

Similarities and Differences Across Metacognitive and Cognitive Strategies in Learning L2 Vocabulary by Iranian EFL Learners

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Abstract

This study aimed to investigate the similarities and differences across intermediate and advanced levels in terms of using metacognitive and cognitive strategies in L2 vocabulary learning by Iranian EFL learners. To achieve this aim 120 Iranian EFL learners (60 intermediate and 60 advanced) were randomly selected from 150 EFL learners after administering the *Nelson English Language Test*. Afterwards, some parts of Schmitt's Vocabulary Learning Strategies (VLS) were adapted from Bennet (2006) with reliability coefficient of 0.72, and were distributed among students in the form of questionnaire to find out which strategies learners used to learn vocabulary. This study chose just 12 strategies out of 55 strategies which contained 7 strategies which were related to cognitive strategy and 5 strategies which are related to metacognitive strategy. The whole data gathered by *Nelson English Language Test* and VLSQ were analyzed through SPSS by applying descriptive statistics, inferential statistics, t-test and chi-square test. The findings showed that there was a crucial similarity in using one of these 12 strategies (cognitive and metacognitive strategies).

Keywords: L2 vocabulary learning, metacognitive strategies, cognitive strategies

INTRODUCTION

Vocabulary and language have a reciprocal impact on each other. Vocabulary knowledge helps language use and language use helps the increase of vocabulary knowledge (Nation, 2001) According to Schmitt (1997), vocabulary learning strategies is important in second language learning.

Vocabulary Learning

Vocabulary learning is considered as an integral and important area of language teaching as "words are the basic building blocks of language, the units of meaning from which

larger structures such as sentences, paragraphs and whole texts are formed” (Read, 2000, p. 1).

According to Ruutemets (2005), vocabulary learning strategies are a subcategory of learning strategies and create knowledge about what learners do to identify the meaning of new words, retain them in long-term memory, recall them when needed in comprehension, and utilize them in language production. They are categorized into a) strategies for understanding the words meaning, such as making deductions from the word-form, linking to cognates, guessing from the context and using dictionary, and b) strategies for learning words, such as repeating the word over and over again, organizing words in the mind and linking to background knowledge.

Metacognitive and Cognitive strategy are used as a crucial 'key' for students to become more independent and responsible for their own learning; so, students should be encouraged in order to individualize their strategy use, which may vary based on educational, linguistic or cultural background and learning style (Yamato, 2000).

Gu and Johnson (1996) divided vocabulary learning strategy into general categories as metacognitive and cognitive, both of which were subcategorized as guessing, using a dictionary, note-taking, rehearsal, encoding and activating. Furthermore, they examined the vocabulary learning strategies utilized by advanced learners and found out that the use of some of the vocabulary learning strategies were linked to both general proficiency and vocabulary size and that some strategies used as the predictors of success.

Cengizhan (2011) illustrated various vocabulary learning strategies used by foreign language learners. The main objective of the study was to analyze the frequency of using vocabulary learning strategies among foreign language learners according to their gender and class. In the study, a questionnaire containing 41 statements was given to 10th and 11th classes of Edirne Teacher Training High School. The questionnaire second section was composed of 41 statements involving various strategies such as metacognition, determination, memory, social and cognitive. In the last part, an open-ended question invited the participants to inform other vocabulary learning strategies if they used. At the end of the study the results indicated that the most preferred vocabulary learning strategies are metacognitive strategies among 10th and 11th class students. On the other hand, it was revealed that cognitive strategies are the least preferred vocabulary learning strategies. Moreover, metacognitive strategies are the most frequently used vocabulary learning strategies among male students while determination strategies are the most frequently used strategies among females. Nevertheless, the last frequently used strategies are cognitive strategies by both male and female students. Furthermore, the study showed that knowledge of vocabulary learning strategies can be helpful for both learners and students because when learners are aware of these strategies, they become more motivated to learn and take part more actively in learning proses. In addition, these strategies lead students to conserve the new words in the long term memory so that their learning vocabulary becomes more continual by using these strategies.

Strategy Training

Kok and Canbay (2011) determined the effects of "Vocabulary Consolidation Strategy Training" on vocabulary learning and use of vocabulary consolidation strategy. The participants of the study included 34 students (12 female, 22 male) from a university preparation class. The data were gathered by a "Vocabulary Level Test" based on Paul Nation's Vocabulary Levels Test and "Vocabulary Consolidation Strategy". Along with the research findings, the students who acquired Vocabulary Consolidation Strategies training received higher scores at Vocabulary Level Test.

Schmitt (1997) conducted the study with a large sample in Japan (600 subjects). In his survey, there were around 40 strategies. All subjects had participated in English classes. The questionnaires were submitted to four different groups consisting of lower, medium, and higher proficiency levels and they were in different towns. Each class had at least 50 learners and the questionnaires were given to them by English teachers. The aim of the study was to find out and compare which strategies the students used and were trained to use. The result demonstrated that the most commonly used vocabulary strategies were: Discovering meaning from bilingual dictionary = 95%, asking the teacher for a paraphrase = 86%, analyzing pictures /using gestures = 84%, or consolidating meaning: saying new word aloud = 91%, written repetition = 91%, connecting words with synonyms / antonyms 88%, continuing over time 87%, studying spelling 87%, taking notes in class 84%, and verbal repetition 84%. The least helpful strategies were: skipping new word 16%, imagining word's meaning 38%, using cognates in study 34%, keyword method 31%, and imagining word form 22%. It showed that the most preferred strategy among the Japanese students was the use of bilingual dictionary.

Vocabulary Learning Strategies

Fan (2003) demonstrated that all vocabulary learning strategies are more or less combined in the following five steps of learning vocabulary in foreign language which are classified by Brown and Payne (1994): a) having sources for encountering new words, b) getting an obvious image, either visual or auditory, of the forms of the new words, c) learning the meaning of the words, d) making a strong memory connection between the forms and the meaning of the words, and e) using the words.

Sahbazian (2004) considered a study with Turkish students studying at a university in Turkey. The aim of the study was to comprehend the vocabulary learning strategies and the steps that the learners took to learn new English words. The study method was used for gathering data in order to include a large number of participants. The learners were asked to fill out a 35-item questionnaire in order to find out about the reported vocabulary learning strategies. The study revealed that overall Turkish university learners are identified by using VLSs either medium or low frequency. Nevertheless, vocabulary strategies such as the key word method, mnemonics, and semantic mapping were not among the popular strategies. Memory strategies were the strategies that students identified to use with high frequency and mnemonics strategies were the strategies that learners identified to use with low frequency. The most important and

popular way of mastering new words is using memory, direct and simple cognitive strategies. This is essentially because the traditional teaching in Turkish education system encourages rote learning not only in foreign language classes but also in all subject areas.

Role of Extensive Reading

Pigada and Schmitt (2006) replicated the study with a French student. The study tried to investigate whether an extensive reading program can improve lexical knowledge or not. The 133 words were given to the student and it was examined whether one month of extensive reading improve knowledge of target words such as spelling, meaning, and grammatical characteristics. The method utilized was a one-on-one interview which demonstrated that no matter learning occurred or not it was a good indicator. The result of the study demonstrated that knowledge of 65% of the target words improved in some way, for a pick up rate of about 1 of every 1.5 words tested. Spelling strongly improved, even from a small number of exposures. Grammatical knowledge and meaning also improved, but not to the same extent. So, the study showed that more vocabulary learning was possible from extensive reading than previous studies suggested.

Catalan (2003) in his study indicated that female learners were greater users of formal rule strategies, input elicitation strategies, rehearsal strategies and planning strategies, and male learners were greater users of image vocabulary learning strategies. In addition, the females' comprehensive vocabulary usage percentages were higher than the males', which either points to various perceptions of vocabulary learning behaviors or various patterns of vocabulary learning strategy use for males and females.

Sannaoui (1995) in his study demonstrated the relationship between vocabulary strategy use and success in acquiring and retaining vocabulary items. The study showed that adult learners of L2 vocabulary were likely to fall into two categories: Those who chose a structured approach to their learning and those who did not. In the first group, learners controlled their vocabulary learning. They did not depend on what the language course provided them with. They utilized their own initiative in regularly creating opportunities for learning vocabulary by listening to radio, watching movies, reading and using self-study. They stored systematic record of vocabulary they learned by using vocabulary lists and notebooks. They reviewed what they had done several times a week. However, in the second group the learners who followed unstructured approach for learning relied on course material. If they made lists of vocabulary items, they could not have reviewed them and they may have lost them. Sannaoui concluded that students who had a structured learning approach were more successful in retaining the vocabulary items than learners who had an unstructured approach. The research proposed that helping learners gain control over processes for managing their own lexis was an important task in vocabulary learning and teaching in L2 classrooms.

Wu (2008) explored vocabulary learning strategies used by ten vocational Chinese ESL learners in a vocational institute located in Hong Kong. Each of these learners was individually interviewed and their answers were recorded with a tape recorder and were

transcribed by researcher. Learners used the following strategies to identify the meaning of the words: mental rehearsal (e.g. before speaking the word saying the word in the mind), imagery (use of pictures to remember new words), auditory representation (e.g. in order to learn pronunciation dividing the sound segments), selective attention (e.g. paying attention to keywords in speaking English), checking dictionary to find out the meaning of words and co-operation (e.g. working with students).

Erten and Williams (2008) compared the appropriateness of two statistical procedures for measuring the effectiveness of vocabulary learning strategies: percentages and correlation coefficients. In order to do this, a group of 20 students of English were applied to study 12 words in a written list, with their pronunciations, dictionary definitions, and example sentences. Data were gathered through introspection where learners were asked to verbalize their mental processes as they studied the target words. In order to measure the task achievement, a pre-test and post-test were given. Both simple percentage calculation and correlation coefficients were used for comparison in order to calculate the strategy effectiveness. Based on the result of the study, the findings demonstrated that percentage calculation could give a more realistic picture of strategy effectiveness than correlation coefficients.

Vocabulary knowledge

According to Elman (2004), the knowledge of the word is usually thought to settle in the mental lexicon, a kind of dictionary that involves information regarding a word's knowledge. He believed that a mental lexical is a kind of dictionary that humans have where the words are stored and retrieved for later use. People wouldn't be able to read, if there wasn't any mental lexicon.

Looking up the word in a dictionary is "far from performing a purely mechanical operation" (Scholfield, 1982, p. 185); instead, a professional dictionary user "is often required to formulate and pursue several hypotheses and make use of prior knowledge of various sorts, especially information derived from context" (Scholfield, 1982, p.185). Excluded for locating the unknown word in the alphabetic list, which appears to be the skill most dealt with in respect of training dictionary use, other important facets including successful and strong dictionary use receive little attention (Scholfield, 1982). After choosing reasonable sense from the definitions in the entry, a dictionary user then needs to "understand the definition and integrate it into the context when the unknown was met" (Scholfield, 1982, p. 190). The most sophisticated parts including dictionary used come up when none of the senses in the entry appears to fit the context or more than one fits. In these situations, a dictionary user needs to guess a meaning that comes from the senses in the entry or "seek further contextual clues in the source text to disambiguate" (Scholfield, 1982, p.193).

Kemble (2003) stated on the preliminary findings of the first stage of a large-scale three-year project, the purpose of which was to increase learners' and teachers' awareness of vocabulary knowledge, use and strategies. The first year of the study aimed to explore characteristics in learner behavior when it came to vocabulary learning and acquisition.

In the second stage, there was to be an effort made by the teachers to develop their vocabulary teaching techniques and teaching, thereby raising the status of vocabulary learning among learners, while in the third year teachers were to suggest changes to be implemented in the curriculum. The participants of the study were first-, second- and third year learners of Portsmouth University majoring in Germany. The measuring instrument was a questionnaire, in which both qualitative and quantitative question types were utilized. The questions concentrated mostly on conscious vocabulary learning techniques (e.g., note-taking, dictionary use, contextualization and structuring vocabulary items). Kemble came to the following conclusions: most of the learners were ineffective vocabulary learners and had a limited understanding of what it means to 'know a word', certain vocabulary learning strategies improved at secondary school were transferred to year 1 of undergraduate study but were gradually restored by other kinds of strategies, as expected, year 4 programs suggested the best structured vocabulary learning opportunities, as this was the time when there was a class specially assigned to vocabulary building, websites were utilized by learners for reading and acquiring new vocabulary, whereas presentations were considered as important tools for practicing new words classes aimed at improving oral skills were viewed as relatively unproductive in terms of lexis, social skills were found to assist vocabulary acquisition, all students demonstrated differences in what they found useful lexical strategies.

Metacognitive Awareness

Cubukcu (2008) demonstrated a study of the teacher trainees in the English department who received instruction in metacognitive awareness for reading comprehension. Metacognition or "thinking about thinking" included the awareness and regulation of thinking process. Metacognitive strategies are those strategies that make learners to think about their own thinking as they employ in academic tasks. In this study, learners were taught metacognitive strategies for reading in five weeks that they had connected voluntarily. The learners utilized the reading logs in order to reflect their own thinking processes as they were employed in reading tasks. The aim of his study was to demonstrate the effectiveness of systematic direct instruction of multiple metacognitive strategies arranged to assist learners in comprehending text. The result of the study showed that the reading comprehension could be improved through systematic instruction in metacognitive language learning strategies.

Coffey (2009) examined whether writing instruction in a mathematics classroom increased metacognition. Learners who utilized metacognition could increase their understanding in the classroom. The researcher asked the participants to do a mathematics problem solving assessment, which was examined with a rubric for accuracy and survey concerning how they utilized metacognitive skills for the problem solving activity. The result of the study demonstrated that there was a relationship between metacognition and writing.

Schmitt (1997) in his VLS taxonomy demonstrated that cognitive strategy primarily refers to written and verbal repetition as well as some mechanical means including vocabulary learning. Although repetition as a learning strategy is not approved by them

to gain high proficiency levels. In Schmitt's study, for example, up to 76% of Japanese students announced they utilized verbal and written repetition as consolidation strategies, making them the second and third mostly-used strategies separately. Other cognitive strategies include utilizing some kind of study aids, such as taking notes in class, taping L2 labels onto their respective physical objects, or making a tape recording of word lists and studying through listening.

Schmitt (2000) suggests that cognitive strategies are mechanical aspects of learning vocabulary and are not related to mental processing. One of the most commonly used cognitive strategies is repetition. The other types consist of taking notes and highlighting new words, making lists of new words, using flashcards to record new words, putting English labels on physical objects, keeping a vocabulary notebook, and writing the words many times.

Doczi (2011) investigated the role of Vocabulary Learning strategies (VLS) in Hungarian secondary and tertiary educational institutions. It was determined to explore the strategies learners apply in the final year of high school and three different years of university. The first part of the paper summarizes the most important issues and research studies in the field of VLS. Following this, questionnaire was used, based on Schmitt's (1997) taxonomy. As the findings demonstrate, social and metacognitive strategies are less frequently used by the participants and it can be observed that cognitive strategies for conscious learning are much more valued by the participant than metacognitive strategies. The higher the number of years of study, the fewer learners practice on a regular basis or use active strategies. However, they are more likely to skip a new word and they pay more attention to pronunciation. As regards the number of strategies utilized, it increases with time spent studying the language.

Cognitive Strategies

Vaidya (1999) demonstrated that the term "cognitive strategies" is the use of cognition to solve a problem or complete a task in its simplest form. Cognitive strategies are mental processes or procedures used for accomplishing a particular cognitive goal. Cognitive strategies are task specific and are utilized in cognitive processes and help a person to stimulate information – such as note taking or asking questions through various rehearsals, elaborations and organizational strategies.

Montague (2003) explained that cognitive strategy instruction is an explicit instructional approach that teaches learners general cognitive strategies to develop learning and performance by facilitating information processing. Cognitive strategy instruction embeds metacognitive strategies in structured cognitive routines that help learners monitor and evaluate their comprehension. The ability to identify and use effective strategies is an essential skill for academic success.

Bayat and Tarmizi (2010) recognized how to assess the cognitive strategies and algebra problem solving performance among university students. The subjects of this study were

selected from First Year mathematics learners who took algebra course in a public university in Malaysia. The Cognitive Strategy Questionnaire, which comprised 18 items, was utilized to assess the learners' specific cognitive strategy for solving the given algebra problem. Algebra problem solving performance was measured using a test which involved routine and non-routine problems, based on the topics covered in the course. The results of the study demonstrated that there was no significant correlation between algebra problem solving performance with shallow cognition strategy. Similarly, there was no significant relationship between learners' performance with deep cognitive strategy. The results also demonstrated that there was important and strong relationship between students' algebra problem solving performance and overall performance in the course. Findings also showed that there was positive and moderate significant correlation between overall meta-cognitive strategies and performance of algebra problem solving. In addition, there was a crucial positive and moderate relationship between overall metacognitive strategies with overall performance in the course. Specifically, there is an important relationship between overall performance in the course and all three subscales of meta-cognition (knowledge, planning and evaluation). In conclusion, meta-cognitive strategies may have an impact on mathematical performance among university learners whilst cognitive strategies indicated minimal impact.

METHODOLOGY

Participants

Some 120 Iranian EFL learners (60 intermediate and 60 advanced) were randomly selected from 150 EFL learners after administering the *Nelson English Language Test*.

Instruments

In the current study, which has a mixed methods design, a proficiency test and one questionnaire were used to collect data.

Procedure

First, *Nelson English Language Test* was given to 150 students to determine the homogeneity of the two levels (intermediate and advanced). After a short break, some selected parts of Schmitt's vocabulary learning strategy questionnaire (VLSQ) adapted from Bennett (2006) which were related to metacognitive and cognitive vocabulary learning was chosen to be given to 120 intermediate and advanced students, and they were asked to answer vocabulary learning strategy questionnaire (VLSQ). The students were given 50 minutes to answer the *Nelson English Language Test* but no specific time was assigned to the questionnaire. They were asked to return it as soon as they had completed it. The participants were assured that their responses would be kept confidential and would not affect their grades. The respondents were asked to tick the number next to each strategy. For example, number 1 'never used this strategy', 2 'seldom used the strategy', 3 'sometimes used this strategy', 4 'often used this strategy' and 5 'always used this strategy'.

Data Analysis

Data collected from the questionnaire and tests were analyzed using the Statistical Package for Social Science (SPSS) version 20. Descriptive statistics and inferential statistics and paired sample t-Test were used in order to compare and contrast intermediate and advanced levels in terms of using cognitive and metacognitive strategies. At the end of the study, chi-square test was used in order to find out the similarities and differences in terms of using strategies for learning vocabulary.

RESULTS

Table shows the summery of the responses of the intermediate and advanced students in using cognitive and metacognitive strategies.

Table 1. The summary of responses of the questionnaire

Question	Level									
	intermediate					advanced				
	options					options				
	1	2	3	4	5	1	2	3	4	5
1	10.0%	8.3%	23.3%	20.0%	38.3%	21.7%	11.7%	43.3%	18.3%	5.0%
2	21.7%	18.3%	21.7%	21.7%	16.7%	28.3%	40.0%	15.0%	16.7%	0
3	0	0	8.3%	8.3%	83.3%	20.0%	11.7%	28.3%	30.0%	10.0%
4	10.0%	11.7%	8.3%	15.0%	55.0%	33.3%	25.0%	21.7%	16.7%	3.3%
5	0	5.0%	5.0%	13.3%	76.7%	3.3%	10.0%	16.7%	23.3%	46.7%
6	40.0%	35.0%	13.3%	5.0%	6.7%	50.0%	21.7%	18.3%	10.0%	0
7	0	6.7%	11.7%	23.3%	58.3%	10.0%	20.0%	31.7%	28.3%	10.0%
8	0	3.3%	10.0%	20.0%	20.0%	46.7%	3.3%	3.3%	10.0%	83.3%
9	0	30.0%	46.7%	20.0%	3.3%	10.0%	15.0%	11.7%	25.0%	38.3%
10	11.7%	16.7%	48.3%	16.7%	6.7%	0	10.0%	11.7%	23.3%	55.0%
11	48.3%	35.0%	16.7%	0	0	11.7%	25.0%	28.3%	21.7%	13.3%
12	0	15.0%	56.7%	26.7%	1.7%	0	0	1.7%	11.7%	86.7%

Table 2shows the first strategy of the questionnaire in both intermediate and advanced level. Furthermore, as it is shown in the top of the table 4.11, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question 1: Repeating the words aloud many times

Table 2. Comparing responses to the first strategy between proficiency levels

Level		Question1					Total
		1	2	3	4	5	
Level	intermediate	6	5	14	12	23	60
	advance	13	7	26	11	3	60
Total		19	12	40	23	26	120

As it is illustrated in table 4.11, this strategy (Repeating the words aloud many times) relates to cognitive strategy. Table 2shows that intermediate students chose item 4 (often) and item 5(always), whereas, advanced students chose item1 (never) and item 2 (seldom).

Table 3. Chi-square test of the first strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.940 ^a	4	.000
Likelihood Ratio	24.122	4	.000
Linear-by-Linear Association	15.358	1	.000
N of Valid Cases	120		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

According to table 3, (Chi-square=21.94) intermediate and advanced levels chose different items and this difference is significant at $P < 0.05$ level. Thus, it is shown intermediate students used this strategy more frequently than advanced learners for learning vocabulary.

Table 4 shows the second strategy of the questionnaire in both intermediate and advanced level. Furthermore, as it is shown in the top of the table 4, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question2: Writing the words many times

Table 4. Comparing responses to the second strategy between proficiency levels

		Question2					Total
		1	2	3	4	5	
Level	intermediate	13	11	13	13	10	60
	advance	17	24	9	10	0	60
Total		30	35	22	23	10	120

As it is illustrated in table 4, this strategy (writing the words many times) relates to cognitive strategy. Table 4 shows that intermediate students chose items 1, 2,3,4,5 equally, whereas, advanced students chose item1 (never) and item 2 (seldom).

Table 5. Chi-square test of the second strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.480 ^a	4	.002
Likelihood Ratio	20.468	4	.000
Linear-by-Linear Association	9.822	1	.002
N of Valid Cases	120		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.00.

According to table 5(Chi-square=16.48) intermediate and advanced level chose different items and this difference is significant at $P < 0.05$ level. Thus, it is shown intermediate students used this strategy more frequently than advanced students for learning vocabulary.

Table 6 shows the third strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of the table 6, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question3: Making lists of new words

Table 6. Comparing responses to the third strategy between proficiency levels

		Question3					Total
		1	2	3	4	5	
Level	intermediate	0	0	5	5	50	60
	advance	12	7	17	18	6	60
Total		12	7	22	23	56	120

As it is illustrated in table 6, this strategy (making lists of new words) relates to cognitive strategy. Table 6 shows that intermediate students chose item 5 (always), whereas, advanced students chose item2 (seldom), item 3(sometimes) and item4 (often).

Table 7. Chi-square test of the third strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	67.465 ^a	4	.000
Likelihood Ratio	80.552	4	.000
Linear-by-Linear Association	52.591	1	.000
N of Valid Cases	120		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.50.

According to table 7, (Chi-square=67.46) intermediate and advanced levels chose different items and this difference $P < 0.05$ is significant. Thus, it is shown intermediate students used this strategy more frequently than advanced students for learning vocabulary.

Table 8 shows the forth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 8, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question4: Using flashcards to record new words

Table 8. Comparing responses to the forth strategy between proficiency levels

		Question4					Total
		1	2	3	4	5	
Level	intermediate	6	7	5	9	33	60
	advance	20	15	13	10	2	60
Total		26	22	18	19	35	120

As it is illustrated in table 8, this strategy (Using flashcards to record new words) relates to cognitive strategy. Table 8 shows that intermediate students chose item 5 (always), whereas, advanced students chose item 1 (never), item2 (seldom) and item 3(sometimes).

Table 9. Chi-square test of the forth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.513 ^a	4	.000
Likelihood Ratio	47.854	4	.000
Linear-by-Linear Association	32.956	1	.000
N of Valid Cases	120		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.00.

According to table 9, (Chi-square=41.51) intermediate and advanced levels chose different items and this difference $P < 0.05$ is significant. Thus, it is shown intermediate students used this strategy more frequently than advanced students for learning vocabulary.

Table 10 shows the fifth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 4.19, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question5: Taking notes or highlights new words

Table 10. Comparing responses to the fifth strategy between proficiency levels

		Question5					Total
		1	2	3	4	5	
Level	intermediate	0	3	3	8	46	60
	advance	2	6	10	14	28	60
Total		2	9	13	22	74	120

As it is illustrated in table 10, this strategy (Taking notes or highlights new words) relates to cognitive strategy. Table 10 shows that intermediate students preferred item 5 (always), whereas, advanced students selected item 3 (sometimes), item 4 (often) and item 5 (always).

Table 11. Chi-square test of the fifth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.784 ^a	4	.012
Likelihood Ratio	13.848	4	.008
Linear-by-Linear Association	10.476	1	.001
N of Valid Cases	120		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.00.

According to table 11, (Chi-square=12.78) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown intermediate students used this strategy more frequently than advanced students for learning vocabulary.

Table 12 shows the sixth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 12, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question6: Putting English labels on physical objects

Table 12. Comparing responses to the sixth strategy between proficiency levels

		Question6					Total
		1	2	3	4	5	
Level	intermediate	24	21	8	3	4	60
	advance	30	13	11	6	0	60
Total		54	34	19	9	4	120

As it is illustrated in table 12, this strategy (putting English labels on physical objects) relates to cognitive strategy. Table 12 shows that intermediate and advanced students equally chose item 1 (never), item 2(seldom), and item 3(sometimes).

Table 13. Chi-square test of the sixth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.023 ^a	4	.091
Likelihood Ratio	9.608	4	.048
Linear-by-Linear Association	0.555	1	.456
N of Valid Cases	120		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.00.

According to table 13, (Chi-square=8.02) which shows that there is no significant difference in choosing items between intermediate and advanced level. Thus, it is shown intermediate and advanced students didn't use this strategy for learning vocabulary.

Table 14 shows the seventh strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 14, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question7: Keeping a vocabulary notebook

Table 14. Comparing responses to the seventh strategy between proficiency levels

		Question7					Total
		1	2	3	4	5	
Level	intermediate	4	0	7	14	35	60
	advance	6	12	19	17	6	60
Total		10	12	26	31	41	120

As it is illustrated in table 14, this strategy (Keeping a vocabulary notebook) relates to cognitive strategy. Table 14 shows that intermediate students chose item 5(always) whereas, advanced students chose item 2(seldom), item 3(sometimes), and item 4 (often).

Table 15. Chi-square test of the seventh strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.741 ^a	4	.000
Likelihood Ratio	45.784	4	.000
Linear-by-Linear Association	25.992	1	.000
N of Valid Cases	120		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.00.

According to table 15, (Chi-square=38.74) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown intermediate students used this strategy more frequently than advanced students for learning vocabulary.

Table 16 shows the eighth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 16, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question8: Using English-language media (songs, movies, and the internet)

Table 16. Comparing responses to the eighth strategy between proficiency levels

		Question8					Total
		1	2	3	4	5	
Level	intermediate	2	6	12	12	28	60
	advance	0	2	2	6	50	60
Total		2	8	14	18	78	120

As it is illustrated in table 16, this strategy (Using English-language media) relates to metacognitive strategy. Table 16 shows that advanced students chose item 5(always), whereas, intermediate students selected item3 (sometimes), item 4 (often) and item5 (always).

Table 17. Chi-square test of the eighth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.348 ^a	4	.001
Likelihood Ratio	21.119	4	.000
Linear-by-Linear Association	16.484	1	.000
N of Valid Cases	120		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.00.

According to table 17, (Chi-square=19.35) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown advanced students used this strategy more frequently than intermediate students for learning vocabulary.

Table 18 shows the ninth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 18, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question9: Testing myself with word tests

Table 18. Comparing responses to the ninth strategy between proficiency levels

		Question9					Total
		1	2	3	4	5	
Level	intermediate	18	28	12	2	0	60
	Advance	6	9	7	15	23	60
Total		24	37	19	17	23	120

As it is illustrated in table 18, this strategy (Testing myself with word tests) relates to metacognitive strategy. Table 18 shows that advanced students chose item4 (often) and item 5(always), whereas, intermediate students chose item 1 (never), item2 (seldom), and item3 (sometimes).

Table 19. Chi-square test of the ninth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.014 ^a	4	.000
Likelihood Ratio	60.985	4	.000
Linear-by-Linear Association	43.356	1	.000
N of Valid Cases	120		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.50.

According to table 19, (Chi-square=50.01) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown advanced students used this strategy more frequently than intermediate students for learning vocabulary.

Table 20 shows the tenth strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 20, item 1 is never, item 2 is seldom, item 3 is sometimes, item 4 is often, and item 5 is always.

Question10: Studying new words many times

Table 20. Comparing response to the tenth strategy between proficiency levels

		Question10					Total
		1	2	3	4	5	
Level	intermediate	7	10	29	10	4	60
	advance	0	6	7	14	33	60
Total		7	16	36	24	37	120

As it is illustrated in table 20, this strategy (Studying new words many times) relates to metacognitive strategy. Table 20 shows that advanced students selected item 4 (often) and item 5 (always), whereas, intermediate students preferred item 1 (never), item 2 (seldom), and item 3 (sometimes).

Table 21. Chi-square test of the tenth strategy

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.841 ^a	4	.000
Likelihood Ratio	51.768	4	.000
Linear-by-Linear Association	35.763	1	.000
N of Valid Cases	120		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.50.

According to Table 21, (Chi-square=44.84) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown advanced students used this strategy more frequently than intermediate students for learning vocabulary.

Table 21 shows the eleventh strategy of the questionnaire in both intermediate and advanced levels. Furthermore, as it is shown in the top of table 21, item 1 is never, item 2 is seldom, item 3 is sometimes, item 4 is often, and item 5 is always.

Question11: Skipping or passing new words

Table 22. Comparing responses to the eleventh strategy between proficiency levels

Level		Question11					Total
		1	2	3	4	5	
Level	intermediate	29	21	10	0	0	60
	advance	7	15	17	13	8	60
Total		36	36	27	13	8	120

As it is illustrated in the table 22, this strategy (Skipping or passing new words) relates to metacognitive strategy. Table 22 shows that advanced students chose item4 (often) and item 3(sometimes), and item2 (seldom). Whereas, intermediate students selected item 1 (never), item2 (seldom).

Table 23. Chi-square test of the eleventh strategy

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.259 ^a	4	.000
Likelihood Ratio	46.392	4	.000
Linear-by-Linear Association	35.776	1	.000
N of Valid Cases	120		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 4.00.

According to table 23, (Chi-square=37.26) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown that advanced students used this strategy more frequently than intermediate students for learning vocabulary.

Table 23 shows the twelfth strategy of the questionnaire in both intermediate and advanced level. Furthermore, as it is shown in top of the Table 23, item1 is never, item 2 is seldom, item 3 is sometimes, item4 is often, and item 5 is always.

Question12: Paying attention to English words when someone is speaking English

Table 24. Comparing responses to the twelfth strategy between proficiency levels

Level		Count					Total
		Question12					
		2	3	4	5		
Level	intermediate	9	34	16	1	60	
	advance	0	1	7	52	60	
Total		9	35	23	53	120	

As it is illustrated in table 24, this strategy (Paying attention to English words when someone is speaking English) relates to metacognitive strategies. Table 24 shows that advanced students chose item5 (always), whereas, intermediate students selected item2 (seldom), item3 (sometimes), and item 4 (often).

Table 25. Chi-square test of the twelfth strategy

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	92.711 ^a	3	.000
Likelihood Ratio	119.085	3	.000
Linear-by-Linear Association	83.204	1	.000
N of Valid Cases	120		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.50.

According to table 25, (Chi-square=92.71) intermediate and advanced level chose different items and this difference $P < 0.05$ is significant. Thus, it is shown advanced students used this strategy more frequently than intermediate students for learning vocabulary.

DISCUSSION

The results showed that there is a difference in using metacognitive and cognitive strategies among intermediate and advanced levels. As mentioned before, cognitive strategies are the most preferred by intermediate levels and metacognitive strategies are the most preferred by advanced levels. However, there is a crucial similarity in using cognitive strategies. Both intermediate and advanced levels less preferred " putting English labels on physical objects" and didn't use this strategy for learning vocabulary.

The results of the current study were different from the research done by Schmitt (1997). He studied with a large sample in Japan (600 subjects). Questionnaires were given to different groups comprising lower, medium, and higher proficiency levels and they were in different towns. The results demonstrated that the most commonly used vocabulary strategy is 'saying new word aloud and written repetition'. The least helpful strategy is 'skipping new words'.

CONCLUSION

According to Nation (2001), vocabulary learning strategies are one of the most important parts of language learning strategies which in turn are parts of general learning strategies. Research has demonstrated that many students use a wide variety of strategies when learning vocabulary especially in comparison with integrated tasks such as listening and speaking. But learners mostly use basic vocabulary learning strategies (Schmitt, 1997). Schmitt (2000) classified vocabulary learning strategies into determination, social, memory, cognitive, and metacognitive strategies. Determination strategies help students to determine the meaning by using dictionaries, guessing the meaning of words from context and identifying parts of speech and composing elements. Social strategies encourage students to interact and learn from each other. Memory strategies can help students get new words through mental processing by connecting their background knowledge to the new words. Cognitive strategies are mechanical aspects of learning vocabulary such as taking notes and highlighting new words, making lists of new words, using flashcards to record new words, putting English labels on physical objects, keeping vocabulary notebooks, and writing the words many times.

Metacognitive strategies involve monitoring, decision-making, and assessing one's progress. They help learners to specify suitable vocabulary learning strategies for learning new words (Schmitt, 2000). In the present study, the researcher aimed to consider the application of these strategies in learning vocabulary and wishes to specify the use of metacognitive and cognitive strategies across intermediate and advanced levels proficiency.

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