The Effect of Edmodo Social Learning Network on Iraqi EFL Learners Vocabulary Learning

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Abstract

This study investigated the effect of the Edmodo social learning network on the vocabulary learning of Iraqi English as Foreign Language learners. To this end, 60 EFL learners in Hilla, Iraq were selected through the convenience sampling method. The Nelson test was administered to guarantee the homogeneity of the participants. The participants were assigned randomly to experimental and control groups. The experimental group (n=30) was exposed to vocabulary instruction via Edmodo. Therefore, the vocabulary instruction took place through sharing materials, assignments, quizzes, and discussion. In addition to all activities common to Edmodo, the learners in the experimental group were asked to write compositions using the words taught online. In the control group, the instruction occurred in a physical, face-to-face atmosphere traditionally and regularly. The results of both groups were compared through independent pre-test and post-test. The results showed that there were significant differences in students' vocabulary achievement in post-test between experimental and control groups. This study also focused on eliciting the experimental group's attitude toward their experience using Edmodo. The results showed that there was a positive attitude toward Edmodo in terms of data access, feedback, discussion, user-friendliness, and efficiency in vocabulary learning. The study presented some pedagogical implications for learners, teachers, and language policymakers.

Keywords: attitude, online English learning, educational social network, Iraqi EFL Learners, Edmodo

Introduction

With the advent of new technologies and applications, language teaching entered a new era. Internet-based technologies, sites, and applications made language learning more appealing to millions of learners around the globe. According to McKeeman and Oviedo (2015), technology becomes a vital and inseparable teaching tool to improve language teaching in classes. Then, those aspiring to extend their teaching and learning beyond the physical classrooms take much advantage of numerous functions provided via the internet (Haygood et al., 2012). In the recent decade, a great deal of research has been done on the impact of integrating technology with foreign language learning (Blake, 2013; Janfeshan & Janfeshan, 2021; Richardson, 2010; Yusuf et al., 2018). Moreover, many studies mention the benefits of social media

and their pedagogical merits (Al-Said, 2015; Alsmari, 2019; Blattner & Lomicka, 2012, Lamy & Zourou, 2013; Lomicka & Lord, 2009). Moreover, the outbreak of the COVID-19 pandemic all around the globe and the threat of a pandemic and observing social distance rule, and the necessity to participate in online classes diminish the least hesitation and doubt toward online language learning. Therefore, because of the widespread use of online language learning, many attempts were shifted toward designing new applications or empowering the existing ones (Goldschmidt, 2020). Edmodo as a social–educational network with more than 52 million users had already been applied in different online language classes in different parts of the world and researchers tried to investigate its usefulness in teaching different language skills (Cauley, 2014; Evenddy & Hamer, 2016, Ma'azi & Janfeshan, 2018; Manowong, 2016, Safdari, 2021).

As stated above, in designing online language learning applications many attempts are given to consider all language skills and components. Therefore, it goes without saying that vocabulary learning is one of the requisites of language skills that must be presented and practiced online learning. Wilkins (1972) believed that without grammar very little language learning can be achieved; however, nothing at all can be learned without vocabulary. Aji (2016) puts much emphasis on the importance of vocabulary by claiming that "If language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh" (p.153). Therefore, vocabulary is considered as one of the most important components of language learning. To be effective in language learning skills, ample vocabulary size and appropriate vocabulary knowledge are necessary (Nation, 1990).

Based on the importance of vocabulary learning in the process of language learning, some researchers consider in-class activities as insufficient for learners to acquire vocabulary on the grounds that out-of-class activities through online applications provide better conditions for vocabulary learning (Ngo & Ngadiman, 2019; Sasidharan, 2018; Thornton & Houser, 2005). These activities include online tasks and functions provided by social networking platforms such as Edmodo. Receiving assignments in all four skills and online tutorials, exchanging messages and sharing information in the classroom, having access to materials by students are some advantages brought by Edmodo as a social network application (Arifiyanto & Ali, 2019, p. 243). With regard to Edmodo, Wibowo (2019) claimed that this online social learning network can be used for sharing quizzes, videos, and making groups. Similarly, Carlson and Raphael (2015) believe that Edmodo is a unique social network designed especially for learning communities. With regard to the application of Edmodo as a tool for enhancing different skills in online English learning, much research has been conducted on developing writing skills through Edmodo-based activities (e.g., Gay & Sofyan, 2017; Ma'azi & Janfeshan, 2018; Miftah & Raya, 2018; Nami, 2019; Paker & Doğan, 2021). Also, some studies found Edmodo as an appropriate site for developing speaking ability (Kongchan, 2015; Okumura & Bronson 2016). Still, some other researches focused on the use of Edmodo as a suitable aid in teaching reading comprehension ability (Lukitasari & Gloria, 2019; Muhlis, 2017; Santoso, 2014; Warawudhi, 2017) and a few studies shed light on applying Edmodo for boosting the listening knowledge of learners (Arifiyanto & Ali, 2019). However, a small number of studies have made investigations about the practical use of Edmodo on vocabulary learning in Iraq (Sultan et al., 2020; Zain et al., 2019). In the Iraqi English language learning setting, Edmodo

has not been yet employed to improve the classroom learning experience due to the slow digital implementation in Iraqi educational institutions. Thus, this study attempted to identify the effect of implementing Edmodo on learning English vocabulary in Iraq. Moreover, the study highlighted the significance of extending students' learning opportunities beyond traditional classroom walls and fostering a better understanding of vocabulary.

Although numerous studies are referring to teaching vocabulary with the use of the internet and various applications, very few studies have been done using Edmodo for the improvement of vocabulary knowledge in Iraqi EFL contexts. The results of this study would be beneficial and serve as a source of information for Iraqi EFL teachers who want to use Edmodo as virtual learning tools in their classes for better students' involvement and implementation of technology in online language education. Doing this study is justified on the ground that it can be helpful for teachers, students, and future researchers. Therefore, the purpose of the study is to present the benefits of using Edmodo in teaching and learning vocabulary in the Iraqi context. There are two research questions in this study:

1. Does the application of the Edmodo social learning network influence Iraqi intermediate EFL learners' vocabulary learning?
2. What are Iraqi intermediate EFL learners' attitudes toward the use of the application of Edmodo to improve their vocabulary learning?

Literature Review

English Vocabulary Mastery

Thorbury (2002) believes that vocabulary is a core component of language proficiency and provides much of the basis for how well students speak, listen, read, and write. This idea is confirmed by Tambun (2014) who asserted that vocabulary is one of the important elements in language learning. In other words, language learners' vocabulary is generally considered as an important part, not only in the process of language learning but also in developing their abilities in the language. Foreign language learners get some difficulties in developing the four language skills without mastering vocabulary which is the requisite component of language. Therefore, Evenddy and Hamer (2016) believed that the first thing that students should learn is vocabulary because vocabulary help students to develop well-organized sentences. Moreover, learning vocabulary is important because it helps students in speaking, writing, reading, and listening. It is claimed that a person is considered knowing a word if s/he can recognize its meaning when it is encountered for the first time (Walters, 2006). To put it another way, Batty (2012) stated that people can be said to understand words, if they know the meaning and also understand the form and usage of words in the context of communication. Then, the improvement in learning a new language is mostly dependent on learning the vocabulary or words and expressions. However, "learning the vocabulary of a foreign language still is a very complex and undiscovered process" (Shen, 2008, p. 135). Shoebottom (2007) believes that there is no one universal method that would be able to provide a way to acquire all the information connected to

a word at once. Saville-Troike (2006) stated that students have to combine different methods to achieve the complex knowledge of the desired word. Accordingly, many researchers proposed classifications and taxonomies for vocabulary learning strategies (Hedge 2000, Nation; 2001). For instance, Cohen (1998) proposed three main categories as follows: word remembering strategies, semantic strategies, and practicing strategies. By scrutinizing vocabulary learning theories, the leading basis for the construction of CALL programs for teaching vocabulary has been recommended (Son, 2001). In this regard, Salaberry (2001) believed that CALL can present drills on oral and visual aspects of language communication in general and vocabulary learning in particular because it facilitates monitoring, recording, and assessing English language achievement. In addition, CALL makes foreign language learners more independent from the classroom; therefore, it presents more opportunities to deal with their textbooks and materials at any time and any place.

Social Networking

Social networking sites (SNS) can be defined as web-based platforms that allow users to create a profile of their own in a protected system, along with other users that share a centralized connection. The profile of registered users can be viewed within the same system (Boyd & Ellison, 2007). Social networking sites served as a shortcut for communication among people in every corner of the globe due to the high accessibility of SNSs. On social networking sites, users can share anything such as photos, videos, check-in of visited places, and so forth. This is one of the major reasons for the rapid growth of SNSs. SNSs had been used as an educational instrument by teachers to provide teaching materials and knowledge to the students. Furthermore, social networking platforms could allow students better opportunities to communicate, collaborate, and critically think about problems, thereby assisting them to build a sense of community by depending on the elements of social constructivism (Harper, 2010). Trust (2012) asserted that social networking can be advantageous to the classroom via the three aspects of a blended virtual environment, designed interaction, and reducing the feeling of isolation.

Edmodo Social educational network

Edmodo is one of the social educational applications used in a teaching-learning environment. This free communication application is an online, instructive, and social platform that is designed for instructors and pupils. Okaily (2014) defines Edmodo as the chief social learning platform used for communication and learning management. Evenddy and Welliam (2016) stated that the teacher can assign the tasks, give homework, quizzes, share the materials, and give feedback for learners' work directly through the applications of Edmodo's features. According to Cauley (2014,p.18), "Edmodo is a site that takes the ideas of a social network and refines them and to make it appropriate for a classroom." Furthermore, Bayne (2015) explains that Edmodo by providing students with a safe, protected educational experience focuses on learning, and it allows both students and teachers to have interaction and collaboration in an online manner. In addition, when students and teachers use Edmodo, they will only focus on the learning process because there are no distractions such as

advertisements on it. Similarly, Turkmen (2012) in Belle (2013) asserted that integrating the social networking sites such as Edmodo with the foreign language curriculum assists language learners to learn vocabulary in many ways. Furthermore, Arroyo (2011) cited in Al-Khatri (2015) believes that Edmodo presents a more secure learning platform for learners and language instructors. Various authentic materials are easily applicable through using Edmodo. The language learners can apply mobile phones to use Edmodo for learning vocabulary. This motivates them to actively take part in learning. Along the same line, Enriquez (2014) argued that Edmodo as a great platform for providing a supplementary tool for learning facilitates vocabulary instruction because Edmodo helps in submitting online tasks, accessing resources materials, and increasing students' motivation and attitudes toward language learning.

Attitudes

Banaji and Heiphetz (2010) defined an attitude as a series of behaviors, emotions, and beliefs toward a certain thing, person, object, or event. This tendency can be the positive or negative perception which is the result of education, experience, and social interaction. Ajzen (2002) enumerated three components for an attitude as cognitive, affective, and behavioral. Moreover, Ajzen (2002) confirmed that a number of factors such as the nature of emotions, strength of beliefs, and contextual factors influence or predict the attitudes. Thus, an attitude is not a fixed entity and fluctuates based on the environment and experience. Regarding an attitude toward foreign language learning, Shahsavar and Tan (2012) stated that students' attitudes toward a language have a crucial role in directing predictors of success in learning it. A great number of studies have supported that students' attitudes are significant in the use of social educational network applications in online language learning (e.g., Al-Ruheili & Al-Saidi, 2015; Dashtestani, 2016; Janfeshan & Janfeshan 2021; Ngo & Ngadiman, 2019; Manowong, 2016; and Safdari, 2021). The results of these studies revealed that language learners had positive attitudes towards the application of online social networks in online language learning.

Empirical Studies

Looi and Yusop (2011) confirmed that Edmodo is extremely useful to extend the student learning process, provides more chances for students to practice together and get engaged with the reading tasks provided. Furthermore, Sanders (2012) and Balasubramanian et al. (2014) showed that incorporating Edmodo encourages students' engagement and increases responsible learning. Similarly, Mokhtar and Dzakiria (2015) indicated four main merits of Edmodo in teaching English online. These areas are 1) suitability for English learning, 2) an interactive interface, 3) an appropriate site for assessments and 4) a 'different' learning experience. Also, Mali (2015) explored students' perspectives on the use of Edmodo as a virtual learning environment and a pedagogical and collaborative communication system in English writing classes. Findings revealed that the participants perceived Edmodo use advantageous for it provided them opportunities to communicate with their teacher and with their classmates. Later on, Manowong (2016) uncovered that Edmodo was perceived as a

useful and beneficial instructional platform to alter face-to-face classroom practices because it provided various features assisting students' learning activities.

Along the same line of thought, Alshawi and Alhomoud (2016) indicated that Edmodo significantly promoted the participants' motivation towards language learning and increased the teacher-student interaction. Gay and Sofyan (2017) and Sasidharan (2018) asserted that the utilization of Edmodo successfully facilitates students' participation in online discussions and tasks. Moreover, Cankaya and Yunkul (2017) conducted research to reveal the attitudes of university students about the use of Edmodo as a cooperative learning environment. The results confirmed that the students had positive attitudes towards the use of Edmodo; moreover, they adapted themselves easily to the online cooperative learning environment of Edmodo. Similarly, Ma'azi and Janfeshan (2018) and Safdari (2021) found that the use of Edmodo had a significant effect on Iranian EFL learners' writing performance and accuracy and increased their attitudes toward language learning. And finally, Wibowo (2019) stated that Edmodo promotes students' learning opportunities in the three following ways: creating a practical learning experience, allowing students to exchange positive feedback, and motivating students in the teaching-learning process.

Method

Participants

The participants were at an intermediate level of language proficiency that was determined based on the scores of a proficiency test. 60 Iraqi EFL learners were selected through the convenience sampling method among language learners studying English in some English language institutes in Hilla, Iraq. The participants selected in this study comprised both male and female language learners. The participants' ages were between 21 and 28 years old. They were randomly assigned as the experimental and control groups. Accordingly, there were two classes of 30 students. The experimental group consisted of 30 members (M=24.55 years old, SD= 2.43) with 14 males and 16 females. Similarly, there were 30 students in the control group (M= 24.81 years old, SD= 2, 87) with 15 males and 15 females. Arabic was the first language of learners and English was the foreign language for all the participants. The course textbooks and the amount of time for both groups of learners were the same. The English language teacher with 25 years of experience teaching English was quite familiar with the Edmodo application. Each group had three sessions per week and the duration of each class was 60 minutes. Classes occur during the same academic semester and the Edmodo treatment was during the Covid-19 pandemic. The duration of the semester was 16 weeks.

Instruments

The main instruments of the present study were as follows:

Nelson Language Proficiency Test

The Nelson language proficiency test (Fowler & Coe, 1976) as a widely recognized, reliable, and valid test was used to determine the proficiency levels of the students and to be more assured of the homogeneity of the groups regarding their proficiency level. The validity and reliability of the Nelson proficiency test have been estimated by several researchers many times; consequently, it is regarded as a valid and reliable test of English proficiency (Shahivand & Pazhakh, 2012). The Nelson test includes 50 multiple-choice items that covered vocabulary, grammar, sentence comprehension, and paraphrase items. Part one includes 25 multiple-choice items comprising of grammar and vocabulary items and part two contains 25 items as a cloze test. One point was assigned to each item.

Composition Vocabulary Learning

The next instrument was a composition with a focus on using the target words in context. All learners in the experimental and control groups were asked to write on a particular topic using the words covered in the instruction or treatment phase. They were pre-test and post-tests. The performances of learners in their pre and post-tests were compared to investigate the effectiveness of treatments for their vocabulary learning for each group.

Attitude Questionnaire

An attitude questionnaire was applied to shed light on the attitude of learners toward using the Edmodo social networking application in the EFL classroom. To assess students' attitudes in a learning environment, questionnaires are considered a reliable instrument (Colosi, 2006; Radhakrishna, 2007). The third instrument in the study was the Language Learning Attitudes Questionnaire (LLAQ) employed in a study by Boonrangsri et al. (2004). LLAQ comprised 25 items about an attitude toward English language learning in a Likert format ranging from "strongly agree" to "strongly disagree." The items of the test focused on issues like self-image (the set of ideas a person has about his/her own qualities and abilities), inhibition (feeling of fear or embarrassment), risk-taking, ego permeability (degree of flexibility in a person's ego) and ambiguity (unclear or confusing). The interpretation techniques and analysis method had already been provided by the author of the instrument. Cronbach's reliability coefficient was adopted to investigate the reliability of the instrument. The coefficient for Language Learning Attitudes Questionnaire was 0.78. This is an acceptable reliability figure in the social sciences (Dörnyei, 2006). The high reliability and validity of the questionnaire have been already reported in previous studies (Aliakbari & Gheitasi, 2017; Rashidi & Nazemi, 2015). However, to investigate the validity of the questionnaire the expert judgments approach was employed consulting two Ph.D. holders in teaching English as a foreign language (TEFL) and five MA holders majoring in psychology and social sciences. The questionnaire was piloted to improve procedural matters. The questionnaire was a Likert scale, including 30 items assessing general aspects of Edmodo and aspects related to vocabulary learning. The scoring method for the choice of questionnaire items is: strongly disagree (1 point), disagree (2 points), undecided (3 points), agree (4 points), and strongly agree (5 points).

Edmodo Social Networking

Edmodo was developed by Jeff O'Hara and Nicolas Borg in 2008. They developed Edmodo as an educational technology tool to share with and engage the students online by posting resources, assignments, polls, and other activities embedded in it. This social learning network provides many features in a user-friendly and secure way. Figure 1 shows the Edmodo features.

Figure 1
The Edmodo featuers
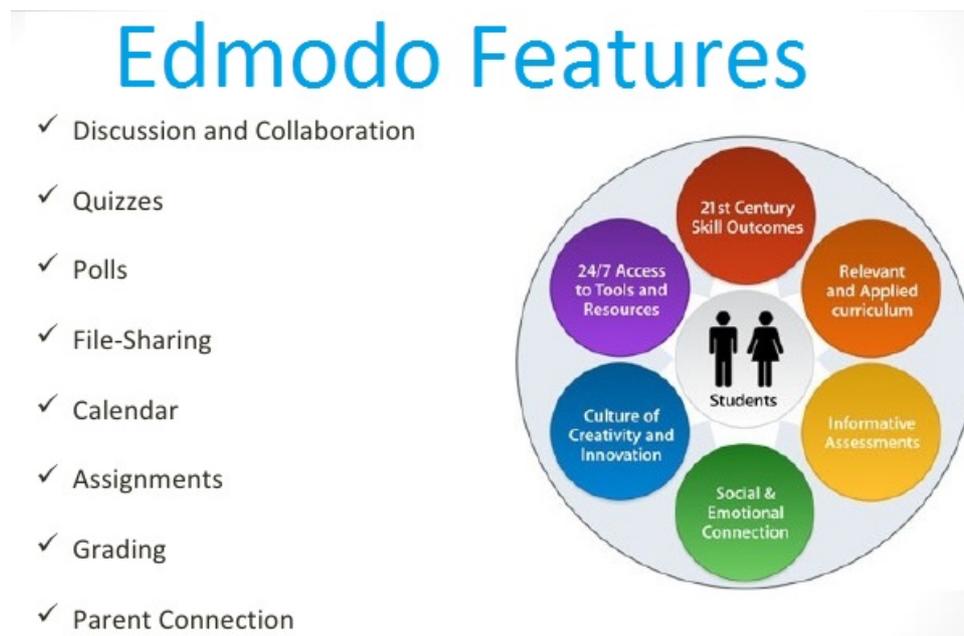
The first requirement is creating an account, setting passwords, and creating group code to log in safely as a teacher or learner. It is very easy to create a group, quiz, post student assignments, and grades. Edmodo feature includes posting notes, assignments, quizzes, and posts. Edmodo can create a grade book for managing accumulating grades. The learners can click on one of these great features to expand the page's new features. Another feature is grading the assignments of a specific learner. This feature sends the assignment to that student. Edmodo is a user-friendly and intuitive tool. It provides a user guide with detailed instructions for the students and more specifically, takes it a step further by customizing it to meet the need of the specific group such as a school district. Edmodo also presents video and webinar access. Both teachers and students can easily edit their profiles whenever they wish. Moreover, Edmodo has the capability of adding mobile apps for iPhones, iPads, iPod, and androids.

As shown in figure 2, Edmodo is also equipped with marvelous facilities for parents to see the teachers' notes and comments from the teacher and their own child. Another feature of Edmodo available to teachers is awarding badges to the learners to foster their motivation and enthusiasm. The features of Edmodo are not limited to these

facilities. Through Edmodo, students and teachers can upload and share some files in many kinds of formats namely audio, video, picture, and links (Thompson, 2015). Moreover, Edmodo allows parents to access the class to monitor the students' progress.

Figure 2
The Edmodo facilities

Vocabulary Course Textbook

The textbook used in this study was Vocabulary for High School Students (Levine et al., 2004). The first five lessons of the book were selected and taught for both groups.

Vocabulary Pre-test and Post-test

Based on the textbook (Levine et al., 2004), the researcher designed a pre-test and post-test with the target words covered in both classes. The tests include multiple-choice, fill-in-the-blank, matching, and true-false items. One point is allocated for each item. For the reliability of tests, the Cronbach Alpha test was calculated. The reliability of the pre-test and post-test was .82 and .89, respectively. For the validity of the tests, the researcher gave them to six colleagues and 2 university professors in Hilla, Iraq. After investigating the items, they confirmed the validity of the tests.

Procedure

To collect the required data for answering the research questions, the following procedure was done. At first, the Nelson proficiency test was used to select participants

on the intermediate level of language proficiency. Then, participants were randomly assigned to the experimental and control groups. Both the control and experimental groups had the same teacher who was the researcher of the present study. In addition, the materials taught in the two groups were the same. For both groups, a test of vocabulary learning as a pre-test was run. Participants in the control group had a normal class of vocabulary learning in which topics were introduced by the teacher and learners were exposed to the target words. The control group was exposed to the vocabulary using the exercises in the textbook in a face-to-face manner following the Coronavirus social distancing protocols. They were taught based on a traditional regular method for teaching vocabulary. At the same time, in the experimental group, the learners were exposed and introduced to the details of the Edmodo. In the experimental group, the teacher created and managed accounts and allowed the learners to receive the group code and register with the group. The teacher and students in the experimental group connected and collaborated on their vocabulary learning. In fact, the Edmodo social network was applied due to the needs of learners on how they collaborated on paragraph writing whereby the target words were supposed to be used. In other words, Edmodo was used to complement face-to-face classrooms. During the treatment, learners were asked to compose one paragraph using the target words on Edmodo following their exposure to the vocabulary. In fact, this stage was performed after a session of treatment on writing one sentence using the words. It means that they were supposed to use the words in one sentence. Then, they developed their sentences into meaningful paragraphs. Thus, the students shared content and received their teacher and classmates' feedback on their writings each session. Another treatment provided to the learners in Edmodo was the presentation of the main topics of the lessons and important points and discussing the sentences and paragraphs with a special focus on the highlighted target words. Each session after the class, the important points were uploaded and students were supposed to read it and the following day take part in the quizzes. The Edmodo quiz builder was utilized to assess students' vocabulary learning after a unit of study. The same technique was also applied in face-to-face classes. In the final session, the teacher gave the same topic to learners of the two groups and asked them to write their sentences. This was considered the post-test. Then, the teacher compared the scores of the pre and post-tests of the experimental group to consider the effects of using the Edmodo social network on vocabulary learning improvement of EFL learners. Then, the post-tests of the two groups of control and experimental were compared to find out if there was any significant difference between the two groups regarding their vocabulary learning achievement. All the procedures, including homogeneity test, pre-test, and post-test were similar. Finally, to explore the learners' attitudes toward applying the Edmodo social network in the English classrooms, an attitude questionnaire was administered to the students in both groups at the beginning and in the final session of the study.

Data Analysis

To analyze the findings of the study, SPSS software version 25 was applied in the current study. At first, the Nelson proficiency test was administered to guarantee the homogeneity of the groups. Then, a Kolmogorov-Smirnoff test was used to be assured the normality of the data. To be sure that the participants' vocabulary knowledge is at

the same or near level, a pre-test was administered. An independent t-test determines if the groups are at the same level before treatment. A paired t-test was used to answer the first research question by comparing the pre-test and post-test of the experimental and control group. The descriptive statistics were also computed. An independent t-test compared the post-test of the experimental and control groups to check if there is a significant difference between them after using Edmodo as compared to the usual method of vocabulary teaching. To answer the second research question, the Attitude questionnaire was analyzed using descriptive statistics and qualitative analysis.

Results

Nelson Test Results

The proficiency test used in this study was the Nelson language proficiency test. It shows whether the knowledge of participants before the instruction was homogeneous so that the progress due to other factors or preexisting knowledge of some participants are not attributed to the research treatment. After selecting 60 Iraqi EFL learners through a convenient sampling method, they were randomly assigned into two groups. Then, the Nelson test was administered to 60 participants the results of which are portrayed in Table 1 below.

Table 1
Descriptive Statistics of Independent Samples Test for Homogeneity Test

	Group	N	Mean	Std. Deviation	Std. Mean
Nelson test	Experimental	30	15.76	1.56	0.40
	Control	30	14.34	1.37	0.38

Table 1 shows that the mean scores of the experimental and control groups are 15.76 and 14.34, respectively. The standard deviation of the groups is 1.56 and 1.37. The results of Table 1 show that both participants of the experimental and control groups were almost homogeneous in the level of language proficiency, and there was no statistically significant difference between the two groups. The present researcher feels at ease to start to apply traditional face-to-face teacher fronted instruction for the control group and the Edmodo application for the experimental group.

To be more assured of the lack of preexisting differences between experimental and control groups, a Levene's test for equality of variances was conducted. The results appear in Table 2 below.

Table 2
Independent Samples T-Test for Homogeneity Test

					Levene's Test for Equality of variances			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test									
	.07	.82	.35	58	.64	.45	1.38	-1.76	2.59
			.349	2.5 95	.78	.371	1.31	-1.67	2.45

Table 2 shows that the 2-tailed significance of the data is higher than the critical value of 0.05 set by the researcher. The 0.64 significance level that is more than 0.05 indicates that the experimental and control groups did not have a significant difference in both groups in the proficiency test.

Test Normality Results

The most important part of every quantitative study is to show that the data obtained in the study met the assumptions. To put it another way, it should be assured that the normal distribution assumption is observed in the data. The usual way to understand this is to use the One-Sample Kolmogorov-Smirnov Test. The results of the normality test are shown in Table 3.

Table 3
One-Sample Kolmogorov- Smirnov Test of Pre-tests and Post-tests and Nelson

		Nelson	Pre-test	Post-test
N		60	60	60
Normal Parameters[a]	Mean	45.76	12.35	22.24
	SD	5.32	2.56	5.28
Most Extreme Differences	Absolute	.168	.180	.162
	Positive	.148	.067	.104
	Negative	-.176	-.160	-.144
Kolmogorov-Smirnov Z		.835	.864	.749
Asymp. Sig. (2-tailed)		.27	.32	.48

a. Test distribution is normal.

As shown in Table 3, the significance level of the Nelson test, vocabulary pre-test, and vocabulary post-test are .27, .32, and .48, respectively. Now, the researcher is completely sure to use a parametric test since all the obtained results are higher than the required preset 0.05 significance level.

Addressing the First Research Question

The first research question of the present study reads as follows:
Does the application of the Edmodo social learning network influence Iraqi intermediate EFL learners' vocabulary learning?

The descriptive statistical results of pre-test and post-test for both groups are calculated. The results are displayed in Table 4.

Table 4
Descriptive Statistics for the Pre-test of Vocabulary Knowledge

	group	N	Mean	SD	Std.
Pre-test	control	30	12.17	1.88	.69
	experimental	30	12.48	2.14	.72

As shown in Table 4, the knowledge of participants in both groups is similar, showing that the students' vocabulary knowledge before applying the Edmodo for the experimental group and regular instruction for the control group does not have much difference. To show if the differences between the means of groups are significant an independent samples t-test for equality of means for vocabulary pre-test was calculated. The results of experimental and control groups were compared to show the differences. These results appear in Table 5.

Table 5
Independent Samples T-Test for Equality of Means for Vocabulary Pre-test

	Levene's Test for Equality of Variances							
	F	Sig.	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test								
	2.85	.09	.29	58	.37	.45	1.18	-1.73	2.32

| | .36 | 2.45 | .717 | | .38 | 1.28 | -1.46 | 2.39 |

The illustrated results for vocabulary pre-test show that t-value is .29 with a degree of freedom 58. The significance level of .37 is more than 0.05 which shows that there was not a significant difference between the experimental and control groups.
To find the impact of instruction applying Edmodo for the experimental group and regular instruction for the control group, the researcher compared the results of vocabulary post-test for both groups. Table 6 illustrates the descriptive statistics of the groups' vocabulary knowledge or progress in post-test.

Table 6
Descriptive Statistics for the Vocabulary Progress Post-test

	group	N	Mean	Std. Deviation	Std.
Post-test	control	30	17.45	1.54	.55
	experimental	30	28.14	2.32	.69

As illustrated in Table 6, the mean scores of control and experimental groups for the vocabulary post-test progress are 17.45 and 28.14, respectively. This demonstrably shows that the vocabulary knowledge of both groups improved, but the experimental group outperformed the control group after the instruction. The descriptive study does not show the significance of differences. To this end, an independent samples t-test was carried out to show the nature of the difference. The results can be seen in Table 7 below.

Table 7
Independent Samples T-Test for Equality of Means for Vocabulary Post-test

	Levene's Test for Equality of Variances								
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post-test	1.56	.17	.27	58	.01	.32	1.17	-1.64	1.19
		.36	2.45		.01	.33	1.13	-1.39	1.42

The results depicted in Table 7 show that there is a significant difference between the experimental and control groups on the vocabulary post-test. As illustrated the significance level is 0.01 which is smaller than the 0.05 significance level. These results make us conclude that the research null hypothesis is rejected because it claimed that applying the Edmodo social learning network does not make a difference in the vocabulary knowledge of Iraqi EFL learners.

Addressing the Second Research Question

This study also strives to answer the following research question:

What are Iraqi intermediate EFL learners' attitudes toward the use of the application of Edmodo to improve their vocabulary learning?

To answer this question, the mean scores of the items in the attitude questionnaire at the beginning and at the end of the experiment in two groups were compared (see Appendix for The results of the two groups).

Table 8
Descriptive Statistics for the attitude Questionnaire at the beginning of the experiment

	Groups	N	Mean Score	SD
Pre-test	Control Group	*30*	2.33	0.617
	Experimental Group	*30*	2.41	0.637

As it is presented in the above table, the mean scores of both groups are close to each other and the mean scores show that there were not many differences between the pre-test scores of both groups. The mean scores of the groups are as follows: the control group 2.33, and the experimental group 2.41. The attitude questionnaire had 25 items. To make these descriptive findings more meaningful, and find out whether there was a significant difference between the groups in the pre-test, a t-test was required. The results were provided in table 9.

Table 9
T-test Results for the students' attitude questionnaire at the beginning of the experiment

	Leven's test for Equality of variance		t-test for Equality of Means		
	F	Sig	t	Df	Sig
Equal variances assumed	.032	.864	. 631	28	.432
Equal variances not assumed			.620	28	.432

To understand the differences between the current attitudes of the participants, a t-test was run. As it is shown in the above table, the obtained value for t is 0.631. Because this value is smaller than the critical value for t with 28 degrees of freedom at 0.05 level of significance, it can be concluded that there is no significant difference between the groups in their attitude toward English. The t-test results showed that there was no statistically significant difference between the mean of the groups. This result showed that the learners in both groups have similar attitudes toward English before the commencement of the study. In other words, the participants in both control and experimental groups were the same in this respect.

To find out whether the treatments have been effective in changing the attitude of students toward English learning, the researcher conducted the same attitude questionnaire for the second time. To find out if there were significant differences between the results of learners in both groups, a t-test was conducted. This test is used to find out the differences between the mean of two groups.

Table 10
Descriptive Statistics for the attitude Questionnaire at the end of the experiment

	Groups	N	Mean Score	SD
Pre-test	Control Group	30	2.35	0.611
	Experimental Group	30	2.89	0.630

Based on the results in table 10, the treatments have been effective and the mean of the experimental group has changed. Since it is clear from the above table, the control group's mean is 2.35, and the experimental group's mean is 2.89. Therefore, it can be seen from the comparison of Tables 10 and 11, the experimental group experienced a higher change in the group mean than the other group. To find out if the differences between the attitude of the groups at the end of the experiment were significant or not, the researcher ran a t-test. The results of the t-test are depicted in Table 11.

Table 11
T-test Results for attitude questionnaire at the end of the experiments
Leven's test for Equality of variance

	F	Sig	t	Df	Sig
Equal variances assumed	1.49	.257	2.83	28	0.05
Equal variances not assumed			2.83	28	0.05

To make these descriptive findings more meaningful, a t-test was used. As observed in Table 13, the null hypothesis is rejected due to the statistically significant

difference between groups: t(28) = 2.83, p = .05. The differences between the groups are statistically significant and so it shows that the attitude of the experimental group has been affected by the application of Edmodo. Accordingly, it can be stated that the application of Edmodo had a positive impact on the students' attitude in learning English.

Discussion

The present study strived to investigate the impact of using Edmodo-based vocabulary instruction on the vocabulary learning of Iraqi EFL learners. The results showed that two types of instructions were beneficial for both the experimental and control groups. The experimental group, however, outperformed the other group due to the effect of the Edmodo social learning network. The second main goal of this study was to explore the attitudes of the above-mentioned EFL learners toward applying this technology in language and vocabulary instruction compared to regular physical classrooms that require face-to-face interaction among learners and the teacher. The results confirmed that a positive attitude was observed regarding data access, quizzes, discussions online, efficiency, user-friendliness, and the most important of all, its effectiveness in vocabulary instruction. The participants agreed with the fact that this technology is more effective compared to existing ones in the language teaching arena.

The first research hypothesis postulated that applying Edmodo will make no difference in vocabulary learning. The results showed that this was not the case. The Edmodo improved participants' vocabulary knowledge to a large extent. Based on the findings of this study, it can be claimed that the application of Edmodo in teaching classes is more effective in teaching vocabulary items. Moreover, participants of this study learned and recalled more words when materials were provided through Edmodo. Furthermore, the computerized presentation of vocabulary was more appealing than the traditional presentation. This is because the students can use mobile phones or computers to browse Edmodo for learning vocabulary which presents more opportunities for helping their language skills and motivates them to eagerly take part in learning. The findings of this study are in conformity with Ekici (2017), Carlson and Raphael (2015). They report that Edmodo, as a perfect communication tool for knowledge construction based on social networking and collaboration, helps the students learn vocabulary as a second language. In addition, These results are in line with Ulmer's (2013) and Evenddy and Hamer's (2016) findings. They believed that Edmodo as a social, educational media can be used as a tool to develop students' vocabulary competence by immediately providing students with online exercises.

Similarly, the same results were reported by Mafulah (2018) who tried to investigate the impact of using Edmodo in vocabulary class. She applied a classroom action research with 45 participants. The finding of her studies revealed that through Edmodo, students are not only improving their vocabulary but also having awareness in their learning. Then, it can be concluded that the findings of the current study corroborate the results of previous investigations regarding the positive effect of Edmodo on improving the vocabulary knowledge of language learners.

Some studies also confirmed the results related to the second research question i.e., the application of social educational networks increased student attitude toward

Edmodo. For instance, Looi and Yusop (2011) approved that Edmodo increased their attitude toward learning a language. The results of this study are also in agreement with Zamani and Mohammadzadeh's study (2013). The results of their study showed that using Edmodo online social network for learning languages change positively Iranian EFL students' attitudes. Similarly, Al-Ruheili and Al-Saidi (2015) investigated the learners' attitude toward the application of Edmodo. The results of the study showed that Edmodo encourages the learners to better participate in the classroom leading to the autonomy of learners in learning.

The results of the current study concerning the positive attitudes of learners towards Edmodo are also in accordance with Mustafa (2015), Manowong (2016) Ma'azi and Janfeshan (2018), Hosseinpour et al. (2019), Ngo and Ngadiman (2019) Janfeshan and Janfeshan (2021) and Safdari, (2021) as they also found that learners held positive attitudes towards the use of Edmodo in online language learning. It can be concluded that Edmodo can enhance Iraqi EFL learners' vocabulary knowledge. It also has a crucial role in increasing attitude toward using online applications in the process of language learning

Conclusion

This study explored the effect of social, educational network Edmodo on the Iraqi EFL learners' vocabulary learning. It has helped to fill a gap in the research on the effects of the social, educational network Edmodo for learning English of this age group in Iraq. The study helps to bridge the gap between the application of social, educational networks in English classes in general and Edmodo in particular and students' vocabulary learning and attitude in Hillia, a city in the central part of Iraq. A significant result is that this research has successfully employed Edmodo with this age range of learners. This is probably the first study of the learners of English in Iraq that has applied Edmodo. The results revealed that it is effective to understand Iraqi EFL learners' perspectives and get insights into their experience of learning English by applying Edmodo. Both questionnaire and quantitative findings have shown that students have positive attitudes towards English learning. They enjoy learner-centered and interactive ways of learning, with praise from teachers that forms a positive and enjoyable social-educational environment for learning.
Complying with the previous studies, the current study confirmed the fact that applying Edmodo in vocabulary instruction can lead to better performance and cooperation. Social learning networks, in general, and Edmodo, in particular, were recommended to be used in language teaching and learning due to the features it provides to the teachers and learners. According to the result of this research, Edmodo can be considered as a practical application and supplementary tool for teaching vocabulary learning because of its features and benefits. Language learners can actively participate in online class activities, easily use features in submitting online tasks, and finally access reference material whenever they wish.

The positive attitude toward Edmodo can assure us as language teachers and researchers to openly welcome the benefits attributed to it. The main burden is on the shoulders of the Iraqi policymakers and government to provide infrastructure to all

underdeveloped countries to be granted a chance to enjoy the merits of new technology. Edmodo, as a reliable tool for language learning, can be used effectively for vocabulary instruction. It can provide the learners to use the words in context via assignments, quizzes, notes, and discussions.

The current research has implications for learners, teachers, researchers, and policymakers. It is useful for language learners in that they can practice new words in an online fashion without worrying about stress and other debilitating factors in traditional classrooms. They take part in discussion in a new way not experienced before.

This research has implications for teachers. They do not need to limit themselves to the physical environment to teach optimally. The teacher can deem this new technology as a tool by which traditional methods are extended and combined with online tools. Unlike traditional classrooms, Edmodo-based instruction can grant the teachers' capabilities to monitor the teaching and learning process easier. This study can also have implications for language researchers. It can be considered as one of the potential areas of research tools in language arenas. As an assessment tool, Edmodo can be useful for language testing specialists. Due to the positive attitude of learners toward this technology, policymakers can build infrastructure to develop better education in Iraq.

Considering the research findings and limitations of the current investigation, some suggestions for further research possibilities are introduced. While the study findings revealed significant differences between applications of Edmodo in teaching English it would be useful to do more research on this topic to overgeneralize the results of the current study. To do so, it is advisable to run experimental studies with a large number of students to make a better conclusion about the results of this study. Another option for furthering research is to collect data on Edmodo through interviews with all the participants to explore their attitudes toward using this application. Since it can take longer to track trends in behavioral changes, especially their attitude, this may be beneficial to use other attitude scales to thoroughly investigate their attitude toward Edmodo application. Due to the shortage of time, this study just focused on Iraqi intermediate EFL learners' vocabulary learning. It would have been better if more grammatical items were taught.

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Appendix

Descriptive data of attitude questionnaire items at the beginning and at the end of the course

	Statements	Descriptive data of attitude questionnaire items at the beginning of the course				Descriptive data of Attitude questionnaire items at the end of the course			
		Experimental group		Control group		Experimental group		Control group	
		M	SD	M	SD	M	SD	M	SD
1	I like to practice English the way native speakers do	2.79	0.54	2.73	0.59	2.85	0.66	2.61	0.58
2	I do not get anxious when I have to answer a question in my English class	2.46	0.50	2.48	0.51	2.93	0.92	2.60	0.49
3	When I hear a student in my class speaking English well, I like to practice speaking with him/her	2.80	0.56	2.74	0.72	2.88	0.59	2.64	0.62
4	Studying English helps me to improve my personality	2.32	0.88	2.52	0.82	2.91	0.76	2.80	0.79
5	I feel proud when studying English language	2.77	0.76	2.76	0.77	2.79	0.88	2.64	0.79
6	I do not feel enthusiastic to come to class when the English is being thought	2.11	0.64	2.42	0.59	2.88	0.74	2.74	0.68
7 R	I put off my English homework as much as possible	2.61	0.62	2.52	0.81	2.78	0.59	2.67	0.47
8 R	When I miss the class, I never ask my friends or teachers for the homework on	2.78	0.52	2.51	0.65	2.93	0.76	2.47	0.68

	what has been taught							
9	I feel embarrassed to speak English in front of other students	2.75	0.71	2.56	0.51	2.61	0.52	2.45	0.75
10	I am not relaxed whenever I have to speak in my English class	2.70	0.59	2.80	0.74	2.94	0.68	2.61	0.84
11	I am not satisfied with my performance in the English subject	2.41	0.51	2.32	0.62	2.65	0.73	2.95	0.61
12	In my opinion, English language is difficult and complicated to learn	2.75	0.81	2.72	0.77	2.62	0.70	2.41	0.53
13	I cannot apply the knowledge from English subject in my real life	2.46	0.66	2.52	0.54	2.78	0.71	2.51	0.71
14	Studying English makes me able to create new thoughts	2.61	0.81	2.48	0.51	2.51	0.52	2.72	0.59
15	English subject has the content that covers many fields of knowledge	2.34	0.69	2.22	0.61	3	0.91	2.41	0.45
16	Frankly, I study English just to pass the exams	2.70	0.34	2.58	0.66	2.64	0.69	2.44	0.52
17	In my opinion, people who speak more than one language are very knowledgeable	2.58	0.78	2.12	0.56	2.99	0.95	2.76	0.61
18	Knowing English is an important goal in my life	2.55	0.71	2.10	0.50	3	0.78	2.71	0.85
19	Studying English subject makes me feel more confident	2.6	0.75	2.38	0.78	2.81	0.61	2.41	0.42

		6							
20	Studying English helps me communicate in English effectively	2.54	0.61	2.53	0.64	2.94	0.59	2.37	0.65
21	I have more knowledge and more understanding when studying English	2.17	0.95	1.33	0.81	2.90	0.68	2.61	0.53
22	I look forward to the time I spend in English class.	2.82	0.54	2.32	0.71	2.84	0.56	1.75	0.80
23	I prefer studying in my mother tongue rather than any other foreign language.	2.81	0.41	2.02	0.51	3	0.65	2.61	0.73
24R	To be honest, I really have little interest in my English class.	2.65	0.78	2.79	0.67	3	0.53	2.70	0.72
25	Studying English makes me have good emotions (feelings)	2.85	0.84	2.48	0.63	2.96	0.76	2.82	0.81
	Total mean	2.41		2.33		2.89	0.630	2.35	0.611