

The use of flashcards in teaching EFL vocabulary in online learning

Raja Muhammad Ishtiaq Khan

Department of Common First Year, Al Zulfi, Majmaah University, Kingdom of Saudi Arabia
E-mail: r.khan@mu.edu.sa

*) Corresponding Author
Email: r.khan@mu.edu.sa

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Abstract

The outbreak of COVID-19 has altered the way language instruction is executed. Vocabulary learning is an essential aspect of the language learning and teaching process that needs careful attention and consideration. Teaching vocabulary becomes more critical when learners cannot attend physical classes. The present study explores the impact of flashcards in learning vocabulary in an online context. The study adopted a quasi-experimental design to gather the data. The study was carried on two performed intact groups of intermediate-level learners. A vocabulary test was used to collect the data as pre and posttests. The intervention of the flashcards was continued for seven weeks. All the learners were informed about the process of the research. The result implies that the incorporation of flashcards impacted learners' vocabulary learning during online instruction. The data analysis asserts that flashcards have helped the experimental group to develop their vocabulary. The results indicate that flashcards are beneficial in the virtual learning environment.

Keywords: Flashcards, EFL, Online learning, Vocabulary

INTRODUCTION

The international community was severely impacted by the outbreak caused by the Novel Coronavirus (COVID-19) disease, which also brought the whole world to a complete standstill in 2020. Academics were forced to migrate to distance learning in such unexpected times (AlKhunzain & Khan, 2021). In-person instruction prompted an abhorrent chance of transmitting and infecting people. This abrupt, incredible transformation appeared with unforeseeable consequences for schools and teachers, as the whole globe continues to perceive its adverse effects. Since the outbreak of the global epidemic, the Kingdom of Saudi Arabia (KSA) has been vocal in its humanistic message (Khan, Ali, et al., 2021). Regardless of race, identity, religious doctrine, or national origin, human safety is more important than anything else. As a result, in the first few days of the outbreak of COVID-19, an instant reaction was launched to close down anything that might endanger population livelihoods and well-being, including schools, higher education institutions, and government entities (Neuwirth et al., 2021).

The Saudi Ministry of Education has activated its pre-existing online learning tool, including Desire to Learn (D2L), Blackboard (BB), and Zoom platform, to manage the learning process (Hakim, 2020). The objective was to establish a centralized platform for providing online teaching to students enrolled in the Saudi government and public institutions (Oraif & Elyas, 2021). With the beginning of the new academic year, instructors managed to improve learning and proceeded to support new material. English language teaching (ELT) challenges long predate the COVID-19 pandemic. However, the abrupt development of entirely virtual education and the resulting modifications aggravated emerging issues. Among the most regularly cited issues in ELT is the motivating force of students to learn (Al-Ansi et al., 2021; Altun & Tahir, 2020; Rahmawati et al., 2021; Thongbunma et al., 2021). Language teachers in Saudi Arabia have generally observed an insufficiency of student engagement (Khan et al., 2018), which is most likely due to students' limited vocabulary (Shahbaz & Khan, 2017), but may also be due to other factors (Andrade, 2022).

According to previous research, virtual education contexts are more captivating and convenient to rising student encouragement (Dhawan, 2020). Nevertheless, online classes are "situationally sensitive" (Hartnett, 2016), affected by numerous related to time constraints, test scores, and students' educational

experience. The disease outbreak exacerbates these problems. However, many researchers have indicated that insufficient vocabulary knowledge and vocabulary retention hinder the language learning process (Wright et al., 2021). Flashcards are an essential tool with many advantages, so using them in vocabulary classes for young learners is a valuable method (Supriatin & Rizkilillah, 2018). Flashcards have been appealing for starters because they contain images that keep students' minds refreshed. In addition to knowing the vocabulary, learners will acquire experience of vocabulary retention. Flashcards can be used to reduce mental blocks with the help of images presented on the cards (Ngarofah & Sumarni, 2019).

Vocabulary is a core part that must be fully grasped to promote the four skills of listening, speaking, writing, and reading. So, it is vital to attain mastery in vocabulary learning, which results in overall language learning development. According to Cain and Oakhill (2014), vocabulary is among the most fundamental aspects of language and academic researchers' first study area. The assertion above makes the primary point that vocabulary should always be attained during learning languages. (Webb, 2013) illustrated that vocabulary development is the understanding that effectively addresses the meaning of the terms and can compare each term with a synonym or a similar term in one's language. That is, word recognition skill is concerned with understanding terms and expressions. Vocabulary is critical to effective language learning. It could also assist individuals in reading and understanding text effectively (P. Nation, 2019). Thereby, vocabulary knowledge empowers individuals to communicate their thoughts clearly in both spoken and written text. Alternatively, students with a limited vocabulary have difficulties understanding the content and expressing themselves verbally and in writing (Olinghouse & Wilson, 2013). As a result, instructors and syllabus designers require strategies for assisting students in improving their vocabulary achievement. Numerous techniques can increase students' vocabulary knowledge (Khan, Radzuan, et al., 2021; Khan, Shahbaz, et al., 2020). Teachers can integrate drawings, connotations, and media into their vocabulary instruction. Huang (2015) supports this by stating that technology can effectively enhance vocabulary instruction to a great extent.

Numerous studies (Chen & Chan, 2019; Li & Tong, 2019; Ngarofah & Sumarni, 2019; Pasaribu et al., 2022; Razaq, 2022; Supriatin & Rizkilillah, 2018; Yüksel et al., 2020) have been conducted on lexical items as a critical aspect of language learning; each one makes a remarkable impact in the area. According to Stewart et al. (2021), vocabulary acquisition is central to acquiring language and language utilization. Indeed, it gives a language an essence. Vocabulary development is a necessary form of language instruction. Numerous researchers concurred that there is still a dearth of research on vocabulary learning (Cameron, 2002; I. Nation, 2011; Yaacob et al., 2019), although the most efficient way of vocabulary acquisition remains unknown (Zhang et al., 2017). The absence of vocabulary was an ongoing topic in the literature EFL learning context. It was frequently given little preference in language instruction and was often left to fend for itself in texts and language courses (Boers, 2021; Çakmak & Erçetin, 2018; Khan, Mustafa, et al., 2020; Teng & Zhang, 2021). Historically, vocabulary acquisition and instruction received scant attention in language education. As Vu and Peters (2021) stated, vocabulary training was once widely believed to be unnecessary because it could occur spontaneously; consequently, vocabulary instruction was not prevalent (Schmitt et al., 2020). However, the importance of vocabulary and its role in language learning has been much more widely accepted in recent years. For instance, Cetinkaya and Sütçü (2018) note that the importance of vocabulary instruction has been recognized in recent years.

Learning through media is indeed a significant part of the educational process of the English language. It allows instructors to distribute or transfer material to students more efficiently (Miftachudin, 2017; Yudhiantara & Nasir, 2017). Mustafa et al. (2022) describe teaching with technology as allowing learners to transmit messages and evoke students' interest, feelings and thought to facilitate the educational process. Gay (2022) notes that technology can effectively motivate students to learn EFL vocabulary. As a result of the preceding statement, this could be deduced that media is an essential instrument for vocabulary instruction. Teachers frequently employ a variety of visuals in their teaching. The EFL learners find visual vocabulary application attractive (Aji et al., 2021). Visual media include graphics, flipcharts, and electronic flashcards. According to Wong et al. (2021), a flashcard is a simple image on a piece of paper or card that serves as a visual

reference during the teaching process. That is, digital flashcards are a type of teaching material that can assist teachers in effectively teaching vocabulary.

According to experimental studies with EFL learners, students who were taught vocabulary through the flashcard approach retained more language but were more engaged in the learning process because they perceived it as simple. They also have a better grasp of vocabulary than students who don't use flashcards. Finding new words by using a dictionary and learning their definitions is one way to broaden vocabulary (Chen & Chan, 2019). However, increasing the power of a word takes time. Another option is to use a vocab card or flashcard to help users learn new words. Flashcards assist in learning new words as learners can have an image of the new term. At the same time, word lists and flashcards can be introduced to help learners get acquainted with new words. Many of them also use flashcards to refresh their memory on previously learned terms. Flashcards have several advantages: they can be carried around and studied whenever one seems to have a spare minute (Li & Tong, 2019; Yüksel et al., 2020). Additionally, they can be grouped to form words to make sense to the target audience.

In an experiment by Azabdaftari and Mozaheb (2012), flashcards were compared to see how they affected Iranian EFL vocabulary learning. In an experiment by Azabdaftari and Mozaheb (2012), flashcards were compared to see how they affected Iranian EFL vocabulary learning. The study results revealed that pupils who used M-Learning technology learned more vocabulary than flashcards. A multiple-choice posttest showed a significant performance advantage in favor of the experimental group over the control group. Still, the difference could not be attributed to the study's experimental conditions. Furthermore, there was little information about the SRS's material or structure. In addition, no pretest was given to determine whether the experimental group's L2 English proficiency was higher than that of the control group. It was simply assumed that there were no considerable variations at the outset.

Syaifudin (2017) conducted a study to see if flashcards could help students improve their speaking abilities by assisting them to learn new vocabulary in an action research method. Vocabulary cards were sent to a total of 20 participants who had difficulty speaking proficiently. The study found that flashcards could help students improve their vocabulary, improving their speaking abilities. The incorporation of cards amplified the learners' interaction with vocabulary

acquisition, which helped emerge their verbal proficiency. EFL students and instructors should be conscious of the implications of media like Skype, YouTube, and WhatsApp in assisting them in improving and developing in English as a foreign language (EFL). The study's findings showed that students' speaking abilities improved significantly when MALL applications were used.

Moreover, Razaq (2022) conducted a study to determine how students can improve their vocabulary in terms of word classes. The result of the study indicated that there is a considerable improvement in the post-tests. The study observed that using flashcards improved students' vocabulary accomplishment based on the research outcomes. Likewise, Pasaribu et al. (2022) recently investigated the role of flashcards media in enhancing learners' vocabulary. Flashcard media was chosen as a channel to boost students' vocabulary because of learners' solid background memory for pictures. Since flashcard media allows students to grasp lessons quickly, they are more enthusiastic about learning English. According to the findings, students who gain knowledge while gameplay is more effective. Learners were very enthusiastic about learning through the images enclosed in the flashcards presented by the authors when undertaking experiments; they started to guess what has been drawn but were also enthusiastic to check the definition.

Using technology can be facilitated in many distinct ways to teach vocabulary to students. Learning vocabulary on a mobile phone can occur whenever and wherever the learner wishes, owing to smartphone apps' ease of use and accessibility (Shahbaz & Khan, 2017). According to some studies, flashcards are more efficient than word lists for helping students build their vocabulary. Research shows that flashcards are used for many different purposes. All previous studies cited in the literature review indicate that these were administered to compare flashcards with conventional learning or M-learning assisted flashcards and vocabulary learning. The outbreak of COVID-19 has altered the ways of language learning, and vocabulary learning is no exception. Learners were instructed through many distant ways and using various online platforms. The present study compares vocabulary learning through an online venue, Blackboard (BB), in routine online teaching and vocabulary cards.

RESEARCH METHOD

The study was conducted by using a quasi-experimental research design. According to Cook (2015), quasi-experimental research evolves an accurate experiment design with an experimental group and a control group. The researcher used a pretest and posttest research design. The researcher instructed two groups in this study: experimental and control groups. Flashcards were used to teach the experimental group, whereas the control group was educated through BB's online platform. The participants in this study were pre-intermediate students from the Deanship of Common First Year (DCFY). To select the participants, the researcher has utilized purposive sampling. The researcher divided two preformed intact classes into experimental and control classes. A total of 64 learners were included in the study. This study's instrument is a vocabulary test that the exam committee created. Before and after the intervention, the test was given to the DCFY. There were 20 questions in each pretest and posttest. The validity of the instrumentation is the first consideration. Validity is defined by Ary (2014) as the extent to which a measure is what it purposes to measure. Furthermore, validity is a significant consideration when assessing the research's instrumentation. The validity of the tools was tested using an expert validator in this study.

The flashcards were prepared in PowerPoint and saved as JPG images. Each card consisted of a word with its meaning and equivalent meaning in Arabic, an example sentence, and a picture related to the terms. Eight cards per class were sent to the experimental group twice a week for seven weeks. Exact words with meaning and other illustrations were given to the control group in the same manner.

Moreover, the researcher used SPSS to assess the item validity of the test. Kuder – Richardson 20 was used by the researcher to determine this study's reliability. The researcher gathered the data through a vocabulary test. Both pretests and posttests consisted of 20 fill-in-the-blank questions designed by the exam committee. The tests were administered to both the experimental and control groups. The goal of the vocabulary was to see how flashcards affected students' vocabulary knowledge. Before administering the treatment, a pretest was used to determine the students' level of vocabulary mastery. Furthermore, the posttest was administered to determine how far learners' vocabulary knowledge had improved after incorporating flashcards.

The study employed quantitative data analysis, which is a numeric examination that can be constructed using statistical techniques. The researcher used the Paired Sample T-test to analyze the data. The Paired Sample T-test is utilized to compare two data sets, pretest scores and posttest scores, to determine whether there is a notable difference between students' vocabulary knowledge. Prior to analyzing the data with a T-test, the researcher determined the data's normality and homogeneity. Normality tests are administered to determine not if the distribution is normal and homogeneous. The IBM SPSS 2 version is used to perform the normality and homogeneity tests.

Normality Test

A normality test is used to evaluate whether the obtained data is normally distributed or not. The normality test on the pretest and posttest marks is executed using the SPSS 22.0 software with a probability value of 0.05. Homogeneity analysis is used to test whether or not the obtained data seems to have a relatively homogenous variability. The researcher conducted the Test of Homogeneity of Variances with SPSS 22.0 using statistical significance (α) = 0.050 to determine the homogeneity. Table 1 presents the normality analysis of the data.

Table 1.

Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Stat	df	Sig	Stat	df	Sig
Pre-Test	.106	63	.199	.969	63	.628
Post-Test	.150	63	.087	.945	63	.239
Pre-Test	Levene Stat			df1	df2	Sig
Post-Test	.519			1	57	.481

The significant value from the pretest is 0.628, and the considerable value from the posttest is 0.239, as shown in the table above. Both the pretest and posttest values are greater than 0.05. The $p < 0.05$ value on the pretest is 0.628, which is greater than 0.05 ($0.628 > 0.05$) and indicates that the data distribution is normal, after which, for the posttest score, the $p < 0.05$ value is 0.239, which is greater than 0.05 ($0.239 > 0.05$) indicating that the data were normally distributed. This also implies that H_0 is approved while H_a is denied. As a result, both sets of data (pretest and posttest scores) can be considered as having a normal distribution of the data for the present study. Again for the Levene test, a test statistic or p-value 0.05 ($0.481 > 0.05$) greater

than 0.05 indicates that H_0 is approved and H_a is denied. As a result, the data is considered homogeneous.

The data has complied with the normal distribution on both the test, which indicate paired T-test is suitable to know the significant difference in the pre and posttest performance of the present study. T-statistic is a statistical method administered when the distribution of the data is normal, as determined by a normality test. Furthermore, depending on the extent of the data gathering, it is administered to measure and compare marks of 2 categories, which can be coupled or independent. In simple terms, the subjects in this research were the same in both tests.

Table 2

Paired T-test

	Paired Samples T-Test				
	Mean	Std. Deviation	t-stat	d.f	Sig
Pre-Con – Post-Con	-0.18	0.12	-7.12	32.00	0.00
Pre-Exp – Post-Exp	-0.29	0.11	-14.81	32.00	0.00
Pre-Con – Pre-Exp	-0.06	0.12	-3.14	32.00	0.01
Post-Con – Post-Exp	-0.16	0.08	-09.72	32.00	0.00

The difference in average between the control group's pre-and post-treatment series was -0.18. The SD in the control group's sequence of differences between pre-and post-experiment was 0.13. For this correlation, the t-statistic was -7.12. This correlation had a p-value of 0.00. (less than 0.05). And there was a notable change in the control group's pre-and post-treatment vocabulary achievement. As a result, it was determined that there was a significantly higher than the control group's pre-and post-experiment vocabulary achievement. It was also implied that the invasion of flashcards was vital for increasing the learners' vocabulary. From the analysis of the results, it has appeared that both groups have improved their vocabulary learning. Still, there is a notable difference in participants' performance who learned vocabulary with flashcards.

DISCUSSION

The findings of the data from control and treatment groups' pre-tests and post-tests showed that the implementation of flashcards had a strong positive influence on vocabulary knowledge. This implies that the vocabulary achievement of the

participants in the treatment group differed significantly from those of participants in the control group.

As a result, it is logical to argue that the flashcard assists students in improving their advancement in vocabulary acquisition. The data was further analyzed using a quantitative parametric test, notably Paired Samples T-Test with a 5% significance level. The achieved significant (2-tailed) is 0,000. Since a significance of 0.000 less than 0.05 (0.000 0.05) implies that H₀ is rejected and the Null hypothesis is accepted. As a result, including both means, it is possible to assert substantial differences in participants' accomplishment of vocabulary ability to comprehend, implying that instructional vocabulary knowledge with flashcards is practical. This means that learners had a positive impact of using flashcards in teaching vocabulary of DCFY. Based on the data analysis and interpretations provided above, it is reasonable to infer that using flashcards helps teach vocabulary comprehension. It was discovered that flashcards influence learners' vocabulary development.

The results align with the recent studies by Pasaribu et al. (2022), Razaq (2022), and Supriatin & Rizkilillah (2018). The incorporation of flashcards in the present study appeared to be highly beneficial for the advancement of vocabulary; this flashcard mechanism is helpful for the context of teaching and learning since it makes things simpler for learners to learn English, particularly to strengthen their vocabulary. Additionally, these flashcards can help in enhancing the process of language learning by making it more creative. The results indicated that integrating flashcards effectively increased learners' vocabulary. Students' results show that flashcards are straightforward; the description of the images and example sentences helped them perform better on the posttest.

The current attempt's outcome was also partly compatible with the study conducted by Azabdaftari and Mozaheb (2012). They examined the impact of M-learning and flashcards on word knowledge among Iranian EFL learners. The results show that the participants in the treatment group outperformed the control group statistically. The findings demonstrated that incorporating flashcards into vocabulary learning is more productive than the conventional method and has the tendency to contribute the active learning as more appealing and engaging. The current study's results were also partly coherent with Basal et al. (2016). During four weeks, the researchers investigated the effectiveness of flashcards as an instructional smartphone application. The participants underwent a treatment of using 40 idioms

via flashcards, which included the idiomatic expressions, images, and definitions. The posttest results revealed that the teaching vocabulary with flashcards had helped the treatment group learner better, and their scores had significantly improved. This demonstrated the efficacy of using cards to learn vocabulary. As a result, it is possible to assert that flashcards integration effectively improves vocabulary knowledge.

Irrespective of the similar views in the literature, the study results are not conclusive. Some experiments, such as that by Dehghan et al. (2017), did not discover assistance for using flashcards in learning EFL vocabulary. The study evaluated using flashcards in learning new vocabulary among 32 EFL adolescent students. However, the findings agree with Syaifudin's (2017) predictions, who carried out an exploratory investigation to see whether flashcards can help learners acquire their language skills by learning new vocabulary. According to the findings of the study, flashcards can improve their vocabulary. The use of cards increased the learners' engagement with vocabulary development, particularly in the online environment, which increased their learning. EFL teachers and students should be aware of the significance of media such as Skype, YouTube, and flashcards in enhancing and maintaining their English as a foreign language skill (EFL).

CONCLUSION

The study examined the effects of flashcards during online learning. The result of the study indicates that the learners who used flashcards performed better than those who just studied vocabulary through an online environment. The results confirm that images or visuals can attract learners' attention and perform better if provided with media.

Overall, the significant point is that using flashcards vocabulary enhanced the experimental group's posttest scores, unlike the control group, which did not use flashcards. This confirms that the use of flashcards improved the language knowledge of Saudi EFL students more than only online class instruction. The inclusion of related images on the vocabulary cards demonstrated that the graphic components are closely associated with the vocabulary introduced in the texts. This has greatly aided learners in learning and remembering the focused words. As a result, it can be affirmed that practical consideration of words, images, and word illustrations can be helpful in the instruction of EFL vocabulary. The study's findings partially support this beneficial impact of flashcards incorporation for teaching

vocabulary. As an outcome, it is reasonable to conclude that the extra content presented via flashcards aided the procedure of vocabulary knowledge, which mainly impacted the learners' vocabulary development in online learning.

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