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Research Paper

Impact of Self-Regulation Training and Instruction on EFL Learners' Short-Term and Long-Term Retention of English Vocabularies in Online Classes

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Abstract

This study aimed to investigate the impact of self-regulation training and instruction on EFL learners' short-term and long-term retention of English vocabulary in online classes. The design of the present study was a quasi-experimental pre-test post-test control group design. The participants of this study included 60 Iranian male intermediate EFL learners chosen from among 68 learners studying English at a private language institute in Kerman, Iran based on their PET scores. The original sample was selected through convenience sampling. The participants' ages ranged from 17 to 30. The following instruments were used in this study: a Preliminary English Test (PET) and two researcher-made vocabulary tests. To analyze the data, the Kolmogorov-Smirnov test, Descriptive statistics and Repeated Measures ANOVA were used and according to the results of data analysis, self-regulation training and instruction had a significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes. The findings have some implications for EFL teachers, EFL learners, and curriculum planners.

Keywords: *Self-regulation; Self-regulated Learning; Self-regulation training and instruction; Vocabulary Retention.*

تأثیر آموزش خودتنظیمی بر حفظ کوتاه مدت و بلند مدت واژگان انگلیسی زبان آموزان در کلاس های آنلاین

این مطالعه با هدف بررسی تأثیر آموزش و آموزش خودتنظیمی بر حفظ کوتاه مدت و بلندمدت واژگان انگلیسی زبان آموزان در کلاس های آنلاین انجام شد. طرح پژوهش حاضر نیمه آزمایشی از نوع پیش آزمون پس آزمون با گروه کنترل بود. شرکت کنندگان در این مطالعه شامل 60 زبان آموز مرد متوسط زبان انگلیسی بودند که از بین 68 زبان آموز انگلیسی در یک موسسه زبان خصوصی در کرمان، ایران بر اساس نمرات PET خود انتخاب شدند. نمونه اصلی از طریق نمونه گیری در دسترس انتخاب شد. سن شرکت کنندگان از 17 تا 30 سال بود. ابزارهای زیر در این مطالعه استفاده شد: آزمون مقدماتی انگلیسی (PET) و دو آزمون واژگان محقق ساخته. برای تجزیه و تحلیل داده ها از آزمون کولموگوروف اسمیرنوف، آمار توصیفی و آنالیز واریانس استفاده شد. با توجه به نتایج تجزیه و تحلیل داده ها، آموزش خودتنظیمی تأثیر معناداری بر حفظ کوتاه مدت و بلندمدت واژگان انگلیسی زبان آموزان در کلاس های آنلاین داشت. این یافته ها برای معلمان زبان انگلیسی، زبان آموزان زبان انگلیسی و برنامه ریزان برنامه درسی می تواند مثر مثر باشد.

کلمات کلیدی: خود تنظیمی، یادگیری خودتنظیمی، آموزش و آموزش خودتنظیمی، حفظ واژگان

Introduction

The process of language learning is like a kaleidoscope in which different factors are at play. One of these factors is learner-related factors including learning styles, learning strategies, personality traits, etc. As put by Amirian, Mallahi and Zaghi (2015) the belief is that learner-related variables, especially self-regulation strategies, have the potential to improve students' performance and can lead to language learning achievement. Thus, among the positive factors in the process of language learning, self-regulation has been considered by scholars in different fields including English Language Teaching (ELT). Self-regulation refers to learners' ideas and actions, which are self-generated and systematically directed toward educational goals and require learners' active participation in the learning process (Zimmerman & Bandura, 1994). Pintrich's (1990), as cited in (Zahidi & Binti, 2012) has defined self-regulation as a process that is active and constructive and through which learners set their learning goals and then try to monitor, regulate, and control their cognition, motivation, and behavior. In Zarei and Hatami's (2012, p. 1) words, "in the past two decades, self-regulation has been the center of heated debate in educational psychology".

Moreover, one of the inseparable parts of language learning and language use is vocabulary learning and retention. "vocabulary retention is the ability to keep the meaning of a new word in memory and use it after a given period" (Preston, 2007). As defined by Nation (2001, p. 23), "vocabulary learning means being able to recognize word items ('item knowledge') and being able to understand the various features of word items ('system knowledge')".

In fact, there is consensus among the scholars upon the necessity of enhancing vocabulary knowledge for learners. According to Zinhong (2000), to learn new vocabularies, students are to discover new ways to develop their lexicon and vocabulary knowledge so that they become interested and motivated in learning a foreign language. In this regard, some scholars have considered different ways to help learners learn new vocabularies more effectively and easily. Among different ways, the use of self-regulation strategies has taken the attention of researchers recently.

Although various studies have shown that learners who use self-regulation strategies perform better than those who do not use such strategies (Ömer & AKÇAYOĞLU, 2021; Rahimi Larki, 2021), in Iranian educational system, still teacher-centeredness and teacher-centered classes are common. In other words, learner-centeredness and what learners bring with themselves to the learning process are not taken much seriously or are not in their deserving status, while recently the emphasis has been put on the learners and their potentials as the main players of language learning game.

Furthermore, vocabulary short-term and long-term retention has been acknowledged as an inseparable and inevitable part of language learning, that is very difficult for many language learners, at least in EFL contexts (Laufer, 1998). In the same vein, Holden (2001) enumerated the retention and retrieval of new words as one of the difficult aspects in learning foreign language. According to Cameron (2001), despite its important role in language learning, vocabulary learning and retention is still challenging for EFL learners.

Self-regulation strategies have been suggested as a solution to make EFL learning easier for learners. However, in spite of the proved potentials of self-regulation strategies for EFL learning, as evidenced in the existing literature, field observations show that the effectiveness of the use of self-regulation strategies on Iranian EFL learners' vocabulary learning and retention is among the issues which has not been heavily touched by researchers. To be more specific, this topic has not been explored in online classes. This is while today, online learning is the prevalent type of learning due to constraints generated by different variants of Covid-19 Virus.

With a view to these issues, this study aimed at investigating the impact of self-regulation training and instruction on EFL learners' short term and long-term retention of English vocabularies in online classes.

In line with above objective, the following questions were addressed in the present study:

Does self-regulation training and instruction have a significant effect on short-term retention of English vocabularies in online classes?

Does Self-regulation training and instruction have a significant effect on long-term retention of English vocabularies in online classes?

Literature Review

Gorjian and Hamidavi (2017) tried to examine whether there is a significant effect for content and language integrated learning (CLIL) on the intermediate level second language (L2) learners' vocabulary learning. Thus, a pre and post-test design was selected. Participants included seventy learners at the University of Ahvaz. In the intervention sessions, for both groups (i.e., experimental and control groups), the researcher read Select readings: Intermediate (Lee et al., 2011). However, while in the experimental group, CLIL method was used (i.e., vocabulary function, contextual clues, content, and vocabulary structures), the control group was taught the units through traditional method of learning vocabulary (i.e., vocabulary definitions, synonyms, antonyms, and word explanations). Since two groups were involved in the study, data analysis was conducted using independent sample t-test. Results demonstrated a significant outperformance in the CLIL group than the control group. This showed that CLIL has a significant effect on EFL learners' vocabulary learning. To investigate the effect of authentic problem-based tasks on EFL learners' vocabulary recall and vocabulary retention, Shir Mohammadi (2017) did a study. The researcher designed authentic problem-based tasks to be used in the experimental group during treatment sessions. However, the control group received conventional vocabulary learning tasks. Educational sessions lasted for 10 sessions in both groups. Vocabulary recalled was tested by an immediate post-test and vocabulary retention by a delayed post-test which was run two weeks after the end of treatment sessions. The results of data analysis showed that authentic problem-based tasks have a significant effect on vocabulary recall and vocabulary retention among the participants. Tayebi and Marefat (2019) sought to investigate the effect of rote learning on improving visual and auditory learners' vocabulary learning and retention. To this end, eight treatment sessions were sandwiched between the pre-test and post-test. In the treatment sessions, new words were taught through rote learning method. At the end of the sessions and two weeks later, the immediate and delayed post-tests were administered. Independent samples t-test was used to analyze the collected data. The findings showed that rote learning has a significant impact on the visual learners' vocabulary learning and retention. Ozer and Akçayoğlu (2021) sought to explore the relationship between self-regulation and academic achievement among EFL learners. The participants of this study were 344 EFL learners at the university level in Turkey, who were selected through criterion sampling. The results showed a significantly positive correlation between self-regulation and academic achievement. Rahimi Laraki (2021) explored the relationship between self-regulated learning and speaking ability of EFL learners in the context of Iran. To do so, Oxford Quick Placement Test (OQPT) and Metacognitive Awareness Inventory (MAI) were utilized as the tools of data collection. The results of this correlational study revealed that there was a strong positive correlation between self-regulation and speaking ability.

Method

The design of the present study was quasi-experimental pre-test post-test control group design. The participants of this study included 60 Iranian male intermediate EFL learners chosen from

among 68 learners studying English at a private language institute in Kerman, Iran based on their PET scores. The original sample was selected through convenience sampling. The selected sample was divided randomly into two groups, namely the experimental and control groups, each consisting of 30 students. The participants' age ranged from 17 to 30. The following instruments were used in this study:

Preliminary English Test (PET)

Preliminary English Test (PET) was used to homogenize the participants at the outset of the study. It consists of 67 items in three sections (i.e., writing, reading and listening). PET is considered as a second level Cambridge ESOL exam for intermediate level.

Researcher-made Vocabulary Tests

Two parallel researcher-made multiple choice vocabulary tests were used (one as the pre-test and the other one as immediate and delayed post-test). Each test contained 20 multiple choice vocabulary items. The content of the tests was based on the English Textbook which was already used in the institute. Validity of the tests was confirmed through expert judgment. The reliability of the tests was calculated through Cronbach's alpha as .80 and .79, respectively.

Procedures

At the beginning of the process of data collection, the formal procedures including taking the agreement of the authorities of the institute as well as the participants' consent, ensuring confidentiality of the participants' information, and the homogenization process were conducted. Then, the vocabulary pre-test was run in the two groups. Next, the two groups benefited from eleven educational sessions of the institute which were held two times a week in the online form through Adobe Connect Application. Each session lasted about 90 minutes. During the educational sessions, both groups enjoyed from the mainstream educational sessions of the institute. The only difference between the two groups was that the experimental group was exposed to self-regulation training and instruction in the last 25 minutes of the classroom. In the first session of self-regulation training and instruction, the importance of self-regulation and self-regulated learning, and self-regulation strategies were explained to the learners. In the second session, the cognitive strategies including inferencing, repeating, and deduction were explained. In the third session, the teacher dealt with the other cognitive strategies including imagery, elaboration, note taking, and translation strategies were explained. In the fourth and fifth session, the teacher explained semantic development of cognitive strategies related to simple and complex tasks. In the sixth session, cognitive strategies related to organizing simple and complex tasks were presented. In the seventh session, the strategies presented in the previous sessions were reviewed. In the eighth session, the metacognitive strategies including planning, monitoring, and evaluating strategies were explained. The ninth session was developed to the other metacognitive strategies modifying and problem-solving strategies. The tenth session was assigned to the remaining metacognitive strategies including time and place management strategies. Finally, in the eleventh session, the metacognitive strategies related to organizing the environment of studying, correct breathing, and sport were explained to the learners. However, in the control group, no self-regulation training and instruction was present. Three days after the end of treatment sessions, an immediate vocabulary post-test (described in the section on instruments) was run in the two groups. Two weeks later, the delayed vocabulary post-test was administered in the two groups.

To analyze the data, to check the normality assumption of the distribution of data, Kolmogorov-Smirnov test was run. Descriptive statistics including mean, standard deviation,

minimum and maximum scores was calculated to see the participants' performance pattern in the vocabulary pre-test and the immediate and delayed vocabulary post-tests. Besides, to investigate whether self-regulation training and instruction has any significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes, a Repeated Measures ANOVA was used.

Results

To check the normality assumption of the distribution of data, Kolmogorov-Smirnov test was run the results of which are shown in Table 1:

Table 1

Results of Kolmogorov-Smirnov Test

	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
Pre-test	0.71	0.25
Immediate post	0.75	0.39
Delayed post	0.89	0.21

As indicated in Table 1, the distribution of data is normal at %95 confidence level. Therefore, parametric tests can be used for the purpose of data analysis. Descriptive statistics was calculated to see the participants' performance in the pre-test and immediate and delayed post-tests. Tables 2, 3 and 4 show the results:

Table 2

Descriptive Statistics for the Pre-test

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Exp	30	12.9667	3.74611	0.68394	7.00	18.00
Con	30	12.2667	3.27933	0.59872	8.00	16.00

Table 2 shows that the means of the experimental and control groups in the pre-test are 12.96 and 12.26. And the standard deviations of the two groups are 3.74 and 3.27. Table 3 shows the results of descriptive statistics for the immediate post-test.

Table 3

Descriptive Statistics for the Immediate Post-test

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Exp	30	16.5667	3.85677	0.70415	10.00	20.00
Con	30	13.5000	2.14556	0.39172	8.00	16.00

Table 3 indicates that the means of the experimental and control groups in the immediate post-test are 16.56 and 13.50. And the standard deviations of the two groups are 3.85 and 2.14. Table 4 indicates the results of descriptive statistics for the delayed post-test.

Table 4

Descriptive Statistics for the Delayed Post-test

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
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Exp	30	16.1000	2.83269	0.51718	12.00	20.00
Con	30	13.9000	2.76867	0.50549	9.00	15.00

As seen in Table 4, the means of the experimental and control groups in the delayed post-test are 16.10 and 13.90. And the standard deviations of the two groups are 2.83 and 2.76.

To investigate whether self-regulation training and instruction has any significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes, a Repeated Measures ANOVA was run. Table 5 shows the results.

Table 5

Results of Repeated Measures ANOVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Pre/post/delayed	1257.227	2	314.307	44.913	0.000
Sphericity Assumed					

According to the results of the repeated measures ANOVA, there is a significant the difference between the mean scores in pre-test, immediate post-test and delayed post-test ($F = 44.913$, $p < 0.05$). This means that self-regulation training and instruction had a significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes.

Discussion

According to the results of data analysis, self-regulation training and instruction had a significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes.

Given that EFL learning is a complex phenomenon wherein many factors play a significant role, this effect can be attributed to the mediating role of several variables. One of these variables can be the role of learning strategies which is closely related to the notion of self-regulation and self-regulated learning, as shown in the study by Sadeghy and Mansouri (2014). Another factor which can be referred to as a mediating factor is learners' autonomy which, according to Tavallai and Marzban (2015), is significantly influenced by self-regulated learning. Autonomy was repeatedly enumerated as one of the most important factors in EFL learning, thus its mediating role cannot be easily neglected. Furthermore, the mediating role of cognitive strategy use which proved to be significantly correlated with self-regulated learning in the study by Pintrich and De Groot (1990) can be referred to as a justification for the findings of the current study. Also, among the factors influencing on the effect of self-regulation training and instruction on EFL learners' short-term and long-term retention of English vocabularies, self-efficacy can be mentioned as argued by Mizumoto (Mizumoto, 2013). To Mizumoto (2013), self-regulated learning process and learners' self-efficacy are correlated significantly. Last but not least, it is not misplaced to attribute the results to the mediating role of motivation which has been shown to be correlated significantly with self-regulation (Lavasani et al., 2011).

Before comparing the finding of the present study with that of the previous ones, it is worth mentioning that because so far, to the best knowledge of the researcher, no study was conducted on the effect of self-regulation training and instruction on EFL learners' short-term and long-term retention of English vocabularies in online setting, thus, there was no exactly parallel study in the literature to which the finding of this study can be linked. Thus, the findings of this study are

linked to those studies which have been done on the effect of self-regulation on vocabulary learning in face-to-face settings.

Consistent with the present study, Amirian, Mallahi, and Zaghi (2015), Liu, Lan, and Ho (2014), Mizumoto (2013), and Zarei and Hatami (2012) showed the effectiveness of self-regulation on vocabulary learning in EFL contexts. In a more general sense, the findings are in line, although indirectly, with the studies by Adkins (2005) and Zhao and Dong (2011), which showed a significant effect of the self-regulated strategy on different aspects of EFL learning.

Conclusions

The results of data analysis showed that self-regulation training and instruction had a significant effect on EFL learners' short-term and long-term retention of English vocabularies in online classes. It cannot be denied that vocabulary learning and retention have been acknowledged as inseparable parts of language learning. Meanwhile, they are too difficult to be learned easily by EFL learners (Laufer, 1998). As acknowledged by the scholars i.e., (Cameron, 2001; Holden, 2001), the retention and retrieval of new words are considered as two difficult and challenging areas for EFL learners in learning English, despite their important role in language learning. It is hoped that using self-regulation training and instruction contributes to remarkable improvements in vocabulary learning and retention in online classes.

Based on the results of this study, it can be concluded the above-described scenario is not appropriate and there is a need for some changes in the educational system of Iran so that English teachers and learners can benefit from mobile applications in English classes. Interestingly, in the literature, it has been shown that both teachers and learners had a positive attitude towards mobile applications and preferred to use them in the English classes. Therefore, it seems that the time has reached for the arrival of mobile applications in the English classes in Iran, as supplementary to traditional methods of ELT.

The first implication of the study is that EFL teachers can use self-regulation training and instruction in their online classes in trying to improve their students' vocabulary short-term and long-term retention. The second implication is that EFL learners can benefit from self-regulation training and instruction provided to them in online classes in order to improve their own vocabulary short-term and long-term retention. Finally, material designers should develop the educational materials in a way that the use of self-regulation training and instruction is encouraged in online English classes.

The future researchers can replicate the present study with a more diverse sample in terms of age, gender, and English proficiency level. Moreover, they can explore the potential role of mediating variables in the effect of self-regulation training and instruction on short-term and long-term retention of English vocabularies in online settings. Last but not least, investigating the effect of self-regulation training and instruction on English skills in online classes can add to the findings of the present study.

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