings of words: the Experimental subjects who read the short story, *Mystery of the African Mask* (Swinburne & Bank, 1985) easily outperformed the Comparison subjects on a vocabulary

test. Vagovich and Newhoff (2004) ensured that children acquire partial word knowledge in a single exposure when they encounter a word through natural reading. Carey (1978) also assures us that the partial meaning of a word occurs from the first exposure, which is referred to as *fast mapping*, and the complete knowledge of a new word (*full mapping*) happens when encountering the word repeatedly in different contexts.

Despite the consistent evidence that vocabulary is acquired incidentally while focusing on meaning, it has been claimed that incidental learning alone is not enough, but it must be followed up by intentional learning for the development of vocabulary, and that the combination of both approaches will be most effective (Hulstijn, Hollander, & Greidanus, 1996; Coady, 1997; Pigida & Schmitt, 2006; Peters, Hultijn, Sercu, & Lutjeharms, 2009). This claim has been examined in a number of studies (Mason & Krashen, 2004; Lehmann, 2007; Smith, 2006), the results of which have confirmed that learning vocabulary in isolation (through dictionary search or by any means of conscious learning in addition to reading) has limited value only. In Mason and Krashen (2004), the story-only group acquired meanings more efficiently than the story-plus study group, which focused more on traditional vocabulary exercises. Lehmann (2007) claims that the extra work done by the explicit learning group was of limited value, and that the incidental learning group, which devoted their time to reading alone, performed well without extra study or paying attention to the words. This is consistent with the hypothesis that vocabulary is acquired by reading (Krashen, 1989).

The goal of this study is to determine the effects of reading on vocabulary development by comparing performance between the subjects who devoted their time to reading, and the subjects who learned consciously the dictionary meaning of words on a vocabulary test that asks them to write the meaning of words, as well as on a test that requires them to use the words in sentences.

METHOD

Participants

Subjects were 49 first-year undergraduate students from the National Institute of Technology in Trichirappalli, India. They had studied English as a second language for fourteen years. Discussions with the students indicated that they believed in learning consciously the meaning of words. Moreover, they were not aware that they could develop their vocabulary by simply getting exposure to understandable English texts.

Procedure

The short story, *The Chinese Statue* (Archer, 1998), was used as a reading passage for the study. A pilot study was conducted with seven students from a similar group to identify the unfamiliar and the most difficult words from the short story; they found 51 unfamiliar words, 16 of which were identified as the most difficult. The researcher then edited the story in such a way that the difficult words occurred at least twice in the story, or were used in a context in which the participants could easily understand. The story was edited to enhance comprehensibility rather than encourage a focus on words, and the participants in the Experimental group were asked to focus only on the meaning of the text.

No reading was done by either the Experimental group or the Comparison group before the pretest. The Experimental group read the edited version of the short story and the Comparison group studied the dictionary meaning of words only after the pretest. Two pretests were administered—the first test asked the participants to write the dictionary meaning of 20 words which occurred in the short story, and the second test asked them to use the words in twenty different sentences. Then, the Experimental group read the edited story, and the Comparison group learned the dictionary meaning of the 51 unfamiliar words. Both groups devoted approximately 60 minutes to complete the task, before taking the same tests as posttests. The first 23 students from the list were assigned to the Comparison group and the other 26 to the Experimental group.

Results

Table 1 presents mean scores and the standard deviation for students on the first test which asks students to write meanings for words.

Table 1. Test 1—Writing Meaning of Words

	Pretest	Posttest	Gain
Comparison Mean	7.13 (35.65%)	10.65 (53.26%)	3.52 (17.61%)
SD	3.27	4.07	
Experimental Mean	4.81(24.05%)	10.73 (53.65%)	5.92 (29.60%)
SD	4.19	5.47	

N = 23 for Comparison subjects and 26 for Experimental group, standard deviations for raw scores, maximum score was 20.

The independent sample *t* test (two-tailed) shows that the performance of the Comparison and the Experimental subjects were statistically significant, but with greater gains for Experimental subjects (Comparison group, $t = 3.229$, $df = 44$, $p < .002$; Experimental group, $t = 4.38$, $df = 50$, $p < .000$). Table 2 presents the results of the Test 2 which tests if they could use the acquired/learned words in sentences. Here, the subjects were asked to use the twenty words in sentences.

Table 2. Test 2—Using the Learned/Acquired Words in Sentences

	Pretest	Posttest	Gain
Comparison Mean	9.52 (47.61%)	10.09 (50.43%)	0.57(2.82%)
SD	3.70	3.57	
Experimental Mean	5.96 (29.81%)	12.69 (63.46%)	6.73 (33.65%)
SD	4.76	6.08	

N = 23 for Comparison subjects and 26 for Experimental group, standard deviations for raw scores, maximum score was 20.

The Experimental group clearly did better on this test, and the differences were statistically significant ($t = 4.48$, $df = 50$, $p < .000$). Regarding the Comparison subjects the *t* test failed to bring any reliable difference in the mean scores (pretest, $M = 9.52$, $sd = 3.70$; posttest, $M = 10.09$, $sd = 3.57$, $t = .52$, $df = 44$, $p = .601$).

Experimental subjects who read the researcher-edited story acquired more words than the Comparison group (who believed they were acquiring vocabulary by learning the dictionary meaning of words). Even though the performance of the Comparison group is statistically significant on the posttest (in which they write the meaning of words), the Experimental subjects performed better on the same test, indicating that reading alone produced superior results.

DISCUSSION AND CONCLUSION

The results of the second test confirmed that learners were unable to put to use in sentences the consciously learned words, while the readers who acquired words incidentally were able to use the unconsciously absorbed words in sentences. There were significant statistical differences between the pre- and the posttest scores for the Experimental subjects, but for the Comparison group there was no reliable statistical difference in their performance, confirming that consciously learned words may not be used.

The readers (the Experimental group, who *did not know* that they were reading to enhance their vocabulary, focusing only on meaning) were able to use the acquired words in sentences, as they had not only absorbed the meaning of the words but also the grammar. In order to acquire the full meaning of a word (and to retain it for longer periods of time), students must have repeated exposure to the word in different contexts. This result is consistent with Carey's (1978) study that "one, or a very few experiences with a new word can suffice for the child to enter it into his mental lexicon and to represent some of its syntactic and semantic features..." and the full mapping of the word occurs "as the child encounters the word again" (pp. 291-292). The Experimental subjects engaged with the meaning of the text only, which is consistent with the comprehension hypothesis: the acquisition of vocabulary happens when experiencing comprehensible input in the target language, and not when focusing on form.

After the treatment process, in the course of discussion with the participants, it was discovered that more Comparison subjects studied in an English-language medium school than the Experimental subjects, which explains why they, as a group, performed better on the pretests. This might be a possible design flaw of this study, but as it only makes the case stronger for incidental learning (as the Comparison Group seems to have had a "leg up" on the Experimental group, and the Experimental Group still did better), it was not considered an influencing factor.

In sum, this study confirmed that reading results not only in the acquisition of the meaning of words, but also correct grammar. There are limits in using consciously learned words in sentences, whereas words can easily be used when they are subconsciously acquired through reading.

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