

The Effect of Using Advance Organizers on Improving Collocational Knowledge of Iranian EFL Learners in MALL-Oriented Classrooms

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Abstract. The purpose of the present study was to explore if advance organizers with the help of MALL-oriented classrooms can help Iranian EFL learners improve their collocational knowledge or not. In other words, this study investigated the effect of advance organizers on improving collocational knowledge of Iranian EFL learners in a MALL-oriented classroom environment. To accomplish this aim, a quasi-experimental method of research, using a pretest-posttest design with a control group was employed in order to answer the research question. After the homogenization procedure, the participants were divided into two groups of control and experimental. In order to investigate the effectiveness of the treatment and also compare the two proficiency levels regarding the treatment, two teacher-made multiple-choice grammar tests were employed as the pre-and post-test. The findings, guided by descriptive and inferential statistics, highlighted that advance organizers in a MALL-oriented classroom had a positive effect on improving EFL learners' collocational knowledge.

Keywords: Collocational knowledge, advance organizers, MALL-oriented classrooms, EFL learners

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1. Introduction

In recent years, the use of technology in teaching and learning environments has received great attention. Education systems have been affected by educational technology. Therefore, technology-based language learning has been one of the most popular areas in foreign language education research. According to Domalewska (2014), learning can become more interactive and collaborative by education technology. Moreover, technology helps students' better engagement and interaction with course material, since instead of memorizing facts, they learn by doing and interacting. As Vygotsky (1962) has stated, one learns through interactions and communications with others. This is why interaction has been introduced in the literature as a means to provide a better learning and comprehension opportunity for language learners. As Beatty (2003) has asserted, "teachers need to be concerned about investigating time and money in unproven technology" (p.72). In this regard, using mobile phones, as an example of technology to increase the effectiveness of instruction, has been acknowledged through a number of experimental studies carried out so far (see for example Azad, 2014; Liu & Leina, 2012; Ozdamli & Cavus, 2011).

Mobile-assisted language learning (MALL) is a subset of Computer-Assisted Language Learning (CALL). In this regard, Kukulska-Hulme and Shield (2008) state that MALL is different from CALL, as it uses personal and portable devices that provide alternative ways of learning and "continuity or spontaneity of access and interaction across different contexts of use" (p. 273). Rodriguez-Arancn, Ars and Calle-Martnez (2013) define MALL as "a teaching and learning methodology that uses mobile phones or other handheld devices with some form of wireless connectivity, such as phones, PDAs and tablets, among others" (p. 1190). O'Malley, Vavoula, Glew, Taylor and Sharples (2005) define MALL as "any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies" (p. 6).

According to Ausubel (1960), to learn meaningfully, learners should

relate new knowledge (concepts and propositions) to what they already know. Ausubel (1960) proposed the notion of advanced organizers as a way to help learners link their ideas with new material or concepts. Ausubel's (1960) theory of learning claims that new concepts to be learned can be incorporated into more inclusive concepts or ideas. These more inclusive concepts or ideas are advance organizers. According to Ausubel (1960), an advance organizer is a material that is introduced before an unfamiliar content so as to facilitate its assimilation. Advance organizers can be verbal phrases or a graphic. In any case, the advance organizer is designed to provide, what cognitive psychologists call scaffolding (Vygotsky, 1987) to learn new information.

Advance organizers theory supports effective teaching and learning process. It can be seen as an appropriate instructional strategy for teaching collocations which are introduced by some researchers as difficult to learn in the process of language learning. Robins (2000) argues that collocation is "the habitual association of a word in a language with other particular words in sentences" (p. 64). Collocation has also been psychologically defined (Aitchison, 2003). In this way, collocation involves strong associations between words. This association can be defined as the collocative meaning, which "consists of the associations a word acquires on account of the meanings of words which tend to occur in its environment" (Leech, 1974, p. 20).

According to what has been mentioned regarding the importance of collocations, the effectiveness of advanced organizers, and the usefulness and also the frequency of using mobile phones in language classrooms, one question that comes to mind is whether using advance organizers with the help of MALL-oriented classrooms are effective for improving Iranian EFL learners' collocational knowledge. To the best of the researchers' knowledge, few pieces of research have ever been done examining the effect of using advance organizers in a MALL-oriented classroom environment on improving Iranian EFL learners' collocational knowledge. Therefore, this study will intend to examine this issue to fill the existing gap in the literature.

2. Literature Review

2.1 Theoretical considerations

2.1.1 Mobile assisted language learning (MALL)

It could be argued that MALL involves the use of any portable learning materials, so it includes books, audio-cassettes, audio-CDs, and portable radios and DVD players (Azara and Nasiri, 2014, Derakhshan, 2011, Kukulska-Hulme and Traxler 2005). Kukulska-Hulme (2005) indicated that MALL is any sort of learning that happens when the learner is not in a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies. From this point of view, mobile applications can be effective tools for college learners who do not have many opportunities to have authentic materials.

Kukulska-Hulme (2005) and Lee (2005) emphasized the growing popularity and also functionality of using mobile technologies in teaching and learning languages. Taki and Khazaei (2011) clarify that mobile phones are not only able to support formal and informal learning, but also to complete the process of learning through computers. Also, Miangah and Nezarat (2012) indicate that MALL deals with the use of mobile technology in language learning. In contrast to classroom learning, in MALL there is no need for the learners to sit in a classroom or at a computer to get learning materials (Miangah & Nezarat, 2012). In fact, MALL can be considered an ideal solution to language learning barriers in terms of time and place. By using mobile phones, teachers can provide a rich learning environment for learners.

2.1.2 Advance organizers (AO)

According to the literature, an essential tool that is effective in language pedagogy is to use advance organizers (AOs) which are used to activate schema (Heron, 2011). Curzon (as cited in Shihusa & Keraro, 1990) stated that advance organizers including concept maps or discussions should be prepared for learners before teaching new lessons. He believed that advance organizers are used to give a signal to student about their background knowledge. According to Ausubel (1960), AOs

help in supporting English language learners' metacognition and overall comprehension.

An advance organizer is defined as an instructional unit that is introduced in advance of direct instruction. Schoen and Schoen (as cited in Billings & Athison, 2003) find that grounded in schema theory, AOs introduce new information to students in an organized manner, helping them to develop a foundation before teacher-driven instruction begins. Students may then activate and use the schema as entry points into more comprehensive instruction.

An advance organizer is a kind of cognitive bridge, which teachers use to help learners make a link between what they know and what is to be learned (Novak, as cited in Shihusa & Keraro, 1980). Advance organizers can refer to a relatively short arrangement of material introduced to the learner before the lesson. They are designed to cue the relevant prior knowledge of a learner and they are usually presented at a higher level of abstraction, generality and inclusiveness than that of the planned lesson (Curzon, 1990).

According to Ausubel (1960) an advance organizer is a material that is introduced before an unfamiliar content so as to facilitate its assimilation. It, therefore, acts as an anchor for the reception of new content (Ausubel, 1963). Ausubel (1963) further pointed out that the cognitive restructuring process that is a result of advance organizers leads to some positive learning outcomes. He also believes that advance organizers have been regarded as an effective strategy to activate schema by stimulating students' prior knowledge, focusing students' interests, and setting goals for further instruction. According to Bruning et al. (2003) Schema activation refers to "various methods designed to activate students' relevant knowledge prior to a learning activity" (p.75).

Many other educational psychologists also promote the use of advance organizers. Mayer (1979) reinterpreted Ausubel's (1960) use of advance organizers in his assimilation encoding theory, and indicates that the successful use of advance organizers is highly influenced by the availability of an assimilative context in memory and the active use of knowledge during learning. Thus, teachers need to prepare the students before a unit of study in order to attach new information to prior knowl-

edge, so the new information has something to “latch onto” (Jensen, as cited in Baiyun Chen, 1996).

2.1.3 Collocations

According to recent proposals regarding difficulties in vocabulary and word-association, learning conventional verb-noun combinations in a second language is known to be highly problematic when word choices differ from those in the native language (Bjork & Kroll, 2015). Collocations in learner language appear to be a worthwhile subject of study, as collocations are, on the one hand, pervasive in language, and, on the other, difficult even for advanced learners of English. In the literature on the topic, statements such as the following appear: “any analysis of students’ speech or writing shows a lack of collocational competence” (Hill, as cited in Kheirzadeha & Marandib, 2000, p. 49). Hill (2000), who emphasized the importance of collocational knowledge in L2 pedagogy, addressed a fundamental question of what it means to know a language. He claimed that “[students] do not really ‘know’ or ‘own’ a word unless they also know how that word is used [emphasis in original], which means knowing something about its collocational field” (p. 60).

Wray (1999) proposed two functions of collocations as: first, they play an essential role in language learning, as they seem to be the basis for the development of creative language, and, second, they are essential for fluency in both spoken and written language. Nesselhauf and Tschichold (2002) claim that we are still far from the development of a coherent methodology and even further far from a wide-spread and systematic treatment of collocations in language teaching materials and syllabuses. Granger (as cited in Nesselhauf, 2005) comes to the conclusion that the reason for using collocations is the desire of many learners (often supported by teaching practices) to be original and expressive.

2.2 Empirical studies

Babaei and Izadpanah (2019) compared the effects of different advance organizers on EFL learners’ listening comprehension. Teng (2020) showed that the use of advance organizers with glossed full captions is innovative to guide primary school L2 learners to develop vocabulary knowledge from English videos.

Studies carried out by Lin and Chen (2006) and Adejumo (1992) revealed that advanced organizers were of facilitative effects on students' achievement. Extensive research has been conducted on the effectiveness of using AOs in classroom teaching whose results mainly show the positive effect of AOs on language learning.

Chan and Liou (2005) used five Web-based practice units, three of which include the use of a bilingual Chinese-English concordancer to teach verb+noun collocations to EFL students, and found that explicit online instruction was effective in promoting EFL learner knowledge of collocation.

Sun and Wang (2003), conclude that the inductive group improved significantly more than the deductive group in learning collocations. The level of difficulty of collocation is also found to influence the learning outcome. They have also found that easy collocations are more suitable for an inductive approach.

Studies carried out by Mohammed (1991), Akinyemi (1992), Ajaja (2006), and Ojeifo (2000) revealed that the use of advanced organizers by students had facilitating effects on the students' learning and retention of the concepts they were taught. Mohammed (1991) found out that the learners in different classes performed better with the use of organizers in addition to the lessons. However, some researchers (Laoye, 1992; Salmon, 2000) found out that the use of organizers does not have any facilitative effect on students' achievement and retention of the concepts they were taught. These pieces of research show that there are still conflicting results of findings in the use of organizers.

Lin (2002) examined the effects of employing receptive and productive tasks on verb+noun collocation teaching. Khodashenas and Amouzegar (2013) focused on the impact of MALL on Iranian English as a foreign language (EFL) learners' vocabulary learning. Shams (2013) investigated the effectiveness of using hybrid learning in developing Iranian EFL learners' autonomy in vocabulary learning. Jalilifar, Mehrabi, and Mousavinia (2014) clarified the effect of enriching the vocabulary instruction with the printouts of concordance lines on learning and retention of Iranian EFL students. Wu (2014) investigated the effectiveness of smartphones in helping college students learn English vocab-

ulary. Shahriarpour and Kafi (2014) applied digital games to develop learning English vocabulary, especially through video games. In order to achieve the aim of the current study, the following question was posed:

Do advance organizers used in a MALL-oriented classroom environment have any effect on the improvement of Iranian EFL learners' collocational knowledge?

3. Method

3.1 Research design

The present study adopted a quantitative approach towards data collection and analysis procedures with a pre-test, post-test, control group design. The present research used a quasi-experimental approach since random sampling was not possible due to the problems regarding the availability of the participants. After the homogenization procedures, the participants in the two intact classrooms were assigned into control and experimental groups. After a pretest of collocation, the experimental group received the treatment, and finally, at the end of the study, both groups were given a posttest in order for the research question to be answered.

3.2 Participants

The population of interest for this research was all pre-intermediate Iranian EFL learners. The sampling procedure was a non-probability sampling of convenience type, due to the problems regarding the availability of the participants. At the beginning of the study, the participants were 42 pre-intermediate EFL learners in two intact classes in Ayandegan language institute in Shiraz. However, due to COVID 19, and also homogenization procedure through Oxford Placement Test (OPT) and a Gobert's (2007) test of collocations, participants were reduced to 33 pre-intermediate EFL learners whose age ranged from 19 to 28. The participants were female language learners in two intact classes.

Through the homogenization procedure, participants whose score on the OPT and Gobert's test of collocations ranged between -1 and +1SD were selected to take part in the study, and the rest of the learners were excluded from the experiment without being informed. Descriptive

statistics regarding the OPT and pre-test of the remaining participants is present in chapter four. After the homogenization procedure they were divided into two groups of control (N=17) and experimental (N=16).

3.3 Instruments

The first instrument used in this piece of research was Oxford Placement Test (OPT is an on-demand computer-adaptive test of the English language for nonnative speakers of English, to provide institutions with a quick, reliable way to place English language students into the correct level English class.) by means of which the researchers tried to make sure of the homogeneity of the two groups of the participants. This test was administered to select those who scored only one Standard Deviation below and above the mean.

The second instrument was Gobert's (2007) test of collocational knowledge. It was a multiple-choice test with twelve items which was employed in order to homogenize the participants at the beginning of the study. This test was also administered to select those participants who scored only one Standard Deviation below and above the mean.

The third instrument was a test of collocations designed and validated by the researchers. This test was based on the materials used during the semester. The test included 20 multiple-choice items which were taken from the materials covered during the term. This test was used twice in the experiment, once as a pretest and once again as a posttest.

The content validity of the tests and their difficulty level was examined by two PhD holder experts in language testing and design. The reliability of the tests was established through a pilot study, with 25 pre-intermediate EFL learners studying at a language institute. The test-retest method of estimating reliability was used in order to ensure the reliability of the two tests. The reliability coefficients for Gobert's (2007) test of collocational knowledge and the teacher-made test collocations were .87, and .88 respectively.

3.4 Data collection procedures

After the homogenization procedure by means of OPT and Gobert's (2007) test of collocational knowledge, the participants in two intact

classes were assigned to control and experimental groups. The two groups were then given a pre-test of collocational knowledge as mentioned in the instrument section.

After the pre-test, the experiment began and continued for a full semester (about 18 sessions). The control and experimental groups were the same regarding all educational aspects such as educational materials, teaching time, pre-and post-tests, and even the teacher. Moreover, all control and experimental groups got familiar with the concept of collocation in the same way. The only difference between the control and experimental groups was in the way collocations were taught to the two groups and the context in which the participants in each group learned collocations. In the experimental group, advance organizers were used through a MALL-oriented classroom during the instruction procedure.

More specifically, the participants in the experimental group were taught collocations, practiced them and provided feedback through a virtual group they had joined in the WhatsApp application which had been allocated to learning collocations. Their teacher had asked the experimental group participants to do all activities related to learning collocations by means of their mobile phones in order to fulfill the aim of having a MALL-oriented environment.

Moreover, collocations were taught using advance organizers to the experimental participants. "Advance organizers have been operationalized as relevant materials or activities introduced prior to the learning material itself to establish a meaningful learning condition" (Corkill, as cited in Feng Teng, 2020). Therefore, for teaching each collocation, pre-teaching activities were used as advance organizers in order to pave the way for teaching. Teachers could use every pre-teaching activity of AOs for teaching collocations. From among the advance organizers, graphic organizers were used as pre-teaching activities. Graphic organizers are one of the subcategories of the concept map of AOs that are visual representations of information.

In the control groups, however, the traditional method of teaching collocations was utilized. In other words, the existing collocations were written on the board by the teacher. Students were required to pay attention to the words which went together. After the treatment, both

groups took the teacher-made collocational test as a posttest in order for the researchers to investigate whether the treatment was successful or not.

In addition to the analysis procedures regarding the participants' homogenization process and also test validation procedures, in order to answer the research question, the data collected from the pre and post-test was put into analysis using SPSS version 22. As it will be explained in more detail in chapter four, during the data analysis procedure, besides using tests for checking the normality of the distributions, two independent samples t-tests and one paired samples t-tests were run. The effect sizes were also estimated.

The first independent samples t-test aimed at identifying any significant difference in the pretest scores of the control and experimental groups, in order to check the homogeneity of the participants on collocational knowledge. The second independent samples t-test examined any significant difference between the posttests of the experimental and control groups in order to find any significant differences between the means of the two groups after the treatment.

The paired samples t-test was conducted to investigate any significant differences between pre-and post-test scores of the experimental group. Effect sizes for all t-tests were estimated using the Eta-squared formula.

4 Results

4.1 Descriptive statistics

Table 1 indicates the descriptive statistics regarding Gobert's (2007) test of collocational knowledge for the control and experimental groups. The table only includes the results related to those participants who passed the homogenization procedure.

Table 1: Descriptive Statistics Regarding Gobert's (2007) Test of Collocational Knowledge

	N	Mean	Std. Deviation
Gobert Test	33	5.4242	1.06155
Valid N	33		

According to Table 1, the mean for Gobert's (2007) test of collocational knowledge was 25.8889 with an SD of 2.08090.

Table 2 indicates descriptive statistics regarding post-test scores of the control and experimental groups.

Table 2: Descriptive statistics regarding post-test scores of the control and experimental groups

	N	Mean	Std. Deviation
Posttest Control	17	11.0000	1.76777
Experimental	16	13.5000	1.36626

As the table shows, the number of participants in the control group was 17, and the number of participants in the experimental group was 16. According to the table, the mean for the former group in the post-test was 11.0000, while for the latter group has been reported to be 13.5000. The experimental group, therefore, had a higher mean score. The significance of this difference, however, was examined using inferential statistics which will be reported later.

Table 3 shows the descriptive statistics regarding the pre-test scores of the control and experimental groups.

Table 3: Descriptive Statistics Regarding the Pre-Test Scores of the Control and Experimental Groups

		N	Mean	Std. Deviation
Pretest School	Experimental	17	9.0000	1.62019
Pretest Control School		16	9.1875	1.37689

According to Table 3, the mean of the pretest scores for the experimental group is 9.0000, and the mean score for the control group is 9.1875. As it was expected, the two groups do not seem to have a large mean difference in their pre-test. However, inferential statistics examines the significance of this mean difference in a scientific way. Results of the inferential statistics will be presented in the following sections.

4.2 Inferential statistics

Inferential statistics were used in order to answer the research question. In order to do this, independent-and paired-samples t-tests were

employed. Before employing these tests, however, the normality of the distributions was explored using Kolmogorov-Smirnov test.

4.2.1 Results of the normality tests

Table 4: Kolmogorov-Smirnov Test of Normality for the Posttest of the Experimental Group

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PosttestExperimetal	.176	16	.198	.876	16	.033

According to Pallant (2013), in the Kolmogorov-Smirnov test of normality, “a non-significant result indicates normality” (p.66). Therefore, according to this table, since the significance value is more than 0.05, one can claim that the distribution of the experimental learners’ scores on their posttest is normal, and the data is ready for analysis.

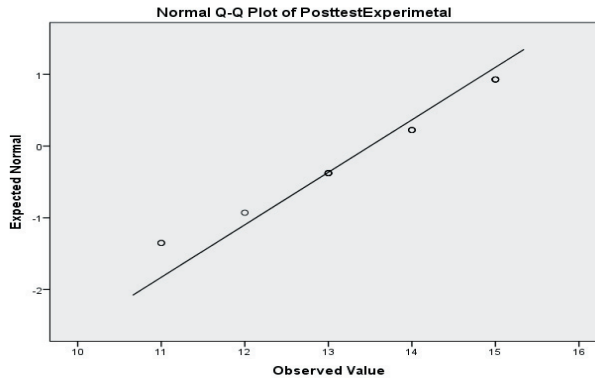


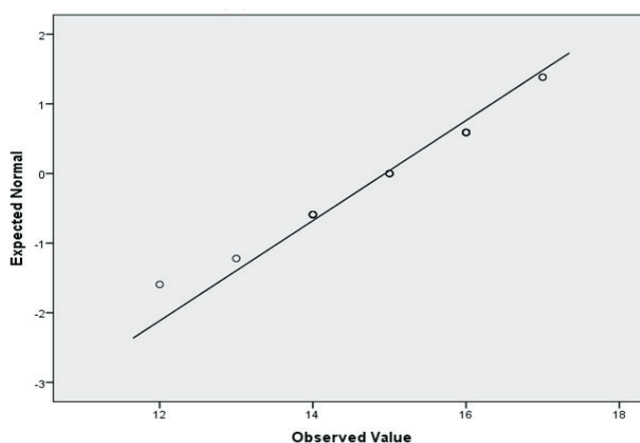
Figure 1. Normal Q-Q plot for the posttest of the experimental group

According to Pallant (2013), “the normal Q-Q plots are obtained by plotting the actual deviation of the scores from the straight line” (p. 66). If the points are collected around a zero line, one can claim that the distribution is normal. According to Figure 1, the points are collected around a straight line, and therefore, in line with the normality test, one may conclude that the distribution is normal.

Table 5: Kolmogorov-Smirnov Test of Normality for the Posttest of the Control Group

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PosttestControl	.165	17	.200*	.939	17	.306

According to this table, since the significance value is 0.200, i.e. more than 0.05, one can claim that the distribution of the control institute learners' scores on their posttest is normal.

**Figure 2.** Normal Q-Q plot for the posttest of the control group

As Figure 2 indicates, the points are collected around a straight line, and therefore, in line with the normality test, one may conclude that the distribution of the posttest scores of the control group is normal.

Table 6: Kolmogorov-Smirnov Test of Normality for the Pretest of the Experimental Group

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Experimental	.179	16	.180	.903	16	.089

As this table indicates, since the significance value is 0.180, i.e. more than 0.05, one may claim that the distribution of the pretest scores of the experimental group is normal.

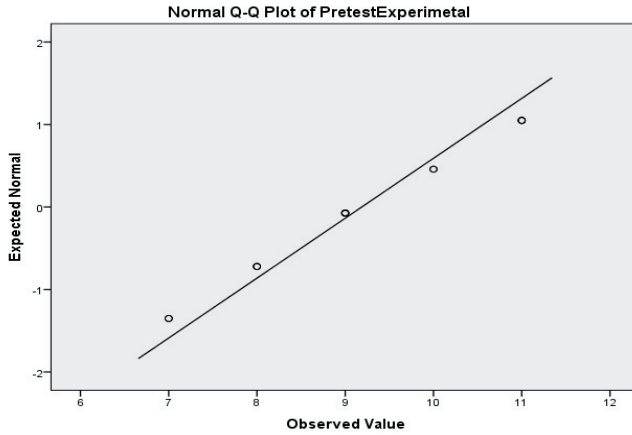


Figure 3. Normal Q-Q plot for the pretest of the experimental group

In line with Table 7, Figure 3 indicates that the points are collected around a straight line, and therefore, one may claim that the distribution of the posttest scores of the experimental group is normal.

Table 7: Kolmogorov-Smirnov Test of Normality for the Pretest of the Control Group

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PretestControl	.147	17	.200*	.916	17	.126

According to the table, since the significance value is 0.200, i.e. more than 0.05, one can claim that the distribution of the posttest scores of the control group is normal, and the data is ready for analysis.

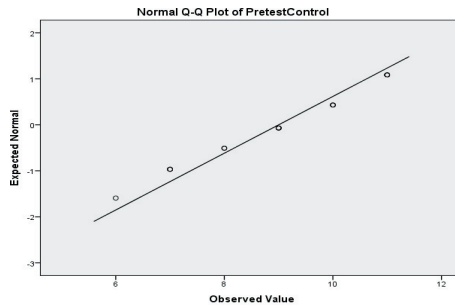


Figure 4. Normal Q-Q plot for the pretest of the control group

Figure 4 shows that the points are collected around a straight line, and therefore, one may conclude that the distribution of the pretest scores of the control group is normal.

4.2.2 Results of t-tests and eta squared values (effect sizes)

During the data analysis procedure, two independent samples t-tests and one paired samples t-test were run, and the effect sizes were estimated. The paired samples t-test was employed to examine the experimental group's improvement during the treatment period. An independent samples t-test was used in order to compare the results of the control and experimental groups on the pretest. The second independent samples t-test was used in order to compare the results of the control and experimental groups on the posttest. Answers to the research questions will be presented in the discussion section. The relevant tables, however, are presented here.

Table 8: Results of Independent Samples t-Test on the Pretest of Control and Experimental Groups

		t	df	Sig. (2- tailed)	Mean Difference
PretestControlExperimental	Equal variances assumed	- .357	31	.723	-.18750

As Table 8 indicates, the significance value is more than 0.05 ($p=.723$), and therefore, the mean difference between the pretest scores of the control and experimental groups (i.e., $-.18750$) is statistically significant. In other words, the table shows that there has not been a statistically significant difference between the mean of the control and experimental school groups regarding their collocational knowledge at the beginning of the experiment. Since, according to Table 9, the significance level of the Levene's test was more than 0.05 (i.e., 0.536), only the "equal variances assumed" have been reported in the t-test table, and the equal variances not assumed have been omitted from the table.

Table 9: Results of Independent Samples t-Test on the Posttest of Control and Experimental Groups

		t	df	Sig. (2- tailed)	Mean Difference
PosttestControl	Experimental	- 4.525	31	.000	-2.5000
		Equal variances assumed			

According to this table, the significance value is less than 0.05 ($p=.000$), and thus, the mean difference between the posttest scores of the control and experimental groups (i.e., -2.50000) is reported to be statistically significant. Therefore, according to the table, there is a statistically significant difference between the mean of the control and experimental groups in their posttest.

Previously, it was indicated in Table 3 that the mean of the control group was 11.0000, while the mean of the experimental group was 13.5000. As a result, it can be concluded that the experimental group has outperformed the control group on the posttest.

Because, according to the table, the significance level of the Levene's test was more than 0.05 (i.e., 0.355), only the "equal variances assumed" have been reported in the t-test table, and the equal variances not assumed have been omitted from the table.

The effect size value was calculated to be 0.397 using Eta squared formula for independent samples t-test, which is considered as a large effect size (Pallant, 2013). Therefore, it can be claimed that the magnitude of the differences in the means was satisfactory.

Table 10: Results of Paired Samples t-Test on the Pre- and Posttest of the Experimental Group

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (two- tailed)
Pair 1	PretestExperimental PosttestExperimental	- 4.31250	.60208	.15052	- 28.651	15	.000

As the table shows, the p-value is less than 0.05 ($p=.000$). Therefore, it can be said that the difference between the mean scores of the pre- and post-tests of the experimental group is statistically significant.

Previously, it was indicated in Tables 2 and 4 that the mean scores for the pre-and post-tests of the experimental group were 9.0000 and 13.5000, respectively. Therefore, it can be concluded that the experimental group has a higher mean score in the posttest, and therefore, has improved by means of the treatment. In other words, there has been a statistically significant increase in the experimental group at school from the pre- to the post-test.

The effect size value was calculated to be 0.962 using Eta squared formula for paired samples t-test, which is considered as a large effect size (Pallant, 2013). Therefore, it can be claimed that the magnitude of the differences in the means was quite satisfactory.

5. Discussion

Regarding the importance of learning collocations, the present study aimed at examining the composite effect of advance organizers and a MALL-oriented environment on learning collocations of pre-elementary EFL learners. To gain this target, a research question was posed for the present research which is going to be answered in this section.

As it was previously mentioned, in order to answer the research question, which asked whether advance organizers used in a MALL-oriented classroom environment have any effect on the improvement of Iranian EFL learners' collocational knowledge, two independent samples t-tests and a paired samples t-test were employed.

As it was shown, there was a statistically significant difference between the post-test scores of the control and experimental groups, and the experimental group outperformed the control group in terms of collocational knowledge. The Eta squared value was also satisfactory in this regard.

Besides, the results indicated that there was a statistically significant increase in the scores of the experimental group from the pre- to the post-test, with an acceptable Eta squared value. Therefore, the research question is answered positively, and the null hypothesis is rejected.

According to the literature on the effectiveness of advance organizers and MALL-oriented classrooms, it was concluded that the use of advance

organizers in MALL-oriented classrooms should not be ignored. Advance organizers are a type of teaching strategy that is utilized to better ensure the information presented to students is understood, retained and connected to previous lessons. Learn about the benefits of advance organizers and methods to successfully implement this teaching strategy into lessons.

By using an advance organizer to link the new information to old information, the new information can be remembered more easily. There are three basic purposes of advance organizers. First, they direct students' attention to what is important in the upcoming lesson. Second, they highlight relationships among ideas that will be presented. Third, they remind students of relevant information that they already have. Regarding the use of MALL, the results of the present study are in line with those of Sabri and Helwa (2017) that investigated the effectiveness of using Mobile assisted language learning (MALL) approach in developing EFL prospective teachers' EFL listening comprehension skills and vocabulary learning. Taki and Khazaei (2011) also clarified that mobile phones are not only able to support formal and informal learning, but also to complete the process of learning through computers. Caudill (2007), Donaldson (2011) and Hoskyns-Long (2009) also believed that MALL as an educational method more flexible than previous eLearning applications.

Concerning advance organizers, the results of the present study are in line with those of Yang (2014) who reported the findings of three experiments that explored how subtitles and advance organizers affect English as a foreign language (EFL) learners' listening comprehension of authentic videos. The results showed that the presence of subtitles and advance organizers assisted EFL learners' listening comprehension of CNN news reports. However, there was no significant relationship between English proficiency and the experimental conditions. Results of this research put more emphasis on Wenden and Rubin (1987), and Brown and Paliscar (1982), who believed that advance organizers are used for strengthening students' cognitive structure by allowing learners to make a "comprehensive preview of the concept or principle" to be learned (as cited in Chiquito, 1995, p. 212). To the researchers' best knowledge, there were

few studies in the literature investigating the combined effect of MALL and advance organizers on collocational knowledge improvement of EFL learners.

6. Conclusion

The main conclusion of this study was the effectiveness of advance organizers in a MALL-oriented classroom environment on pre-intermediate EFL learners' collocational knowledge improvement. According to the results acquired from this study, it has been revealed that the use of advance organizers with the help of MALL oriented class in this case, has a contributing function in the process of improving Iranian EFLs collocational knowledge. The facilitating role of the advance organizers cannot be ignored. To the best of the researchers' knowledge, the more effectively and efficiently the advance organizers in MALL-oriented class are used in teaching collocational knowledge, the more collocational improvement is observed.

These results, however, have been achieved by means of comparing the advance organizers in a MALL-oriented environment and the traditional method of teaching collocations. In other words, although advance organizers in a MALL-oriented classroom have shown to be effective in this study, there may be more effective approaches to teaching collocations that are unknown. Therefore, there is a need to conduct more studies on the factors affecting collocational knowledge improvement in EFL learners.

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