THE EFFECT OF WORD MEANING DERIVING STRATEGY INSTRUCTION: THE CASE OF EFL STUDENTS IN TAIWAN

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Abstract: This study intends to find out the effect of teaching word meaning deriving strategies to EFL Students in Taiwan. The subjects were one class of the first year students attending a junior college in Taiwan. They were given a pre-test, which contained a passage, 10 vocabulary test items and 10 strategy questions. The researchers then began a two-month experiment. During the experimental period, the researcher, who was the instructor of the subjects, taught word meaning deriving strategies to students. The post-test, which was exactly the same as the pre-test, was given at the end of the experimental period. The results show significant differences of students' correct guessing rates and the strategy choice between the pre-test and the post-test. This suggests that it is worthwhile teaching EFL students word meaning deriving strategies.

Key words: strategies, word meaning, reading

Vocabulary acquisition has been an important issue for ESL learners. Researchers have studied the basic vocabulary size for ESL learners to be able to read authentic materials. Laufer (1991, 1992, and 1997) proposed that 4800 words were the minimum vocabulary size for L2 learners to be able to apply their L1 reading skills to L2 reading. In order to help students increase their vocabulary size, EFL teachers in Taiwan usually allot plenty of class time to teach students vocabulary (Ho, 2001; Lu, 1997; Sun, 1993).

Ho (2001) observed the vocabulary instruction in four classes, and found that discourse explanation, semantic explanation, and syntactic explanation were the three most often utilized skills to teach vocabulary by Taiwan EFL teachers. Dis-

course explanation referred to the discourse that teachers used to repeat, summarize or draw students' attention to the usage or the meaning of a target word; "Be careful," "I will say that again" are some examples teachers used to get students' attention. Semantic explanation happened when the teacher taught the students the exact meaning of a target word. Syntactic explanation was applied to explain the part of speech and the collocation of a lexical item; for instance, in the sentence "She is beautiful." the word "beautiful" is an adjective. Besides the direct vocabulary instruction, as stated above, there aren't studies dealing with whether EFL teachers should teach EFL students word meaning deriving strategies for coping with unknown words while reading authentic English materials in Taiwan, and what strategies could be included in the instruction. Therefore, the study intends to find out the effect of teaching word meaning deriving strategies to EFL Students in Taiwan and propose the strategies which could be included in instruction.

One of the strategies utilized by students was looking up unknown words in the dictionary. According to a recent study (Lin, 2003), among the subjects, 87 college students and 85 senior high school students in Taiwan, only 27 students (15.7% of all subjects) immediately looked up every unknown word in the dictionary while reading English materials. Even though dictionaries could offer direct definitions for each word, the strategy of looking up every unknown word in the dictionary while reading was not encouraged. The reason was that the constant interruption may deter students from comprehending the context, and students usually have difficulty in choosing the proper definition which fits the reading context from the dictionary (Miller & Gildea, 1987; Nagy & Scott, 2000).

Another strategy was guessing the meaning of unknown words from context clues first and then looking up the words of which the meanings were hard to guess in the dictionary. Lin (2003) reported that among 172 subjects participating in the experiment, 99 students (57.6% of all subjects) chose this strategy when they read English materials. However, whether students have the ability to apply the strategy or whether the natural reading material contains enough clues for word meaning guessing is constantly questioned by researchers. Bensoussan and Laufer (1984) uncovered that among the 41 clues appeared in the article, students could only utilize 17 clues, and the correct guessing rate was merely 13 percent. Hence, they reach the conclusion that context did not offer enough clues for vocabulary guess. Alabdelwahab (1996) found that the correct guessing rate was 22.3%, and 18.6% of the guessing was partially correct. Alabdelwahab also examined the reasons

causing incorrect guessing, and concluded that phonological similarities, and part to whole guessing strategies often led to wrong answers.

Schatz and Baldwin (1986) conducted three experiments to find out whether context clues are reliable for deriving word meanings. The results revealed that some context clues were useful for deriving word meanings, but some were not. However, whether students saw the reading context did not affect their scores. Therefore, Schatz and Baldwin proposed that context clues are not useful for deriving word meanings. On the other hand Herman, Anderson, Pearson, and Nagy (1987) revealed that students scored higher after reading articles with rich context clues.

As for the strategies useful for deriving word meanings, Sinatra and Dowd (1991) suggested that students use syntax and semantic clues. Chern (1995) found that ESL students from Taiwan with high English proficiency level tended to use more forward clues than students with low English proficiency level. Harmon (1999) revealed that students used more local context clues than distant context clues. Students also analyzed the target word to guess its meaning; moreover, Harmon suggested that students be more creative while dealing with unknown words; instead of following particular procedure.

Should EFL teachers teach students how to guess word meanings? What strategies should be included in the instruction? How does that affect students? There are few experiments dealing with these questions. Jenkins, Matlock, and Slocum (1989) did an experiment on vocabulary instruction approaches. The results indicated that after receiving training on inferencing vocabulary meanings, students enhanced their ability to derive vocabulary meaning from context clues. However, the average correct guessing rate, 1.63%, was not high. In that experiment, the guessing strategy taught was a linear procedure: first, students replaced the target word with their guessing word; second, students looked for context clues to sustain their guessing; then, if the guessing word did not correspond to the context clues, students would try to figure out another word.

It appears that receiving training on vocabulary deriving strategies does help students guess vocabulary meaning more correctly. However, the subjects of the study done by Jenkins et al. (1989) were English native speakers. The present study explores whether Taiwan EFL students will benefit from word meaning deriving strategy instruction. Besides the procedure used in the experiment done by Jenkins et al. (1989), the researcher added two more strategies in the procedure: using syntactic clues and morphological clues.

METHOD

The subjects were 40 students from an intact class of a junior college in central Taiwan. They were the first year students in the junior college, and had learned English as a foreign language for at least three years. They were given a pre-test, which contained a passage, 10 vocabulary test items and 10 strategy questions. The passage was titled "Healthy life", which had been employed in the study of Lin (2003). The passage consisted of 272 words. All the words appearing in the passage had been studied by the subjects in the past, except for the 10 target words. The pre-test asked students to guess the meaning of the 10 target words, appearing in the passage and write down the Chinese equivalences of the target words. Every word-meaning deriving question was immediately followed by a multiple-choice strategy question, which asked students to choose the strategies they had applied in the word-meaning deriving process. A word-meaning deriving question and strategy question were shown below:

1. I guess the word excess means _____.
2. _____ The clues I use to guess the meaning of the word are:
    a. I try to sound it out, and it sounds like the meaning I guessed;
    b. The spelling of this word is similar to a word I know
    c. I know what the {stem, prefix, or suffix} of the word means (please write down the meaning) ---------_____;
    d. According to the meaning of the sentences nearby;
    e. According to the meaning of the whole passage;
    f. I find the word must be a verb, an adjective, an adverb, or a noun---please circle one;
    g. Using previous knowledge about the topic;
    h. I knew the meaning of the word;
    i. Other methods _____

The pre-test was administered in February 2006. The researcher then started the two-month strategy instruction experiment from February 2006 to April 2006. During this period, the researcher taught the subjects three hours a week. The instructional procedure was as follows:

1. Subjects were asked to read a passage silently and circle out the unknown words they encountered in the passage.

2. Subjects worked in groups of four and guessed the meaning of the unknown words without looking them up in the dictionaries.
3. The teacher asked the subjects the guessing results and provided the correct meaning of the unknown words.
4. The teacher explained how the guessing strategies were applied to derive the meaning of the unknown words and what part of speech the unknown word belonged to.
5. The teacher allotted the last ten minutes of every class period to teach the prefix, suffix, and stem of words; for example, the prefix "re" usually meant "again."

Four articles were utilized in class during the experimental period and none of the target words appeared in these articles. Hence, the difference between pre-test and post-test will be attributed to the strategy instruction. The subjects took the post-tests, which were the same as the pre-tests, in April 2006.

The scoring rubric used in the research by Lin (2003) was adopted in the present study with slight revision. A correct guess of the meaning of the target word was awarded three points. Answers would be awarded two points if they made sense in the context. Answers would be awarded one point if they shared the same grammatical categories as the target words but the meaning did not make sense in the context. Zero point was awarded to totally incorrect answers or blanks. The differences of the scores between pre-tests and post-tests were compared. Both pre-tests and post-tests were rated by the researcher and a colleague independently. SPSS was used to analyze the data. Whether the treatment affected the strategy choices of the subjects was also addressed in the results.

FINDINGS

The subjects were 40 students from an intact class of a junior college in central Taiwan. Among them, there were only 32 students completed both pre- and post- tests. Hence, the data from the eight students who did not complete both tests were discarded. Table one showed the background information of the subjects. These subjects were 16.84 years of age on average. Nearly two thirds of them were 17 years old. Twenty-six of the subjects were female and six of them were male. Seventy five percent of the subjects started to learn English at age twelve to fourteen. A quarter of them started at earlier age. More than one third of subjects never watched TV programs in English. Forty percent of them spent fewer than two

hours per week watching TV programs in English. Twenty-one students, 65.6% of all subjects never listened to English radio broadcasts. Nine students, 28.1% of all subjects, spent fewer than two hours per week listening to English radio broadcasts. None of the subjects visited any English speaking country.

Inter-rater reliabilities were both high for pre-tests and post- tests, .862 and .955 respectively. These results indicate that the two raters agree on the degree of the correctness of the guessing answers most of the time.

Table 2 reveals that the means of the pre-test scores and post-test scores were 5.16, and 11.64 respectively. There was a significant difference between the means of the pretest and posttest scores, $t(31) = -6.305$, $p < .01$, which means the vocabulary guessing strategy instruction did help the subjects to gain higher scores in the posttest.

Table 1. Subjects' Background Information

		Number of subjects	Percentage
Age	16-17	30	93.8
	Over 17	2	6.2
Gender	Male	6	18.8
	Female	26	81.3
Subjects' age at onset of English learning	4-11	8	25
	12-14	24	75
Watch English TV programs	Never	11	34.4
	＜2hrs / per week	13	40.6
	＞2hrs / per week	8	25
Listen to English radio broadcasts	Never	21	65.6
	＜2hrs / per week	9	28.1
	＞2hrs / per week	2	6.3
Visit English speaking countries	Never	32	100

Table 2. Means (and Standard Deviations) of Scores for Pre-Test and Post-Test

	M	SD	t-value	Sig. (2-tailed)
Pre-test	5.16	3.79	-6.305**	.000
Post-test	11.64	6.54		

Note. Maximum score = 30. N=32. **p<.01

Table 3 is a list of the strategies and the descriptions of these strategies used by the subjects. Thereafter the labels (strategy a, b, c, d, e, f, g, h, and i) will be mentioned throughout the study to stand for the descriptions stated in the table.

Table 3. List of Strategies Used by Subjects

Label	Description
Strategy a	I try to sound the word out, and the word sounds like the meaning I guessed.
Strategy b	The spelling of this word is similar to a word I know.
Strategy c	I know what the stem, prefix, or suffix of the word means.
Strategy d	According to the meaning of the sentences nearby.
Strategy e	According to the meaning of the whole passage.
Strategy f	I find the word must be a verb, an adjective, an adverb, or a noun.
Strategy g	Using previous knowledge about the topic.
Strategy h	I knew the meaning of the word.
Strategy i	Other methods

Table 4 shows that the strategy instruction changed students' strategy application in the task. There were significant differences in the frequencies of strategy d and strategy h used by the subjects between pre-tests and post-tests, $t(31) = -4.80$, $p < .01$ and $t(31) = -2.104$, $p < .05$ respectively.

Table 4. Frequency of Strategy Use Before and After Vocabulary Guessing Strategy Instruction

	Frequency of Strategy Use			
	Pre-test (*M*)	**Post-test(*M*)**	***t***	***p***
Strategy a	.41	.81	-1.281	.210
Strategy b	.56	.53	-.147	.884
Strategy c	.31	.50	-.524	.604

Table 4 continued

Strategy d	3.44	5.84	-4.80**	.000
Strategy e	3.06	3.19	-.191	.850
Strategy f	1.34	.84	1.072	.292
Strategy g	.66	.94	-.747	.460
Strategy h	9.38E-02	.34	-2.104*	.044
Strategy i	3.13E-02	0	1.000	.325
Sum	9.91	13.00	-2.8**	.008

Note. Maximum value of the mean of every strategy =10. * p <.05. **p <.01

In addition, the rank of strategy use changed as well. Before strategy instruction, subjects used "strategy d" most frequently, followed by "strategies e, f, g, b, a, c, h, and i". After strategy instruction, subjects still used strategy d most frequently, followed by strategy e, g, f, a, b, c, h, and i (see Table 5).

Table 5. Rank of Strategy Use: Pretest vs. Posttest

Rank	Pretest	Posttest
1	D	D
2	E	E
3	F	G
4	G	F
5	B	A
6	A	B
7	C	C
8	H	H
9	I	I

Table 6 indicates the correlations between the frequencies of strategy use and guessing scores in the post-test. The correlation between the posttest score and the frequencies of strategy d use was statistically significant and showed a medium positive relationship ($r = .551$, $p < .01$). Besides, the correlation between the post-test scores and the frequencies of strategy h use was statistically significant and showed a low positive relationship ($r = .372$, $p < .05$). The correlation between the total number of strategies used in the posttest and the post-test scores also reached statistically significant level ($r = .379$, $p < .05$).

Table 6. Correlations Between The Frequencies of Strategy Use and Guessing Scores in The Post-Test

	Guessing score	
	Pearson correlation coefficient	Sig. (2-tailed)
Strategy a	.147	.442
Strategy b	.103	.574
Strategy c	.142	.438
Strategy d	.551**	.000
Strategy e	.035	.851
Strategy f	.111	.546
Strategy g	-.232	.201
Strategy h	.372*	.036
Sum of strategies used	.379*	.032

Note. *p<.05. **p<.01.

DISCUSSION

The findings stated above (see table 2) uphold the study done by Jenkins et al. (1989), and reveal that vocabulary meaning guessing strategy instruction does enhance students' ability to derive the meanings of unknown words while reading English materials. The mean of the pre-test scores is 5.16, whereas the mean of the post-test scores is 11.64, which discloses that the correct guessing rate was enhanced from 17.2% to 38.8%. These data are much higher than the correct guessing rate reported in the Jenkins et al. (1989).

One possible explanation is that the present experiment did not restrain students' guessing procedure and strategy use. Students were instructed in using various strategies freely to accomplish the task, instead of sticking to some particular procedure. This corresponds to the Harmon's (1999) suggestion about the effect of creative use of strategies in dealing with unfamiliar words.

These results suggest that the strategy instruction urges students to utilize more of the clues appearing in the nearby sentences of the unfamiliar words. According to the study done by Lin (2003), the frequency of strategy d use and the correct guessing rate are positively correlated by both college and high school students. Therefore, students' increasing use of strategy d will bring about higher guessing scores. This might account for the success of the treatment. As for the increasing use of strategy h may be attributed to the input students might receive

from other classes or resources during the experimental period. The difference of the means of the total frequencies of strategy use in pre-tests and post-tests is also statistically significant, $t(31) = -2.8$, $p < .01$. This indicates that students are more open-minded to apply all sorts of clues to derive the meaning of unfamiliar words after the treatment.

The results showed in Table 5 correspond to the findings of Lin (2003). The four most frequently used strategies in pretest in the present study are exactly the same as the ones used by college and high school students in the study done by Lin. This also enhances the reliability of the test. The data show that after the treatment, the use of "strategy g" ranks higher than the use of strategy f, which may be explained as students' creative application of strategies.

These results revealed in Table 6 suggest that the more application of strategy d and h, the better chance students would have to derive the correct meaning of words. These findings are in harmony with the conclusion of the study done by Lin (2003). Besides, students using more strategies would be more likely to derive word meaning correctly. This is also compatible with the findings of the research conducted by Harmon (1999). Harmon found that subjects usually use more than one strategy to derive the meaning of unfamiliar words.

CONCLUSIONS AND SUGGESTIONS

This study aims at finding out whether the vocabulary guessing strategy instruction helps enhance students' abilities to derive the unknown word meanings in reading English materials. A two-month instruction experiment was conducted in a college by the researcher. The data were collected from 32 students in an intact class. The results revealed that students gained higher scores in the word meaning deriving tests after the strategy instruction. The data gathered also indicated that students became more willing to try different strategies to derive the unknown word meanings while reading English materials. This change in turn assists students in word meaning deriving task.

The findings of the study suggest that EFL teachers should not assume that EFL learners were born with the talent and skills to derive the meaning of the unknown words in English reading materials. Teaching students how to use various strategies to derive the meaning of unknown words will prepare students to tackle the unknown words in English reading materials more effectively.

Further study on subjects from different countries is necessary to examine whether the results can be applied to students with other native languages. In addition, teaching students prefixes, suffixes and roots of words needs more time than planned. Further study may consider allotting more time to teaching word formation knowledge.

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