

ผลของการฝึกกลวิธีอภิปัญญาที่มีผลต่อผลสัมฤทธิ์ทางคำศัพท์และ  
ความคงทนการเรียนรู้คำศัพท์ของนักศึกษามหาวิทยาลัยราชภัฏนครราชสีมา  
THE EFFECTS OF METACOGNITIVE VOCABULARY STRATEGY TRAINING  
ON VOCABULARY ACHIEVEMENT AND RETENTION OF NAKHONRATCHASIMA  
RAJABHAT UNIVERSITY STUDENTS

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### บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาผลของการฝึกกลวิธีอภิปัญญาที่มีผลต่อการพัฒนาผลสัมฤทธิ์ทางคำศัพท์และความคงทนการเรียนรู้คำศัพท์ของนักศึกษาที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ กลุ่มตัวอย่างคือนักศึกษากลุ่มทดลองที่ได้รับการฝึกการเรียนรู้คำศัพท์ด้วยกลวิธีอภิปัญญาเป็นเวลา 11 สัปดาห์ ผลการวิจัยพบว่าการฝึกการเรียนรู้คำศัพท์ด้วยกลวิธีอภิปัญญา มีผลต่อการเรียนรู้คำศัพท์ของนักศึกษาอย่างมีนัยสำคัญ

จากการวิเคราะห์ข้อมูลโดยใช้สถิติทดสอบ One-way ANOVA ผลจากการวิจัยนี้พบว่า นักศึกษามีการพัฒนาผลสัมฤทธิ์ทางคำศัพท์และความคงทนการเรียนรู้คำศัพท์ จากผลคะแนนสอบที่สูงขึ้น เรื่อง ส่วนประกอบของคำ และการวิเคราะห์คำ อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 การฝึกการเรียนรู้คำศัพท์ด้วยกลวิธีอภิปัญญาช่วยเพิ่มประสิทธิภาพในการเรียนรู้ทางด้านคำศัพท์ให้กับนักศึกษา

ข้อเสนอแนะสำหรับการวิจัยในอนาคต จากผลการวิจัยมีพบว่า การฝึกการเรียนรู้คำศัพท์อาจมีผลดีต่อการเรียนรู้คำศัพท์ของนักศึกษาซึ่งจะนำไปสู่การพัฒนาผลสัมฤทธิ์ทางคำศัพท์และความคงทนการเรียนรู้คำศัพท์ ดังนั้นนักศึกษาคควรได้รับการฝึกกลวิธีอภิปัญญาเพื่อใช้ในการเพิ่มความสามารถทางภาษาของตนเองโดยอัตโนมัติ และนักศึกษาคควรได้รับการสนับสนุนให้ใช้กลวิธีอภิปัญญาที่มีประสิทธิภาพมากขึ้นในบริบททางวิชาการ

**คำสำคัญ :** การฝึกการเรียนรู้คำศัพท์ด้วยกลวิธีอภิปัญญา, กลวิธีอภิปัญญา, กลวิธีการเรียนรู้คำศัพท์

## ABSTRACT

The purpose of the present study was to investigate the effect of metacognitive vocabulary learning strategies on the development of vocabulary achievement and retention of EFL students. Students were assigned to an experimental group, who received instruction on vocabulary learning strategies throughout a 11 week period of instruction. The results of the study revealed that metacognitive vocabulary strategy training has a significant positive effect on the vocabulary learning of students.

The results from the one way ANOVA indicated that the students had increased vocabulary achievement and retention. They obtained higher vocabulary scores for both word parts and word analyses at a significance level of 0.05. The training of metacognitive vocabulary learning strategies helps students to effectively learn vocabulary.

Recommendations for further study research, the findings suggested the metacognitive vocabulary strategy training might have a positive effect on students' vocabulary learning, leading to the improvement of vocabulary achievement and retention. Therefore, the students should be trained to automatically use metacognitive strategies to enlarge their language abilities and they should be encouraged to use more powerful levels of metacognitive strategies within the academic context

**Keywords :** Metacognitive vocabulary strategy training, Metacognitive strategies, Vocabulary learning strategies

## INTRODUCTION

To be effective in vocabulary learning, students should be trained to use strategies and should be also be trained as independent and active learners. As a consequence, students should be trained to learn how to use strategies (Hashemi & Hadavi, 2015). Well known experts (Oxford, 1990; O' Malley & Chamot, 1990) have emphasized the metacognitive model of strategic learning that includes plan, monitor and evaluation. In addition, Schmitt (2000, p. 136) stated that "metacognitive strategies involve a conscious overview of the learning process and making decisions about planning, monitoring, or evaluating the best ways to study". Thus, students who know metacognitive strategies could use various metacognitive knowledge to select learning strategies that promote their second language acquisition Ellis (1994 cited in Morin & Goebel, 2001). With the advantages of metacognitive strategies knowledge, students should find out how to learn more about metacognitive knowledge, because it deals with vocabulary knowledge and it is an instrument which can fulfill the gap of students' knowledge of L2 abilities. For this reason, students can be trained to

rehearse effective strategies and responsibilities for their own learning, and to promote autonomous learners. Thus, this is the goal of strategy training (Rezvani, Kalajahi, & Pourshahian, 2012 cited in Akbari, 2015). Metacognitive strategies are a tool to support the success of language learners, as they can help students to improve vocabulary understanding effectively, and this can make language learning successful as it involves planning, monitoring, and evaluating (O' Malley & Chamot, 1990). The current study focuses on metacognitive vocabulary strategy training and its effect on vocabulary learning ability of Thai EFL students. The more specific focus of this study is the students at Nakhonratchasima Rajabhat University, Thailand, as these particular students have vocabulary learning problem.

## PURPOSE OF STUDY

To investigate how metacognitive vocabulary strategy training effects NRRU students' vocabulary achievement and vocabulary retention.

### Related Literature

#### 1. Classifications vocabulary learning strategies (VLS) —a brief outline

According to the significance of language learning strategies, there are some classifications of vocabulary learning strategies included in them. Thus, many scholars such as Gu and Johnson (1996) have proposed vocabulary learning strategies and language learning outcomes, which cover metacognitive, cognitive, memory, and activation. However, more established taxonomies of vocabulary learning strategies are well known from another study which is based on Oxford's notion of language learning strategies taxonomies. From this viewpoint, Schmitt (1997) has classified two main vocabulary learning strategies that contain almost 58 items. Schmitt (1997) has grouped vocabulary learning strategies into two categories of discovery and consolidation strategies. First, strategies for the discovery of a new word's meaning are determination strategies and social strategies. Other, strategies for consolidating a word once it has been encountered are memory strategies, cognitive strategies and metacognitive strategies. Moreover, Nation (2001) has divided the vocabulary learning strategies into three general classes: planning, sources and processes.

Literally, among the vocabulary learning strategies research, there are three vocabulary learning strategies taxonomies which are widely deployed in many language studies as follows:

Gu and Johnson (1996) list vocabulary learning strategies into three groups: metacognitive, cognitive, memory and activation 1) Metacognitive (e.g. selective attention, self-initiation) 2) Cognitive Strategies (e.g. guessing, use of dictionaries, note-taking) 3) Memory Strategies (e.g. rehearsal, encoding) Activation (e.g. using new words in different contexts).

In Schmitt's (1997) vocabulary learning strategies taxonomy, are organized base on the notion of Oxford (1990) language learning strategies taxonomy, because most strategies listed are vocabulary strategies that cope with the two categories of discovery and consolidation.

Schmitt (2000, p. 135) explained vocabulary learning strategies taxonomy is comprised of two vocabulary strategies: 1) Discovery Strategies, there are nine determination strategies (e.g. analyses part of speech, analyses affixes or roots, etc.); and there are five Social Strategies (e.g. ask teacher for an L1 translation, ask teacher for paraphrase or synonym of new word, etc.) 2) Consolidation Strategies, there are nine cognitive strategies (e.g. verbal repetition, written repetition, etc.), twenty-seven memory strategies (e.g. study word with pictorial representation of its meaning, image word's meaning, etc.), five metacognitive strategies (e.g. use English-language medias (songs, movies, newscasts, etc., testing oneself with word tests, etc.) and three social strategies (e.g. study and practice meaning in a group, teachers checks students' flash cards or word lists for accuracy, etc.)

Nation (2001) places vocabulary learning strategies taxonomy into three classes: Planning (e.g. choosing words, choosing the aspects of word knowledge, choosing strategies, planning repetition) Sources (e.g. analyze the word, using context, consulting a reference source in L1 and L2, using parallels in L1 and L2) Processes (e.g. noticing, retrieving, generating)

**Table 1** Vocabulary Learning Strategies based on three researchers

Vocabulary Learning Strategies		
Gu and Johnson (1996)	Schmitt (1997)	Nation (2001)
Metacognitive	Discovery Strategies,	Planning
Cognitive Strategies	Consolidation Strategies,	Sources
Memory Strategies		Processes
Activation		

## 2. Metacognitive strategies (MET)

Beyond the metacognitive strategies, there are also different classifications of metacognitive strategy, O' Malley and Chamot (1990) classifies three categories of planning, monitoring, and evaluating. On the other hand, Oxford (1990) broadly classifies into three groups 1) centering one's learning, 2) arranging and planning one's learning and 3) evaluating one's learning. Cohen (2005) classifies actions into pre, plan, evaluation, post and use.

The classifications of metacognitive strategies are provided by all scholars; they can be adopted and applied to all language skills. However, it is clear that O' Malley and Chamot (1990) believe that the definitions and classifications of metacognitive strategies are more widely accepted and adopted by many researchers in many educational researches in terms of metacognitive strategy training models because O' Malley and Chamot (1990) classify strategies into four categories of planning, monitoring, and evaluating as follows (See table 2) :

These two areas of metacognitive theory are to be related to the metacognitive model of strategic learning of two well-known scholars e.g. O' Malley and Chamot classify metacognitive strategies into plan, monitor and evaluation.

**Table 2** Taxonomy of Metacognitive Strategies are based on O' Malley and Chamot

Representative strategies	Definitions
1. Selective attention	Focusing on special aspects of learning tasks, as in planning for key words or phrases.
2. Planning	Planning for organization of either written or spoken discourse.
3. Monitoring	Reviewing attention to a task, comprehension of information that should be remembered, or production while it is occurring.
4. Evaluation	Checking comprehension after completion of receptive language activity, or evaluating language production after it has taken place.

Source : O' Malley & Chamot, 1990, p.45.

### 3. Related studies of metacognitive strategies and vocabulary training

Learning unknown vocabulary does not only involve memorizing the form of the word meaning, but also understanding its meaning in order to utilize it accurately. Based on previous studies in using metacognitive vocabulary strategies training in language learning which have been done over the last two decades, metacognitive strategies and vocabulary strategy training are examined as the most important part of learning strategy instruction. To illustrate, in the Thai context, Kaewngamsong (2007) studied development of vocabulary learning through metacognitive strategy training. The study used a pretest-posttest experimental design which had only a treatment group who were taught explicit metacognitive strategy training almost eight weeks. The vocabulary achievement test, vocabulary learning strategy questionnaire and researcher's journal were research instruments to investigate the ability of the students. The results revealed that explicit metacognitive strategy training had a positive impact on the lexical knowledge enhancement of the students. Furthermore, it can be concluded that students utilized a greater variety of vocabulary learning strategies and they had positive attitudes towards metacognitive strategies. Additionally, Wilawan (2007) studied the topic of lexical cohesion and metacognitive strategy training an integrated approach to main idea comprehension. The study showed that there was a positive effect on incorporate lexical cohesion and reciprocal teaching by guiding students through metacognitive training to increase their comprehension of the main idea. She also suggested that learners should be taken into consideration in lexical cohesion and reciprocal teaching.

### 4. Conceptual framework

As indicated in the metacognitive vocabulary strategy training model, O' Malley and Chamot (1990)'s CALLA model was adopted to train students to use metacognitive strategies in their vocabulary learning. This study focused more on the practical applications of Nation (2001)'s vocabulary learning strategies taxonomy, three general classes: planning, sources, and processes. Nation (2001) and Baumann et al. (2003) vocabulary strategies used in this study were word parts and word analyses. As a matter of fact, students have to be learned strategies that will assist them in decoding and understanding vocabulary words, which is a valuable technique for assisting students to be able to understand a word. One of the ways that students can enhance their vocabulary is through teaching word parts or affixes, which are essential for developing L2 learners' language ability to understand the four macro skills of English language. Nation (2001) stated that "attention to word parts allows students to make full use of the word families they know, and also contributes to remembering new complex words".

Moreover, Word analyses knowledge is one significant value for good vocabulary learning. Due to the importance of guessing meaning from context clues, Baumann et al. (2003) present five context clues which can be useful in developing students' knowledge of vocabulary (See table 3).

Furthermore, the present study examined the effect of training metacognitive strategies on both short –term vocabulary knowledge, which emphasizes investigating the students' use of strategy after they have been trained, and on the long term retention, which happens at the end of the study in order to see how students' use of these strategies helps them to acquire new vocabulary and store it over both short and long periods of time. Metacognitive vocabulary strategy training model is designed with three relevant components: CALLA model, vocabulary learning strategies, and vocabulary strategies. Each component is relevant to each other as shown in the table below:

**Table 3** Metacognitive vocabulary strategy training model

CALLA Model (O' Malley and Chamot. 1990)			Vocabulary Learning Strategies (Nation. 2001)	Vocabulary Strategies
Stage	Purpose	Activities	choosing words	Word Parts (Nation. 2001)
1. Preparation	to develop student awareness of different strategies	group discussions	choosing the aspects of word knowledge	prefix, suffix
2. Presentation	to develop student knowledge about strategies	group presentation	choosing strategies	Word Analyses (Baumann, et al. 2003)
3. Practice	to practice: develop student skills in using strategies for academic learning	group discussions cooperative learners tasks	analyzing the words using context, noticing, retrieving, generating	synonym, antonym, example, definition, general
4. Evaluation	to develop student ability to evaluate own strategy use	write strategies used immediately after task discuss strategy use in class		
5. Expansion	to develop transfer of strategies to new tasks	give assignments to use learning strategies on tasks related to cultural backgrounds of students		

## METHODOLOGY

### 1. Participants

The participants of this study were thirty nine first year management science students who enrolled English for Communication 2 (001003) in the second semester of the academic year 2018 at Nakhonratchasima Rajabhat University. All of them were non-English major students and they were selected by purposive sampling as the sample of the present study. They provide the most valid or credible results because they reflect the characteristics of the population.

### 2. Research Instruments

2.1 Three vocabulary tests were used in this study, including pretest, posttest, and delayed posttest. Each tests consisted of 25 multiple-choice questions, which were developed by the researcher. The vocabulary items in the test were mainly selected from the lexical items taught and given exposure to during the course. Vocabulary items were designed from word parts and word analyses. It covered the seven main aspects of vocabulary strategies including word parts: prefix, suffix and word analyses: synonym, antonym, example, definition and general. The test was used as the assessment tool in the pre-test, the posttest, and delayed posttest phase of the study. The pretest and posttest were utilized to evaluate the students' vocabulary knowledge before and after the study. And the delayed posttest was used to check the student's vocabulary retention. The test was a combination of multiple-choice of vocabulary created and used for this purpose by the researcher. The evaluation of test was checked by three specialists to consider content validity and tested for qualification in terms of the index of item objective of congruence IOC (0.5-1) applied.

2.2 The lesson plan was written according to the scope and sequence framework for learning strategy instruction (CALLA model) (O' Malley & Chamot, 1990), consisting of preparation, presentation, practice, evaluation and expansion. The same format of lesson plan was used in every period. Only activities were changed according to the theoretical framework. There were a number of new lexical items taught which were presented using word parts: prefix and suffix and word analyses: synonym, antonym, example, definition and general. Moreover, the construction of the lesson plan, it is designed specifically to measure the English used in every activity related to communicative situations. During the weekly metacognitive vocabulary strategy training session, the sample group was provided with a handout prepared by the researcher. The handout included 1) materials of several topics, 2) worksheet to practice using word parts and word analyses 3) an activity using the strategy or knowledge that was taught

during the lesson. The students in the experimental group received 50 minutes of metacognitive vocabulary strategies training a week for 11 weeks in accordance with the CALLA model as follows:

2.2.1 Preparation: The purpose of this phase was to develop student awareness of different strategies through making group discussions.

2.2.2 Presentation: This phase was related to develop student knowledge about strategies by making group presentations and cooperative learners' tasks.

2.2.3 Practice: In this phase, students had the opportunity to practice in order to develop skills in using strategies for academic learning through making group discussions.

2.2.4 Evaluation: The main purpose of this phase was to develop student ability to evaluate their own strategy use through writing strategies used immediately after task- discuss strategy use in class.

2.2.5 Expansion: The main purpose of this phase was to develop transfer of strategies to new tasks by giving assignments requiring the use of learning strategies for tasks related to the cultural backgrounds of students.

### **3. Metacognitive vocabulary strategy instruction**

#### **3.1 Research Procedures**

Phase 1) Orientation: in the first week, the researcher explained what was studying in the class especially studying how to use metacognitive vocabulary strategies. Thus, the participants knew what they were to study and why they were to study in a particular way. They signed a consent form before joining the study and could refuse to be a part of the research. The participants took the pretest.

Phase 2) Experiment phase: in the second week to eighth week, this was conducted weeks after the orientation. This phase consisted of seven weeks. During the metacognitive vocabulary strategy training period, the researcher provided hand outs and worksheets. In the ninth-week, the participants took the posttest.

Phase 3) Follow up phase: two weeks after the experiment, the sample group was requested to take the delayed posttest after intervening.

### **4. Data analysis**

The data obtained from the vocabulary tests: pre, post and delayed posttest, were analyzed with computational software for statistical analyses (SPSS). A one way Analysis of Variance (ANOVA) was utilized to analyze the comparison of metacognitive vocabulary strategies of the sample group both before and after the training.

## RESEARCH RESULTS

In order to investigate the effects of metacognitive vocabulary strategy training on the development of students' vocabulary achievement and retention, the scores of vocabulary tests, including pretest, posttest, and delayed posttest, were to explore whether metacognitive vocabulary strategy training had any effects on vocabulary achievement and retention. The results are presented focusing on the two aspects of word part and word analysis in Table 4.

**Table 4** The comparison of vocabulary knowledge among pretest, posttest and delayed posttest

Vocabulary Scores	pretest		posttest		delayed posttest		t	df	Sig (2-tailed)
	MS	SD	M	SD	M	SD			
Prefix=4	1.38	1.04	2.49	1.02	2.51	1.10	14.55	2	0.00
Suffix=4	1.05	0.94	2.15	0.87	2.41	0.99	23.08	2	0.00
Synonym=4	1.18	0.96	2.90	0.94	3.10	0.68	57.04	2	0.00
Antonym=3	0.97	0.74	2.10	0.68	2.30	0.73	38.92	2	0.00
Example=3	0.85	0.74	2.26	0.78	2.15	0.81	39.49	2	0.00
Definition=4	1.23	0.87	2.70	0.79	3.28	0.68	69.71	2	0.00
General=3	1.05	0.79	2.43	0.59	2.25	0.67	45.89	2	0.00
Total=25	7.71	2.51	17.02	1.24	18.02	1.44	380.22	2	0.00

\*p < 0.05

The results of the vocabulary tests were compared using an analysis of variance (ANOVA), as shown in table 4. The experimental group's average scores on the pretest, the posttest, and the delayed posttest were 7.71 (SD=2.51), posttest scores 17.02 (SD=1.24) and delayed posttest scores 18.02 (SD=1.44) respectively. They were highly significant (F=380.22, p<0.05 ) revealing that the training of metacognitive vocabulary strategy affected vocabulary achievement and vocabulary retention. The analyses of the data on the background variables revealed that there was a significant difference between vocabulary scores from before and after metacognitive vocabulary strategy training at the level of 0.05. Examination of F values revealed that there was a significant difference between vocabulary scores before and after metacognitive vocabulary strategy training. As shown in table 4, it was found that after training, the students in the experimental group showed a higher performance for metacognitive strategy training.

In addition, table 4 illustrated the results of students' metacognitive vocabulary strategy training. The results of the vocabulary scores for the word parts and word analyses after training showed that they were highly significant ( $F=380.22$ ,  $p<0.05$ ). In terms of the effects of the metacognitive vocabulary strategy training on the development of students' vocabulary achievement and retention of the experimental group, it was found that students' vocabulary scores from all the seven groups of vocabulary learning were significantly different after training at 0.05 level. This revealed that the training of metacognitive vocabulary learning strategies helped students in effectively learning vocabulary.

## CONCLUSION

In this study, the first research question had the aim of exploring whether metacognitive vocabulary strategy training had any effect on vocabulary achievement and retention. The results from the students in the experimental group revealed the following major findings:

The results of the experimental group were compared using an analysis of variance (ANOVA). The results showed that they were highly significant ( $F=380.22$ ,  $p<0.05$ ). The intervention group improved significantly in vocabulary knowledge. This study shows evidence to support metacognitive teaching. It reveals that teaching synonyms, antonyms, and other related words help students to have a deeper understanding of a word, which in turn improves the ability to recall meaning. The findings of this study indicate that metacognitive vocabulary strategy training has an effective impact on the vocabulary achievement and retention of the students. Moreover, it indicated that the development of metacognitive vocabulary strategies training was important for enhancing vocabulary learning efficiency. The findings of the current study are in agreement with the results of the previous studies which emphasize enhancing vocabulary learning through metacognitive strategy training in the Thai context by Kaewngamsong (2007). The results of the vocabulary achievement test of all the four aspects of knowing word: parts of speech, spelling, and pronunciation, the differences of the mean score between the pretest and the posttest of parts of speech was the highest scores and followed by the differences of the mean scores of pronunciation, spelling, and meaning respectively. The means scores of the posttest were significantly higher than those of the pretest. It showed that explicit metacognitive strategy training had a positive impact on the lexical knowledge improvement of the students.

Moreover, the finding of this study is consistent with the results obtained from the research by Zhao (2009) who conducted a study to determine whether metacognitive strategy training promoted the vocabulary learning of Chinese college students. The results showed that there was significant improvement after they received metacognitive strategy training. It is evident that with strategy training in vocabulary learning, the students showed improvement with how they used planning, monitoring, and evaluating, without exception. Drawing on the findings of such studies, Renalli (2003) mentioned that the importance of metacognitive knowledge is processing a variety of strategies, and metacognitive regulation is also the ability to employ them appropriately in suitable contexts. Thus, students should be trained to know when to use strategies (Hashemi & Hadavi, 2015). Aside from vocabulary learning, other language aspects were found to be positively affected by metacognitive strategy training. This can be illustrated by Askari's (2014) study concerning the significant effect of metacognitive vocabulary strategy training on the breadth of vocabulary knowledge of Iranian students. There were significant differences between the control and the experimental groups after training at the 0.05 level. The results of this study indicated that metacognitive vocabulary strategy training had an effect on the Iranian EFL students' breadth of vocabulary knowledge.

## RECOMMENDATIONS

1. Metacognitive strategies should be introduced to the students with regular classrooms activities and tasks. It will assist students to practice and use metacognitive strategies in many contexts that can bring about a rapid improvement in vocabulary learning.
2. The use of metacognitive vocabulary learning strategies could help students naturally expand their vocabulary knowledge.
3. Students should be trained in a variety of metacognitive vocabulary learning strategies in order to receive the numerous benefits that could be derived from it.
4. Teachers should bring up the model of deploying metacognitive strategies, which deeply directs students' learning habits and facilitates their vocabulary learning.
5. Teachers should bring metacognitive vocabulary strategy training into their regular English lessons.

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## ผู้เขียนบทความ

นางสาว สุพิชญา วงศ์คำสาย

นิสิตระดับปริญญาเอก หลักสูตรศิลปศาสตรดุษฎีบัณฑิต

ภาควิชาภาษาอังกฤษ คณะมนุษยศาสตร์

มหาวิทยาลัยนเรศวร

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