Enhancing Arabic Vocabulary Learning through Online Games: Students' Perceptions of the Wordwall Application in Higher Education

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ABSTRACT

In language learning, many different online strategies have been applied to facilitate students' language learning, especially in vocabulary skills. This is because vocabulary skills are considered one of the most basic skills to acquire, as they are utilised in all the different language skills and provide a better understanding of the language itself. To enhance vocabulary skills, there is significant evidence from the previous studies that asserted the effectiveness of online games to increase students' engagement in language learning, relatively focusing on writing, reading, and speaking. Hence, this study focuses on the use of the Wordwall application in learning the Arabic language among the students in a public university. The aim of the study is to investigate students' perception of the usage of the Wordwall application in the teaching and learning of the Arabic language at a higher learning institution. Students played online games and filled in a survey to find out if the online games in the Wordwall application provide a fun and attractive learning environment and help to strengthen students' vocabulary skills. The positive findings provide an extension of data related to the second- or third-language acquisition research inside and outside Malaysia that focuses on Arabic vocabulary learning through the Wordwall application. It is hoped that this study will give insights into the students' perception of improving and enhancing their Arabic vocabulary using the Wordwall application.

Keywords: (Arabic vocabulary, Online games, Vocabulary skills, Wordwall application)

INTRODUCTION

Vocabulary learning is significant in language learning, as the words or syllables of the words convey the meaning of utterances and how they can be formed in a language used to express specific meanings in a direct manner. (Mamaghe et al., 2021). Although the roles of grammar and syntax are also crucial in improving the proficiency of the language, the emphasis on vocabulary must be prioritised, as it is essential for the students to communicate from the simplest of utterances to the most complex ones. Lutfiyah et al. (2022) further added that the needs of planning the language lessons for vocabulary development must be given attention to, and the students should be taught effectively by using the vocabulary learning strategies. This would assist the students to memorise the new words of their second or third language meaningfully.

Since the current situation of Covid-19 is affecting language practitioners and students all around the world, the classroom instruction has profoundly transitioned to online learning. Dubreil (2020) stated that the online learning instruction can be complex, as the language practitioners are facing the issues of accessibility and the

widening gap of digital technology among students during online learning. Thus, the language practitioners are constantly required to be creative and innovative to deliver quality instruction. It is further explained by Dubreil (2020) that the challenges posed by the pandemic have motivated the language practitioners to retain the integrity of the teaching course and provide online accessible tools to meet the quality pedagogy in online learning.

The realm of the 4.0 Industrial Revolution has also prepared the language practitioners to apply the technologically enhanced immersive learning with the students. It is a critical and rapid change of formal education in Malaysia as well as other countries to adapt to this transition in keeping the ultimate purpose of teaching and learning, which is to assist the students to learn in a more engaging, productive, and meaningful way (Adnan et al., 2020). Therefore, implementing creative new ways of teaching and learning through online instruction would create more experiential and student-centred learning that provides the students with interesting tasks remotely from the language practitioners (Adnan et al., 2020).

There is significant evidence from the previous studies that asserted the effectiveness of online games, where they can increase students' engagement in language learning. The use of online games in the language classroom could instil positive outcomes in students, as they believed that by playing online games, they would learn the target language in a more enjoyable way (Thurairasu, 2022). There is a strong relationship between online games and second language learning that demonstrates the increasing learners' engagement and language acquisition process, as it can be adapted effectively in online classroom instruction in vocabulary, pragmatics, literacy, and multilingual interaction (Dubreil, 2020).

The intersection of online language learning and the consequences of the Covid-19 pandemic has called the language practitioners to design and deploy the interactive and innovative classroom instruction in the educational field, specifically in the acquisition of a second language, as the language practitioners need to promote meaningful language learning.

"Transitioning to remote teaching forced us to meet the challenge of maintaining the integrity of the pedagogical enterprise in an era of 'social distancing', 'confinement', and 'quarantine'" (Dubreil, 2020, pg. 7).

The need for consistent efforts by the language practitioners to produce meaningful online learning would affect the students' language proficiency in the target language tremendously. Well-planned lessons using online games would allow the students to practise the language skills and at the same time to communicate using the target language while enjoying the games (Margaret et al., 2024). It is further explained by Margaret et al. (2024) that learning language through online games is highly amusing and motivating and encourages students to use the language in real contexts.

However, most of the previous studies have been done looking at second language learning through online applications such as Kahoot! and Google Slides in the online classroom settings. Only a few studies have been conducted to analyse the perception of students using online games in the Wordwall application for third language learning, especially in Malaysia. Hence, this study focuses on the use of the Wordwall application in the learning of the Arabic language among the students in a public university. The findings provide an extension of data related to second- or third-language acquisition research inside and outside Malaysia, which focuses on Arabic vocabulary learning through the Wordwall application. Moreover, it gives insights into the students' perception of improving and enhancing their Arabic vocabulary using the Wordwall application.

LITERATURE REVIEW

This study is based on the theory of constructivism, where learning takes place more effectively through experiences and active learning. According to Dagar and Yadav (2016), this theory opens up fresh pedagogies in learning, and students are allowed to construct their own understanding of knowledge through a different learning design.

Constructivist Learning Theory (CLT) offers the view that learning takes place more effectively through the construction of new knowledge, allowing students to process information through the lens of their prior

experiences and reflect on previous understanding (Bruner, 1973, as cited in Lee et al., 2019). Based on this theory, Lee et al. (2019) conducted a study that incorporated the use of the Wordwall application alongside eight other teaching methods to explore students' perceptions of learning Mandarin lexical items. The findings indicated that these methods, including Wordwall, supported students in learning vocabulary more efficiently. Specifically, the use of Wordwall was found to increase motivation and engagement, as its interactive game-based activities made the learning process more enjoyable and meaningful.

In the context of CLT, Wordwall can be seen as supporting several constructivist mechanisms. For example, activities like "match-up" or "missing word" promote active learning by requiring students to manipulate and engage with language elements rather than passively receive information. The platform's immediate feedback functions as scaffolding, allowing learners to reflect on their performance and adjust their understanding in real time. Additionally, the customizable nature of Wordwall tasks enables contextualized learning, where tasks can be tailored to reflect real-life communication needs or classroom themes. These features align with the constructivist emphasis on learner-centered, experiential, and reflective learning, thereby reinforcing the theoretical foundation for using Wordwall in language instruction.

As proven in the study by Annet K. A. (2025) and many other related studies, technology plays a significant role in the teaching and learning of a language. The use of technology in language learning allows learners to review their understanding and become active participants in the learning process (Kamrozzaman et al., 2025). Not only does online learning help to improve students' language skills, but it also contributes to making the learning process fun. According to Kamal (2021), online learning, which is interactive and interesting, can create a fresh experience for students in learning a language, especially in acquiring vocabulary skills. He observed that students are more focused on learning vocabulary, and thus, this enables them to remember the meaning of the words as they become engaged in the learning experience through online games.

Due to the success of using online language games in the learning of the Arabic language, many Arabic language instructors have ventured into using language games in their teaching. From a conceptual paper written by Turohmah et al. (2020), it was concluded that the Wordwall application is a suitable online game application and easy to use in enhancing students' vocabulary skills in the Arabic language. According to Fakhruddin et al. (2021), the use of the Wordwall application in school has shown positive improvement in the students' vocabulary skills through observation, interview, and documentation of the results after playing the game. Besides the Wordwall application, there are many other language game applications that have proven to be a positive reinforcement in the learning of the Arabic language. Soad and Zainal (2022) used Quizizz in the learning of the Arabic language and found that the application provided an interesting learning environment and made the students more focused on learning the target language.

Based on the previous studies, it is found that the Wordwall application is an effective tool to be utilised in language learning. This study will further enhance the previous findings by focusing on the learning of the Arabic language, especially in vocabulary skills, through the Wordwall application. This study explores students' perception of the use of the Wordwall application by looking into the aspects of its effectiveness, attractiveness, and competitive value in the learning of vocabulary skills in the Arabic language.

METHODOLOGY

This study is carried out to investigate students' perception of the Wordwall application used in the teaching and learning of the Arabic language at a higher learning institution. This is a qualitative study that aims to find out if the online games in the Wordwall application provide a fun and attractive learning environment and help to strengthen students' vocabulary skills.

The rationale behind the selection of the Wordwall application as a tool in this study is that it provides easy access for students using various gadgets such as computers and smartphones. Moreover, the application is user-friendly and creates an exciting learning setting, as it has a leaderboard that encourages competition among the students. As for the language practitioners, it is easy to design and build questions through the different features provided in the online games.

The participants in this study consisted of 74 students who registered for the subject code TAC151 - Foundation Arabic Level II at University Technology MARA Cawangan Negeri Sembilan. These students were familiar with the Wordwall application, as the researchers gave them the opportunity to work on some vocabulary exercises using the application in the previous semester. The study was carried out during online learning sessions. These 74 students were from 4 different classes where the online games in the Wordwall application were conducted separately. Five different vocabulary topics were completed in 10 weeks, in which each topic took approximately 1 to 2 weeks. From these 5 topics, 30 words were selected for the online games. Once all the topics were covered in class, in Week 11, all the participants were given a short briefing by the researchers on how to play online games and were given instructions to play the games in the same week. A test run was performed before the students played the games to ensure a smooth process during real time.

Students were given 2 hours to complete the exercise, in which they were allowed to repeat the exercise as many times as needed. They were able to see their scores from the leaderboard and the time taken in completing the games. This exercise also enabled the students to achieve the correct answers in the shortest time possible so that they would be able to place themselves in the ranking. Throughout this exercise, the researchers were present to monitor their progress and encourage them to work on the games repeatedly.

Once the students completed the games, an online survey was distributed to them to find out their perception of the use of the Wordwall application in the teaching and learning of the Arabic language. There are 6 items in the first section, consisting of demographic questions, yes or no responses, and open-ended questions. While the items in the second section are the Likert-scale questions. These questions are used to find out the perception of the students towards the use of the online games in the Wordwall application as a tool for learning vocabulary. Data was collected and evaluated using a simple descriptive analysis.

All participants provided informed consent prior to their involvement in the study. Data collection was conducted anonymously, and participants were assured that their responses would remain confidential and used solely for research purposes. Participation was entirely voluntary, and individuals were informed of their right to withdraw at any time without any negative consequences. No ethical issues were encountered during the data collection process. The researchers clearly explained that the purpose of the study was to enhance the teaching and learning of Arabic vocabulary using online games via the Wordwall application, and to examine the educational benefits of such tools.

RESULTS AND DISCUSSION

Six different items were developed in the survey with three demographic questions (programme, age, and gender) for items 1-3, one yes/no response for item 4, one open-ended question for item 5, and one Likert scale with 19 sub-items for item 6. The 19 sub-items in the survey were intended to examine students' perceptions towards the use of the Wordwall application in learning the Arabic vocabulary. The data gathered were tabulated in Table 1 below and were analysed descriptively using percentages.

Table 1 Students' perception of the use of the Wordwall application in teaching and learning of the Arabic vocabulary in percentages

Item	Statement	Agree	Strongly Agree
A	I have used the Wordwall application in other subjects than Arabic.	24.3%	10.8%
b	Learning Arabic through the Wordwall application is fun.	18.9%	79.7%
C	Learning Arabic using the Wordwall application is easy.	24.3%	74.3%
d	I am interested in learning vocabulary in Arabic through the Wordwall application.	33.8%	62.2%
E	I like learning vocabulary in Arabic through the Wordwall application.	33.8%	63.5%

F	The instructions given in the Wordwall application for learning vocabulary in Arabic are easy to understand.	33.8%	64.9%
g	The application is user-friendly.	25.7%	73%
h	This application can be played on various gadgets (smartphones, laptops, computers, and tablets).	24.3%	73%
I	This application can be played at any time.	29.7%	68.9%
J	I like the Wordwall application because it helps to improve the competitiveness in me.	28.4%	68.9%
k	The features like the leaderboard, timer, and answer accuracy in this game help to improve the competitiveness in me.	25.7%	70.3%
L	I like the leaderboard in the Wordwall application.	25.7%	70.3%
M	I like the timer in the Wordwall application.	33.8%	55.4%
n	I like the answer accuracy in the Wordwall application.	36.5%	60.8%
o	The Wordwall application helps me to remember the Arabic vocabulary that I have learnt.	27%	70.3%
p	The Wordwall application helps me to understand the Arabic vocabulary that I have learnt.	32.4%	66.2%
q	The Wordwall application helps me to apply the usage of the Arabic vocabulary in different contexts.	35.1%	60.8%
R	The Wordwall application strengthens my vocabulary skills in Arabic, as it can be played many times.	33.8%	62.2%
S	The Wordwall application for learning vocabulary in Arabic should be continued for all Arabic subject codes.	27%	68.9%

The data in Table 1 indicates that the students had positive perceptions of learning the Arabic language using the Wordwall application. In response to a question regarding their prior experience of using the Wordwall application, on average, 35.1% of the students (10.8% strongly agree, 24.3% agree) indicated that they had used the Wordwall application in other subjects than the Arabic language.

When asked to respond about their feelings of using the Wordwall application in learning the Arabic language, 98.6% of the students (79.7% strongly agree, 18.9% agree) indicated that learning Arabic vocabulary through the Wordwall application was fun, and 98.6% of the students (74.3% strongly agree, 24.3% agree) indicated that learning the Arabic vocabulary using the Wordwall application was easy. 96% of the students (33.8% strongly agree, 62.2% agree) indicated that they were interested in learning the Arabic vocabulary through the Wordwall application, and 98.7% of the students (33.8% strongly agree, 63.5% agree) indicated that they liked learning the Arabic vocabulary through the Wordwall application.

As for their perceptions of the overall features of the Wordwall application, 73% of the students selected "Strongly Agree" and 25.7% of them selected "Agree" on item g that says, *"The application is user-friendly."* In line with the student-friendly application experience, 73% of the students selected "Strongly Agree" and 24.3% of them selected "Agree" on item h that says, *"This application can be played on various gadgets (smartphones, laptops, computers, and tablets)."* Besides, 68.9% of the students selected "Strongly Agree" and 29.7% of them selected "Agree" on item i that says, *"This application can be played at any time."*

The data on the students' perceptions of the specific features of the Wordwall application show that 70.3% of the students selected "Strongly Agree" and 25.7% of them selected "Agree" on item k that says, *"The features like*

the leaderboard, timer, and answer accuracy in this game help to improve the competitiveness in me." In this regard, their perceptions of each feature of the Wordwall application are as follows:

1. 70.3% of the students selected "Strongly Agree", and 25.7% of them selected "Agree" on item *l* that says, *"I like the leaderboard in the Wordwall application."*

2. 55.4% of the students selected "Strongly Agree" and 33.8% of them selected "Agree" on item *m* that says, *"I like the timer in the Wordwall application."*

3. 60.8% of the students selected "Strongly Agree" and 36.5% of them selected "Agree" on item *n* that says, *"I like the answer accuracy in the Wordwall application."*

Most of the students also reported that the use of the Wordwall application in learning the Arabic vocabulary was beneficial for them. It can be seen in Table 1 that 97.3% of the students (68.9% strongly agree, 28.4% agree) indicated that they liked the Wordwall application because it helped to improve the competitiveness in them; 97.3% of the students (70.3% strongly agree, 27% agree) indicated that the Wordwall application helped them to remember the Arabic vocabulary that they had learned; 98.6% of the students (66.2% strongly agree, 32.4% agree) indicated that the Wordwall application helped them to understand the Arabic vocabulary that they had learned; 95.9% of the students (60.8% strongly agree, 35.1% agree) indicated that the Wordwall application helped to apply the usage of the Arabic vocabulary in different contexts and 96% of the students (62.2% strongly agree, 33.8% agree) indicated that the Wordwall application strengthened their vocabulary skills in Arabic as it can be played many times.

Finally, almost all (95.9%) of the students who took part in the survey (68.9% strongly agree, 27% agree) indicated that the Wordwall application in learning the Arabic vocabulary should be continued for all the Arabic subject codes.

Even though the findings revealed that 61 out of 74 students indicated that they had played online language games before (item 4), such as Kahoot, Quizizz, and Wordwall (item 5), the students still had positive perceptions towards the use of Wordwall in learning the Arabic language. The findings have also shown that most of the participants selected "Strongly Agree" and "Agree" in all the items in the survey. Only a few of them selected "Strongly Disagree" and "Disagree" in only a few items. These show that the students felt highly interested in learning the Arabic language through the incorporation of online language applications such as the Wordwall application, and most of them perceived the use of such applications in the Arabic vocabulary learning as beneficial in improving their language skills.

Regarding the use of online language applications in learning vocabulary, it is good for the students' brains, as there will be major progress in memorising the information that they have acquired while using the applications (Rusdiyana et al., 2021). These applications do not only allow students to find synonyms and antonyms, understand the meaning of the words better and remember the target words easily (Syamsidar et al., 2023), but also help students to improve their vocabulary skills, which consolidates their learning of the new words in learning foreign language vocabulary (Caparlar & Yünkül, 2024).

Future Research

To enhance the methodological rigor and theoretical contribution of future research, several improvements are suggested. The incorporation of pre- and post-intervention vocabulary assessments, along with delayed retention measures, would provide more robust evidence of learning gains and long-term retention. Including a comparison or control group could strengthen causal inferences regarding the effectiveness of game-based learning tools such as Wordwall. Future studies are also encouraged to validate survey instruments and include them as appendices to improve reliability and transparency. The use of inferential statistical analyses, particularly with subgroup comparisons (e.g., by gender, age, or proficiency level), would offer more nuanced insights into learner outcomes. Additionally, thematic analysis of open-ended responses, supported by illustrative participant quotes, would enrich the qualitative findings and provide a deeper understanding of learner perceptions and experiences.

CONCLUSION

Students of the Arabic language have a high and positive perception of the use of the Wordwall application in vocabulary learning because it helps them to gain knowledge in a fun and interactive way, build confidence by challenging themselves while playing the online games, and apply their knowledge in completing the games. The online games make learning the Arabic vocabulary less stressful since they are user-friendly. Furthermore, the application helps them to acquire the Arabic vocabulary skills in a meaningful manner since they can learn at their own pace. As the items in the games are relevant to what they have learnt in class, students can be challenged, and as a result, they will be more focused on the task. When students get the correct answers and score high marks, their motivation will also increase. Even if they get the wrong answers on the first attempt, they can repeat playing the games several times to improve their scores. Repetition in this manner can reward the students with several benefits, such as encouraging learning, improving comprehension, and retaining information.

However, this study has limitations too. One of them is the requirement of an Internet connection for the students to access the Wordwall application and play the online games. Students without the Internet connection will miss out on the various advantages the games have to offer. Despite the limitations, the language practitioners should include the online games in their teaching of Arabic as the third language because they train students to be critical thinkers and independent learners.

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