Studying the Effect of Metacognitive Awareness on Recalling of Collocations with Different Proficiency Levels

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Abstract

"Metacognition" is one of the latest buzz words in educational psychology. We engage in metacognitive activities every day. Metacognition enables us to be successful learners, and has been associated with intelligence (Pressley, etal 2010). Although the term has been part of the vocabulary of educational psychologists for the last couple of decades, there is much debate over exactly what metacognition is. The present study investigates the effect of metacognitive vocabulary learning strategy instruction on the recall of collocations that are the bottle-neck of language learning for EFL learners. To accomplish the task, Quick Placement Test was administered to 180 EFL learners in order to determine their proficiency levels (elementary, intermediate and advanced levels). Then learners of each level were randomly assigned to one control and one experimental group (at all six groups). Both experimental and control groups received the same type of collocation instruction, but the experimental group, in addition, received the metacognitive strategy instruction. After eight session treatments, results of paired-sample revealed that all of the groups made gains from pre-test to post-test but it was significant for experimental groups. Furthermore, results of one-way ANOVA indicated that advanced group outperformed intermediate group, and intermediate group was better than elementary group.

Keywords: Metacognitive strategies, explicit strategy instruction, collocation, recall.
1. **Introduction**

It is generally agreed that vocabulary is a milestone in language learning. It specifically holds true when there is a pragmatic perspective towards language as researchers are interested in communication through meaning and meaning making (Richards & Rogers, 2001). In vocabulary researchers and professionals’ eyes, vocabulary knowledge is an important element in second language (L2) acquisition. By learning new words, students can increase their listening, speaking, writing, especially reading skills and can improve comprehension and production in L2. It is felt that teachers and researchers have a paucity of vocabulary knowledge considered as one of the major hindrances making their progress insurmountable especially in the receptive skills of listening and reading (Thornbury, 2002).

Instruction of language Learning strategies and in turn vocabulary learning strategies especially metacognitive strategies will provide learners with a kind of autonomy. As a result, autonomous learners become more highly motivated. This means that motivated students are more likely to seek out opportunities to use the target language and make maximum use of them. As Wenden (1991) reminds us, there is a proverb that says: Give a man a fish and he eats for a day but teach him how to fish and he eats for a lifetime. Applying this proverb to language teaching, one can conclude that if students are provided with strategies to work with, they will reach a level of autonomy at which they will be able to work out the answer to their problems.

The findings of the present study may also contribute both theoretically and practically to language teaching. Students can be made aware of the range of strategies that exist for language learning. Strategies found effective can be incorporated into instruction so that in the long run students gain autonomy and independency. In addition, the role of the learners’ gender in such an investigation will be illuminating in the biological differences among learners. The good news about the present study is that there has been no study so far on this aspect of vocabulary knowledge and learning strategies. Of course, there is an ocean of research on vocabulary from different and differing angles but the focus of the present project is something fresh. Training of learners to effectively use vocabulary learning strategies is an essential responsibility of teachers. It must make explicit to students how to organize the learning process, and improve their motivation. Teachers should ask the students to use these strategies for performing the tasks and evaluate their success (Macaro, 2004). This way, they can become more self-confident and better able to learn independently, and they will feel more responsible for their own learning and, as a result, their motivation increases. Learners should be aware of the kind of strategies in different learning situation for using them (Huckin & Coady, 1999). This way they will become successful language learners, and are able to control and consider the appropriate strategy; in addition, they can find solutions to their problems and achieve their language learning goals in each situation.

Since language classroom is like a problem-solving environment in which language learners are likely to face new input and difficult tasks given by their instructors, learners’ attempts to find the quickest or the easiest way to do what is required, that is, using language learning strategies
is inescapable (Gu, 2003). Among a variety of studies that have been explored on FL vocabulary, few of them have been devoted to investigate the effect of metacognitive awareness and recalling of collocations among Iranian EFL learners with different proficiency levels. So, this study will try to fill this gap.

Based on the problem stated and the purpose of the study the following research questions were formulated:

Q1: Does metacognitive awareness have any effect on recalling of collocations among elementary-level EFL learners?

Q2: Does metacognitive awareness have any effect on recalling of collocations among intermediate-level EFL learners?

Q3: Does metacognitive awareness have any effect on recalling of collocations among advanced-level EFL learners?

Q4: In which proficiency levels do metacognitive awareness and recalling of collocations have the most effective role?

According to above-mentioned questions, the following hypotheses were presented:

H1: Metacognitive awareness has significant effect on recalling of collocations among elementary-level EFL learners.

H2: Metacognitive awareness has significant effect on recalling of collocations among intermediate-level EFL learners.

H3: Metacognitive awareness has significant effect on recalling of collocations among advanced-level EFL learners.

H4: Metacognitive awareness and recalling of collocations have the same effective role on different proficiency levels.

2. **What are metacognitive Strategies**

Metacognitive strategies are used to plan for learning, thinking about the learning process as it is taking place, monitoring of one’s production or comprehension, and evaluating learning after an activity is completed. What follows is an account of different metacognitive strategies (Brown, 2007). According to Weaver and Cohen (1994, as cited in Cohen, 1996, p.127), at present, there are numerous means available for strategy instruction, such as general study skills courses, peer tutoring, research-oriented training, videotaped mini-courses, awareness training, strategy workshop, and integration of strategy into language textbook. The most famous models for the teaching of language learning strategies are favoring either a direct teaching model, or an indirect model. These two models have been labeled differently by numerous researchers. Separate versus integrated, uninformed versus informed, and direct versus indirect.

Neglecting the model of strategy training model, learners need to learn how to learn and teachers need to learn how to facilitate the process. Oxford (1990) believes that while preparing yourself for conducting strategy training two important issues should be considered: your knowledge of
strategies and your attitude about the role changes. She indicates that training of language learning strategies is called in many ways: “strategy training”, “learner training”, “learning-to-learn”, “learner methodology training”, and “methodological initiation for learners”. (p.23) According to Williams and Burden (1997), “this model is preferred to indirect teaching where learners are not told the purpose of the tasks” (p. 162). In support of this view, O’Malley and Chamot (1990) indicate that arguments in favor of direct training advance the notion that strategies are generalizable to many contexts and that students will learn strategies better if they can focus all their attention on developing strategies rather than try to learn content at the same time. In fact, in embedded or indirect training, students are presented with activities and materials to elicit the use of specific strategy. The assumption underlying uninformed or indirect strategy training is that learners will learn to use the language learning strategies cued by material and activities presented to in textbook rubrics (O’Malley & Chamot, 1990, p. 80).

3. What is collocation

McCarthy and O’Dell (2005) define collocation in the following terms: “a collocation is a pair of words that are often used together. Theses combination sound natural to native speakers, but students of English has to make a special effort to learn them because they are often difficult to guess” (p. 6). Viegas (1999, p. 2) points out that “our general thesis is that there is no single definition for what a collocation is, but rather, collocational behavior emerges from a theory of what the range of connection and relation between lexical items can be. Learning collocations is an important part of learning the vocabulary of a language”.

3.1. Classification of Collocations

Generally, collocations have been divided into two sub-categories of lexical and grammatical. According to Benson, Benson, and Ilson (1997), a grammatical collocation is a phrase consisting of a dominant word (noun, adjective, and verb) and a proposition of grammatical structure such as an infinitive or clause. They defined eight types of grammatical collocations. Lexical collocations, in contrast to grammatical collocations, normally do not have a preposition, infinitive, or clause. Lexical collocations normally consist of noun, adjective, verbs, and adverbs. Many lexical collocations in English consist of a verb and a noun. In contrast to idioms, collocations are more flexible. In this regard, Hatch and Brown (1995) state that “although we claim that collocations are lexical units, they are not set in cement and there are all sorts of possibilities of remaking them. Idioms are not, either, but we think of them as the set end of the continuum from loose to set collocations” (p. 67).

Lewis (2000, p. 1) states that “collocations might be described as the words that are placed or found together in predictable patterns”. Some collocations are very fixed or strong; for instance, take a photo, where no other word collocates with photo to yield the same meaning. Some other collocations, however, are more open and several words may be used to give the same meaning
(McCarthy & O’Dell, 2005). They believe that mastery of collocations is fundamentally important for second language learners because they can:

a) give one the most natural way of saying something: *Smoking is strictly forbidden* is more natural than *Smoking is strongly forbidden*.

b) give you alternative ways of saying something which may be more colorful or expressive: instead of saying it was *very* cold and *very* dark, we can say that it was *bitterly* cold and *pitch* dark.

c) improve your style in writing. Instead of saying poverty *causes crime*, we can say that poverty *breeds crime* (McCarthy & O’Dell, 2005).

Collocations fall into different categories. For example, Hill (2000) states that a collocation can consist of two or more words and contain the following elements:

- Adjective+noun
- *a huge profit*
- noun+noun
- *a pocket calculator*
- verb+adjective+noun
- *learn a foreign language*
- verb+adverb
- *live dangerously*
- adverb+verb
- *half understand*
- adverb+adjective
- *completely soaked*
- verb+preposition+noun
- *speak through an interpreter*

Some collocations are longer; for example, adverb + verb + adjective + noun + preposition + noun as in *seriously affect the political situation in (Northern Ireland)*, described by Lewis as a semi-fixed expression.

Lewis (1997) proposes the following categories for collocations:

**Strong:** A large number of collocations are strong or very strong. For example, we most commonly talk of *rancid butter*, but that does not mean that other things cannot be rancid.

**Weak:** These are words which co-occur with a greater than random frequency. Many things can be long or short, cheap or expensive, good or bad. However, some things are more predictable, which could be called collocation; for example, *white wine* or *red wine*. 

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Medium strength: These are words that go together with a greater frequency than weak collocations. Some examples are: *hold a meeting; carry out a study*.

3.2. Why Should Collocations Be Focused on?

Collocation is arbitrary and unpredictable (Benson, Benson & Ilson, 1987; Lewis, 1997; Woolard, 2000). For example, it is correct to say *to make the bed but not to do the bed; to turn on but not to open the light; sales volume but not sales amount; bread and butter but not butter and bread; to shrug one’s shoulders but not to shrug one’s arms*, etc. Obviously, it is hard for EFL learners to cope with and to produce collocations effectively if collocations are not focused on and practiced.

EFL teachers frequently observe students’ collocational errors. Students produce errors such as speak a story, new bread, eat water, do a mistake, go to swimming or for more advanced learners errors such as emerge new branches, in the occasion of, emphasize on, etc. (Boonyasaquan, 2006). Plausible explanations to account for the errors are suggested by a number of researchers (Baker, 1992; Boonyasaquan, 2006; Farghali & Obiedat, 1995; Huang, 2001) meaning that collocational awareness has been raised.

Ying and Hendricks (2004) point out in their research that EFL learners have poor mastery of collocations for two reasons. First, collocations in general do not cause comprehension problems. A collocation consists of word partners. Each lexical constituent is also a semantic constituent (Cruse, 1987). Therefore, it is possible for learners to guess the meaning such as a quick glance, it rains heavily, etc. The second reason is that some collocations are very difficult for the learners, particularly, unique collocations or idiomatic expressions. They are very confusing for the learners, such as a withering glance, it rains cats and dogs, etc. The mother-tongue interference also influences their understanding and production of collocations. It is, therefore, necessary for teachers to raise awareness and teach collocations so as to enable EFL/ESL learners to master the language.

Collocation, despite being introduced about a couple of years ago, is quite a new issue for teachers themselves so a number of teachers have little or no knowledge about this. When a teacher teaches new vocabulary, s/he does not realize the necessity to introduce a chunk, not a single word, so as to let learners register from the very beginning the word being taught and its word partner/s (Conzett, 2000). For example, if a teacher wishes to teach the word homework, s/he should introduce to do homework as a chunk instead of letting students register in their memory only the single word, homework. As a result, it is possible that students may be confused whether a collocation of homework is to do or to make.

However, teachers should make a good judgment in choosing which collocations to be taught since a great number of collocations generally appear in each class. Teachers should not teach
passive or unclear collocations. Rather, they should choose to teach only active and clear ones. Passive idioms and dead metaphors, such as to put the cat among the pigeons, etc., are not necessary for the EFL learners’ daily life and should probably not be focused on in classroom teaching. Hill (2000) suggests that teachers should teach what they categorize as medium strength collocations such as strong coffee, to attend a course, deeply appreciate, etc. Meanwhile, it is suggested that teachers should stop including idiom exercises in their teaching and Farqhal and Obiedat (1995) support this idea by saying that “common collocations like fast color, rough sea and weak tea are communicatively more useful to L2 learners than idioms like pull one’s socks up, kick the bucket, and bury the hatchet” (p. 3).

To sum up, the first and foremost point that EFL teachers should have in mind when teaching new vocabulary is to introduce a new word together with its frequent co-occurrence/s or its collocate/s. Also, teachers are recommended to focus only on active collocations.

3.3. How to Teach Collocations?

There is almost a unanimous agreement among language teaching scholars that collocations should be included when teaching all English skills. Considering literature, one can find quite a few suggestions including the following ones (See Barfield & Gyllstad, 2009 for more options):

- First of all, convince learners of the usefulness of including collocations in their communication since it is natural for learners of a foreign/second language to want to be like a native speaker. Native-like proficiency of a language depends crucially on knowledge of a stock of prefabricated units (Cowie, 1988). Therefore, EFL learners should have a number of collocations in stock to communicate fluently and accurately.

- Encourage learners to notice and be regularly aware of collocations whenever they learn English. The habit can be formed by making them notice and record language patterns and collocations. Regular awareness raising activities should help students improve their collocational competence, and even fluency (Islam, 2006). The collocation awareness-raising process, (CAR) proposed by Ying and Hendricks (2004), suggests four steps in teaching collocations. First, make students understand what collocations are. Second, raise collocation awareness by introducing materials for target collocations. Third, teach the students the steps of noticing and noting collocations, followed by the step of incorporating the learnt collocations in tasks. Lastly, examine and give feedback on students’ work.

- Be selective about what collocations to teach. Make sure that they are active and appropriate for learners at different stages (Hill, 2000). Do not confuse students with idioms that are too passive or difficult chunks.
Encourage learners to guess the meaning of an unknown word from the context first and later show how useful a dictionary is. Encourage them to look up difficult words and pay attention to the examples provided in a dictionary, particularly a collocation dictionary such as Oxford Collocations Dictionary for Students of English, to allow learners to register the new vocabulary together with the collocate/s at the same time. Also, observe and record other useful collocations of the word/s, not just a single one (Islam, 2006).

Repeat and recycle the collocations already learnt every now and then in class activities to help learners register those learnt in their memory. The same thing twice activates collocations (Hill, Lewis & Lewis, 2000, p. 90).

Have students’ work corrected by their friend. Peer correction is recommended since it is a means to get feedback and instant reinforcement (Wei, 1999).

Work in groups helps fostering learning interdependence, especially in vocabulary work. Learners can exchange knowledge and ask others to explain unknown items. Group work is a motivating factor, which involves trying to remember details together, explaining impressions and building good memories (Moudraia, 2001).

Encourage learners to reinforce learnt collocations by having a variety of activities including task-based activities.

Based on the importance of vocabulary learning strategies and considering the above-mentioned reasons, it is time to explore vocabulary learning strategies and metacognitive strategies to see what they are like. But before that, let us start our survey by analyzing the umbrella term language learning strategies which are broadly related to our present research.

4. Methodology

4.1. Participants

The participants of the study were 180 male (with the age range of 16 to 28) EFL learners studying English at Namavaran and Shokouh institutes in Ardabil, Iran, who received a standard version of Quick Placement Test based on which they were divided into the three elementary, intermediate, and advanced levels. As far as this study is concerned, the participants were randomly assigned to six experimental and control groups. The participants also received a piloted test of collocations prior to the treatment phase. In the treatment phase, to the best effort of the researcher, the only difference was the metacognitive strategy instruction that the experimental group received in terms of metacognitive strategies, while the control group did not have such a treatment. Instead, it moved along its ordinary route i.e., no explicit teaching in terms of metacognitive strategies.
4.1.1. Selection of Participants

Among the total number of 303 learners in Namavaran and Shokouh institutes 180 learners randomly selected and based on a Quick placement test assigned to three elementary, intermediate and advanced groups. Then learners of each level were randomly assigned to control and experimental groups.

4.2. Materials

The experimental groups received the treatment in the form of explicit teaching of collocations based on the course book of collocations (McCarthy & O’Dell, 2005) plus an explicit teaching of metacognitive strategies. It should be mentioned that the model adopted during the treatment phase of the study was the CALLA model (O’Malley & Chamot, 1990) for the explicit teaching of metacognitive strategies. Related collocations for treatment sessions were the elements of noun + adjectives and were selected from general English course books.

4.3. Instruments

4.3.1. Proficiency Test: The first version of Quick Placement Test (QPT) developed by Fischer and Dornhöfer (2001) was used in order to determine the proficiency level of the learners. The test represents the European framework (A to C levels for language proficiency) and provides an assessment of level including 50 multiple choice questions of grammar and vocabulary from easy to difficult and from elementary to pre-intermediate. It includes a reading text with 5 graded comprehension questions. All students who were the candidates took it.

4.3.2. Collocation Test: A series of Collocation tests, each of them were consisting of 40 multiple-choice items based on English Collocation in Use by Michael McCarthy & Felicity O’Dell (2005) were developed by the researcher for the three different levels of learners. The pretests which were comprised of 40 items each were used in the study to measure and compare the learners’ knowledge of collocations before the treatment. The pretest was administered at the beginning of the semester in order to ensure the normality of scores’ distribution of collocation test. This test took around 40 minutes for the learners to answer. The reliability of these tests were calculated as 0.83, 0.81 and 0.87 for elementary, intermediate and advanced levels tests respectively based on KR-21 formula which are acceptable reliability levels and their content validity was confirmed by a professional teacher at Ph. D level.

4.4. Procedure

First, it was necessary to determine the proficiency level of the subjects and assign them in three different groups, so the proficiency test was administered to 180 participants and based on their scores on the test they were divided into elementary, intermediate, and advanced levels. These
participants were divided into six groups and shaped the experimental and control groups of the study. In this study the experimental groups were comprised of 90 students in three subgroups: of elementary group (30), intermediate group (30) and advanced level (30). The control group also covered 90 students in three groups: elementary (30), intermediate (30), and advanced (30). The pretest was conducted one week prior to the treatment including 40 multiple-choice items of English collocations.

The control groups received the same instruction and materials minus explicit manipulation of metacognitive strategies. Following sessions of treatment (16 sessions) the posttest was administered to all of the experimental and control groups in order to see if there was any significant difference between the groups regarding their recalling of collocations. All groups received an equal amount of instructional treatment. In other words, the control groups typically took the same pretests and posttests as the experimental groups did, but did not have the same treatment between the tests.

Finally like the pretest, one posttest also was taken by the participants with the same number of items and the same format which was administered right after the treatment to all experimental and control groups. The activities which were done through instruction are as mentioned below and these activities were drawn from a lesson plan which was used and suggested for explicit teaching of metacognitive strategies. It is also as a lesson plan for teaching collocations in the current research. The model contains the following steps:

1. Preparation: develop student’s awareness of different strategies through:
   Point out the variety of strategies available and the element of choice strategic learner can make an informed choice of strategy depending on the requirements of the task and his or her individual learning style.
2. Presentation: develop student knowledge about the strategy by
   Model the focus strategy for performing a task similar to which the students will tackle it in their lessons and explain how and when to use it.
3. Practice: develop student skills in using strategy for academic learning through:
   Students’ practice using the strategy with regular class activities. For example, asked the students to form small groups, and give each group some guessing questions that were on written form such as clarify the collocations of the given words.
4. Evaluation: develop students’ ability to evaluate their own strategy through:
   Ask each group to present the completed list of collocations they were given to answer. Ask if the groups were able to get all of the collocations and ask how well the strategy was working for them.

5. Expansion: develop transfer of strategies to new tasks by:
   Arranging and planning their learning
The present study was accomplished during the course of the participants’ regular schedule; meanwhile, the last thirty minutes of class time was spent on the experimentation.

The control group received the same instruction and materials minus explicit manipulation of metacognitive strategies.

Following treatment sessions (for 16 sessions) the posttest, which was a piloted test of collocations, was administered to both the experimental and control groups in order to see if there was any significant difference between the groups regarding their recalling of collocations.

4.5. Scoring Procedure

Each test of Collocation was consisted of 40 multiple-choice items. One point was awarded to any item that was correctly answered by the learners. As such, the maximum possible score in Iranian situations is 20 and the total number of these tests was 40, the final number was calculated by dividing the total number of each total score by two.

4.6. Pre-test and Post-test of Collocation test

Demonstration of the result of pre-test and post-test for participants of each level with regard to research hypotheses:

H1: Metacognitive awareness has significant effect on recalling of collocations among elementary-level EFL learners.

According to the descriptive statistics for collocation test, the results showed gains for both groups (Table 1).

<table>
<thead>
<tr>
<th>Group</th>
<th>pre-test</th>
<th>post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>10.7</td>
<td>.851</td>
</tr>
<tr>
<td>Control</td>
<td>11.50</td>
<td>.759</td>
</tr>
</tbody>
</table>

But the results of the paired-sample t-test ($t (29) = 540, P = .000 < .05; R = .73$ indicate that there is a significant difference between experimental group’s means on the pre-test and post-test (Table 2).
Table 2 Paired-Samples t-test pre-test and post-test of collocations

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>T</th>
<th>Df</th>
<th>Sig.(1-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Std.</td>
<td>95% Confidence</td>
<td></td>
</tr>
<tr>
<td>Deviation Error Mean</td>
<td>Interval of the Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
</tr>
<tr>
<td>1.865</td>
<td>1.478</td>
<td>.263</td>
<td></td>
</tr>
<tr>
<td>1.158</td>
<td>2.438</td>
<td>5.40</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus the first alternative hypothesis i.e. metacognitive awareness has significant effect on recalling of collocations among elementary-level EFL learners **is confirmed**.

**H2**: Metacognitive awareness has significant effect on recalling of collocations among intermediate-level EFL learners.

According to the descriptive statistics for test on collocation, both groups showed a gain from the pre-test to the post-test (see Table 3).

Table 3. Descriptive Statistics for intermediate level groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>10.95</td>
<td>1.099</td>
</tr>
<tr>
<td>Control</td>
<td>11.15</td>
<td>.98</td>
</tr>
</tbody>
</table>

The results of the paired-sample t-test (t (29) = 5.438, P = .000 < .05; R = .83) indicate that there is a significant difference between experimental group’s means on the pre-test and post-test (Table 4).
Table 4 *Paired-Samples t-test pre-test and post-test of collocation*

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>T</th>
<th>Df</th>
<th>Sig.(1-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std.</td>
<td>Std.</td>
<td>95% Confidence Mean Interval of the Difference</td>
</tr>
<tr>
<td>Deviation Error Mean</td>
<td>Interval of the Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>Std.</td>
<td>Std.</td>
<td>95% Confidence Mean Interval of the Difference</td>
</tr>
<tr>
<td>Deviation Error Mean</td>
<td>Interval of the Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.728</td>
<td>1.321</td>
<td>.262</td>
<td>1.005</td>
</tr>
</tbody>
</table>

Thus the second hypothesis as metacognitive awareness has significant effect on recalling of collocations among intermediate-level EFL learners is confirmed.

**H3**: Metacognitive awareness has significant effect on recalling of collocations among advanced-level EFL learners.

According to the descriptive statistics for the test on collocation, both groups showed a gain from the pre-test to the post-test (see Table 5).

Table 5. *Descriptive Statistics for advanced level groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>10.50</td>
<td>1.43</td>
</tr>
<tr>
<td>Control</td>
<td>10.65</td>
<td>1.15</td>
</tr>
</tbody>
</table>

The results of the paired-sample t-test \( t(29) = 5.658, P = .000 < .05; R = .89 \) indicate that there is a significant difference between experimental group’s means on the pre-test and post-test (Table 6). Thus the third hypothesis as metacognitive awareness has significant effect on recalling of collocations among advanced-level EFL learners is confirmed.

Table 6. *Paired-Samples t-test Pre-test and Post-test of collocation*
Paired Differences

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.828</td>
<td>1.121</td>
<td>1.057 - 2.987</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower Upper</td>
</tr>
</tbody>
</table>

H4: Metacognitive awareness and recalling of collocations have the same effective role on different proficiency levels.

As displayed in Table 7 and 8, means of the elementary, intermediate and advanced groups on the metacognitive strategies were 60.88, 112.665 and 132.67 respectively.

Table 7. One-Way ANOVA; Metacognitive Strategies by Proficiency Level

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>130800.372</td>
<td>2</td>
<td>65400.186</td>
<td>302.537</td>
</tr>
<tr>
<td>Within Groups</td>
<td>31777.388</td>
<td>147</td>
<td>216.173</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>162577.760</td>
<td>149</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Descriptive Statistics; Metacognitive Strategies by Proficiency Level

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>60</td>
<td>60.88</td>
<td>12.158</td>
<td>1.464</td>
</tr>
<tr>
<td>Intermediate</td>
<td>60</td>
<td>112.65</td>
<td>19.061</td>
<td>2.525</td>
</tr>
<tr>
<td>Advanced</td>
<td>60</td>
<td>132.67</td>
<td>7.750</td>
<td>1.582</td>
</tr>
</tbody>
</table>
Although the F-value of 302.53 indicated significant differences between the means of the elementary, intermediate and advanced groups on the metacognitive strategies, the post-hoc Scheffe’s tests should be run to compare the groups two by two. (Table 9)

Table 9. Post-Hoc Scheffe’s Tests; Metacognitive Strategies by Proficiency Levels

<table>
<thead>
<tr>
<th>(I) Proficiency Level</th>
<th>(J) Proficiency Level</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval Lower Bound</th>
<th>95% Confidence Interval Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate</td>
<td>Elementary</td>
<td>51.765</td>
<td>2.632</td>
<td>.000</td>
<td>45.26</td>
<td>58.27</td>
</tr>
<tr>
<td>Advanced</td>
<td>Elementary</td>
<td>71.783</td>
<td>3.484</td>
<td>.000</td>
<td>63.17</td>
<td>80.40</td>
</tr>
<tr>
<td>Advanced</td>
<td>Intermediate</td>
<td>20.018</td>
<td>3.578</td>
<td>.000</td>
<td>11.17</td>
<td>28.86</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.

Based on the results displayed in Table 9 it can be concluded that;

A: There was a significant difference between intermediate (M = 112.65) and elementary (M = 60.88) groups on the metacognitive strategies (MD = 51.76, P < .05).

B: There was a significant difference between intermediate (M = 112.65) and advanced (M = 132.67) groups on the metacognitive strategies (MD = 20.1, P < .05).

C: There was a significant difference between advanced (M = 132.67) and elementary (M = 60.88) groups on the metacognitive strategies (MD = 71.78, P < .05). So, with respect to the results the forth hypothesis as Metacognitive awareness and recalling of collocations have the same effective role on different proficiency levels is rejected.

5. Discussion and conclusion

The findings of the present study revealed that explicit teaching of metacognitive strategies had a significant effect on different proficiency level EFL students’ recalling of collocations. Secondly, the results showed that explicit teaching of metacognitive strategies does not have the same effect on different proficiency level students’ recall of collocations, as advanced level participants of the study outperformed intermediate and elementary participants.

These findings are in line with the findings of other researchers recorded in the literature: Schmidt (1990) argued that attention and explicit teaching are necessary for learning and Tomlin...
and Villa (1994) focused on the conception of attention and its effect on the second language development. Huckin and Coady (1999) discussed the insufficient nature of incidental learning of second language vocabulary and stress that the concepts such as “the degree of exposure to a word needed for successful acquisition, the efficacy of different word-guessing strategies, the value of teaching explicit guessing strategies, the influence of different kinds of reading texts, and the effects of input modification should not be neglected” (p.181). Fraser (1999) ran a research concerning the effect of training the learners with lexical processing strategies (LSPs) and the effect they might have on the learners’ vocabulary knowledge development and found that “LPSs lead to higher retention rates than other strategies” (p. 225).

In terms of teaching collocations and the effect metacognitive awareness might leave on the learners’ collocation knowledge, Lipske (2006) argued that teachers are supposed to introduce metacognitive strategies to their students so as to make them equipped with devices to learn how to apply their cognitive abilities through metacognitive controls.

To sum up, it could be mentioned that learning new vocabulary items and collocations is a challenge to foreign language students but they can overcome it by having access to a variety of vocabulary learning strategies, including metacognitive strategies. Learners should then be trained in strategies they lack.
References


