

# Elevating Arabic Vocabulary Learning: A Dive into Digital Gaming Applications

Nur Hamizah Tuki, Suhaila Zailani @ Hj Ahmad & Lily  
Hanefarezan Asbullah

Research Centre for Arabic Language and Islamic Civilization, Faculty of Islamic Studies,  
Universiti Kebangsaan Malaysia, 43600 Bangi, Malaysia.

Email: p116039@siswa.ukm.edu.my, suzail@ukm.edu.my & lilyhane@ukm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v12-i4/19908>

DOI:10.6007/IJARPED/v12-i4/19908

**Published Online:** 10 December 2023

## Abstract

In response to the global disruption caused by the COVID-19 pandemic, digital gaming applications have gained substantial traction within the realm of education. These applications serve not only as valuable tools for educators to integrate into their classroom pedagogy but also as independent self-learning resources for students. This transformative trend extends to the domain of Arabic vocabulary acquisition, where a variety of digital gaming platforms, including Quizizz, Kahoot, Quizlet, and Wordwall, are being harnessed. Despite the growing prominence of digital gaming applications in language learning, there exists a paucity of discourse concerning the specific content and structure of Arabic vocabulary instruction via these platforms. Consequently, this research endeavours to fill this void by identifying prevalent themes in Arabic vocabulary learning facilitated by digital applications. It simultaneously conducts an in-depth analysis of the content, encompassing thematic categories, question formats, and gaming elements. The study employs a qualitative research approach, integrating content analysis and literature review methodologies to explore previously accumulated data. The ensuing discussion elucidates three principal themes: the selection of vocabulary learning topics within gaming applications, the diverse formats of questions incorporated, and the gamification elements integrated into these applications. Notably, the analysis reveals that the majority of gaming applications align their content with topics derived from secondary school standard curriculum textbooks (KSSM). Furthermore, the study identifies prevalent question formats, with true or false inquiries, fill-in-the-blank exercises, and multiple-choice questions being the most pervasive. The research underscores the pronounced presence of audio elements and interactive gameplay as distinctive characteristics within these digital gaming applications.

**Keywords:** Arabic Language Proficiency, Vocabulary Learning, Language Games, Digital Applications.

## Introduction

In today's context, gaming applications are no longer unfamiliar in the realm of education, as

they have become a significant resource employed by teachers for teaching Arabic vocabulary. This is especially true in the wake of the COVID-19 pandemic, which led to school closures and a shift towards online learning. This situation indirectly transformed the teaching methods of educators, transitioning from traditional approaches that relied on exercise sheets and in-class question-answer sessions to the use of digital applications as learning media. According to Asyhari et al (2017), the integration of digital technology in education yields numerous benefits and positive impacts on the teaching and learning processes. Evidently, many Arabic vocabulary games have been developed within various applications, such as Kahoot, Quizizz, and Wordwall. Salleh et al (2017) found that incorporating digital technology elements into learning can further facilitate the vocabulary acquisition process for students.

Moreover, Kapp (2012) emphasizes that digital game-based learning can assist students in enhancing their experiences by stimulating a range of skills, including problem-solving, 21st-century skills, and higher-order thinking skills (HOTS). Therefore, to cultivate students who possess skills aligned with the education standards outlined by the Ministry of Education (KPM), educators must provide effective teaching materials in the classroom. When utilizing digital applications for instructional materials, teachers need to conduct research on the content of games within these applications, as it impacts various aspects. For example, the application's functionality, students' comprehension of answering questions, and performance outcomes. Barata et al (2013) state that gamification in education influences both the improvement and decline of student grades. Additionally, Mekler et al (2013) point out that these grades indirectly affect students' performance in learning.

Based on the afore-mentioned statements, it is undeniable that the use of games in education significantly impacts both teachers and students. Nevertheless, prior research reveals a lack of detailed studies on the specific content of Arabic vocabulary games within these educational games. Hence, this study aims to identify and analyze the content found within Arabic vocabulary games, encompassing vocabulary themes, vocabulary learning, question formats, and gamification elements within gaming applications.

### **Literature Review**

This study overall takes the form of qualitative research using the content analysis method. All data pertaining to previous studies come from primary and secondary sources, including books, journals, articles, and theses. The collected data also consists of reference sources in Malay, English, and Arabic, which were analyzed descriptively and thematically. Three themes have been identified, namely the themes or topics of Arabic vocabulary learning through gaming applications, question formats within gaming applications, and gaming elements within gaming applications.

### **Theme or Topic of Arabic Vocabulary Learning Through Gaming Applications**

Based on previous studies, the theme-based teaching method has long been employed in education. Theme-based teaching (PBT) involves the integrated teaching of content and language within the classroom, emphasizing language teaching goals. According to Brinton et al. (2003), content serves as the primary source for developing effective thematic language learning materials. Furthermore, it includes information relevant to students' interests, language proficiency levels, and engagement. This is supported by Sunarwan (2014), who asserts that the application of the PBT method yields better results compared to Audio-Lingual learning. From this statement, it is evident that the introduction of a specific topic or

theme before initiating learning activities is crucial. The selection of topics is equally important and should be based on students' surroundings and experiences. This is because choosing relevant themes assists teachers in planning and organizing teaching activities (Institut Pendidikan Guru Malaysia, 2018).

In line with that, educators have undertaken various initiatives, including incorporating themes into any Arabic language teaching materials or activities. According to Hijriyah (2016), Arabic language teaching materials for students encompass a range of themes, such as introductions, school equipment, occupations, family, body parts, home situations, garden, school, library, cafeteria, time, daily activities, and recreation. All these themes are taught with the purpose of aiding students in memorizing and applying the vocabulary in daily exercises and communication. The focus on these themes aims to guide students towards essential vocabulary terms for learning. This approach is also reflected in Kesuma Mezan, Kesuma Guntur and Saputra (2021), where several Arabic vocabulary themes are utilized in game-based learning activities. These themes include body parts, time, numbers, and school objects. Similarly, Mufida (2016) incorporates themes like fruits (*al-fawakih*) and numbers (*al-a<sup>o</sup>dad*) within games.

Furthermore, the study by Yahaya et al (2013) indicates that themes related to class, animals' names, and fruits were present in prototype applications. Similarly, the Q&V Arabic application offers various themed options for quiz questions, such as those related to school, class, careers, and time. Izzah et al (2021) suggest that focusing on these themes indirectly assists students in practicing memorization and revisiting previously learned vocabulary. Engaging and enjoyable learning materials can expedite Arabic vocabulary acquisition, enhance learning effectiveness, and boost students' motivation for the subject (Ayun and Rahmawati, 2018).

Based on the previous study, many game applications have incorporated topics or themes contained in the Arabic language textbooks. However, there is also an issue where students do not possess a strong command of Arabic vocabulary. This is due to their lack of knowledge about prioritizing vocabulary and understanding important topics in each subject studied (Rahimi et al., 2014). However, this issue needs to be addressed by considering the sources and materials used in teaching, and research should be conducted with a focus on content and important topics in the curriculum. According to the study by Ibrahim & Teh (2015) on game-based learning, they found that Arabic language games have a close connection with the content of the curriculum. Therefore, attention must be given to the content referred to in terms of discussed topics, exercises, assignments, and so forth.

### **Question Formats Within Gaming Applications**

Based on previous studies, educational software based on games emphasizes question formats that allow students to be more actively engaged in learning. However, games that have issues such as a lack of challenge in questions or insufficient assistance in terms of question elements can further hinder students, especially those with lower abilities (Jonker et al., 2009). Therefore, teachers should refer to various sources when creating questions to ensure they can be answered effectively by all students, especially considering that each game application has different elements and question formats. For example, the Quizizz application is known to offer various advantages with diverse question formats. These formats include multiple-choice, check-box, fill-in-the blank, poll, and open-ended questions. From the constructed question formats, teachers can also assess students' understanding levels through the answers displayed by the Quizizz application. Upon completing all the

questions, students can view their performance within the application. Through this approach, students feel motivated to engage in healthy competition in their studies (Mukharomah, 2021).

In addition to Quizizz, there is another gaming application named Kahoot. This application exclusively presents quiz-style questions, in contrast to Quizizz's various question formats. The question creation process in the Kahoot application is simpler than in other applications, and the questions posed by teachers typically revolve around crucial and central learning topics. Before answering questions, students are provided with a unique pin and prompted to enter their names within the application. Teachers can choose to set the game mode individually or group-wise as students partake in the quiz. Subsequently, teachers project the questions onto a screen in the classroom, and students use their individual devices to answer questions based on the provided multiple-choice options. This application also allows flexibility for teachers to set limits on the number of questions and the time allowed for students to answer (Jamar & Aderi, 2020). According to Mohd et al (2017), aside from quizzes, sentence construction questions are suitable for integration within learning. This activity diversifies Arabic language teaching techniques and encourages students to explore the benefits of the Kahoot application.

Next is the Quizlet application. The Quizlet application is a website designed for both teachers and students as an activity for learning, particularly in online learning settings. According to Amiruddin et al (2015), students and educators are free to choose the lessons they want to learn or teach in the classroom using the Quizlet application. Constructing lesson modules or sets within the Quizlet application is also easy and straightforward, involving only two elements: the word and its corresponding explanatory image. Furthermore, the Quizlet application offers several engaging learning options. These include Flashcards, Learn, Speller, Test, Scatter, and Space Race. Each of these options serves a different function. Flashcards and Learn are suitable for practicing memorization and word recall. Speller assesses correct pronunciation and listening skills. The Test feature serves as a review test, with various question formats such as multiple-choice questions, picture-based questions, fill-in-the-blank questions, and more (Amiruddin et al., 2014). Additionally, Scatter is a game that tests memory skills through shuffled words, while Space Race tests memory and proper spelling. According to Ab. Rahman & Ab Ghani (2019), Hot Potatoes is another application suitable for teaching and learning processes. This application facilitates electronic assessment, allowing teachers to create interactive question formats. Examples include JQuiz, which involves multiple-choice or short-answer questions; JMix for jumbled sentence construction; Jcross for crossword puzzles, JMatch for matching or ordering tasks; and Jcloze for gap-fill exercises. The creation of diverse question formats can be compiled and transformed into electronic question papers using The Masher. Subsequently, the questions can be output in HTML format and accessed online (requires uploading) or offline (does not require uploading).

Based on the study by Fakhrudin et al (2021), the games within the Wordwall application also offer various question formats. These include match-up (word pairing), quiz (question-answer), maze chase (finding word meanings), word search (finding vocabulary words), open box (selecting from provided answers), flip tiles, whack a hole, random wheel, and true or false. Among these games, there are some that require the assistance of a teacher, such as flip tiles and random wheels. In the case of the flip-tiles game, the teacher asks the students about the meaning of the displayed vocabulary word. After the students answer, the teacher taps on the word to reveal the correct answer. As for the random wheel, the teacher spins

the wheel within the application, and when it stops at a chosen vocabulary word, the teacher asks the students to answer a question related to that word.

From all the statements above, it is evident that various question formats are incorporated into game applications. However, there are also other issues concerning Arabic vocabulary, such as the design of questions and the allocated time for students to answer them. For instance, the game 'maze chase' is one of the games in the Wordwall application. The question format in this game requires students to quickly find the meaning of vocabulary words while escaping from enemies that act as distractions within the game (Fakhrudin et al., 2021). The opportunity to retry answering incorrectly is also limited, usually to 3-5 attempts, depending on the teacher's discretion. This situation indirectly impacts students' results. Therefore, the construction of exam or exercise questions provided to students should be thoroughly reviewed in terms of allotted time and analyzed as standard questions that are suitable for the students' level and abilities.

### **Game Elements in Gaming Applications**

According to Prensky (2007), the fundamental elements that should be present in the structure of a game are rules, goals, or objectives, closure and feedback. These three elements can be used to distinguish different types of games from other interactive forms, such as simulations, toys, and free or spontaneous play. However, in the context of Game-Based learning (GBL), the elements proposed by Prensky (2007) need to be modified to avoid overlapping with existing learning methods. Thus, a new structure has been built based on the elements outlined by Prensky. According to Hoe (2018), a game's structure should encompass six elements: goals, rules, feedback, interaction, challenges, and narrative. Rules, goals, and feedback are the three main elements of a game, while the overlap of these three main elements results in three additional optional elements: interaction, challenges, and narrative. These three main elements must exist in game applications, while the optional elements are not necessarily required in the game's structure.

Based on previous research, the discussion about these elements has been studied by Jeeva and Prakash (2022) regarding the Kahoot application. The Kahoot application includes a Dashboard element. With this element, students can see how many questions need to be answered and the time allotted to answer these questions. Teachers can also view students' results through Report Generation. This report will show the percentage of correct answers given by students for each question provided. Next is the Quizizz application. This application has four elements: points, level of difficulty, rewards, and avatars. From these two applications, it can be observed that they fulfill the criteria for elements that should exist in game, such as interaction and challenges (Razali et al., 2020).

These two findings slightly differ from other studies on game elements. Jad (2013) conducted a study on computer programs for teaching basic Arabic language skills. The study aimed to identify needs and design a program for teaching Arabic letters using interactive electronic songs and games. The main elements in the program include Arabic letters with corresponding words and images, interactive exercises in various forms such as matching and filling in the blanks, multimedia such as nasheed audio, letter pronunciations, and related lessons. Interactive games and electronic assessments were also incorporated as concluding elements in the program. The interactive program and its components complemented each other, making the digitization of Arabic language learning engaging and structured.

Additionally, there is another study about a game application known as 'prototype'. This application has a positive impact on university students due to its diverse elements and

components. Among the elements in 'prototype' are Islamic expressions displayed in animated form to promote Islamic values among students (Sahrir & Yusri 2012). Furthermore, there are 34 vocabulary games categorized into seven main categories: alphabet, words, synonyms, antonyms, grammar, phrases, sentences, and conclude with vocabulary test games. The difficulty of the games is organized according to the vocabulary acquisition levels, from easy to difficult. The game duration serves as a challenge for students to complete the games (Sahrir & Alias 2011). Moreover, the variety of game options in the application makes students more interested in learning and consequently enhances their confidence in mastering Arabic vocabulary. According to Furdu et al (2017), student involvement in this learning process indirectly improves memory retention and understanding of previously learned material.

Another application is the EZ-Arabic prototype. This prototype is a dedicated website for primary school students and can be used for continuous learning outside the classroom or virtually. The website is equipped with various main components. There are eight components on the EZ-Arabic website, including e-Books, Videos, Web Pages, Audio, Games, Chat, Arabic Keyboard, and Contact Us. Each component has its own specific element, with several subdivisions. For example, e-Books include Reading (*Qiraah*), Conversations (*Kalam*), Dialogues (*Hiwar*), and Nasheeds. Videos are divided into five sections: Letters, Vocabulary, Nasheeds, Muslim kids, and Cartoons. The Web Pages section has seven subsections, each with different elements. Additionally, the Audio component is divided into three sections: the first section is an album of nasheeds called "Ustaz Mior," and the other two sections feature nasheeds from the groups Dhuha and MyStormKids. The language game component included in the EZ-Arabic prototype also features nine types of games, including letter recognition games, vocabulary games, sentence arrangement games, expressions, time-telling, and Who Wants to Be a Millionaire. According to Yahaya et al (2013), users of EZ-Arabic provided highly positive feedback while using the website. However, improvements need to be made to the EZ-Arabic prototype based on user feedback and suggestions.

According to Kalantzis and Cope (2010), the approach of learning through digital technology design is a student-centered method and is seen to have a positive impact on teaching by educators. Digital technology, such as game applications, is increasingly being utilized in education. However, various aspects need to be considered, especially the elements within the games. Moreover, according to the study by Sahrir and Alias (2011), the front-end design of game applications also affects students' attitudes toward learning the Arabic language and their perceptions when using online Arabic language games. In conclusion, game applications need to be visually appealing and enjoyable to prevent students from getting bored while using them (Jasni et al., 2018).

The learning approach using game strategies also needs to be evaluated properly. It should have a design that can help enhance students learning performance. According to Bunchball (2010), game elements should encompass features such as a point system, achievement badges, difficulty levels, challenges, leader boards, and quests. Through these elements, classroom learning becomes more interactive and engaging (Farber, 2015). However, the study by al-Jahwari & Abusham (2019) found that educational game websites were designed without considering aspects such as content, interaction, assessment, and game elements, which had an impact on students. Moreover, the design of educational game websites was seen to be of low quality and did not adhere to scientific standards. Al-Youbi (2017) established scientific standards for developing educational websites for teaching the Arabic language. Among the standards are subject, objectives, content, feedback, control,

navigation, tasks, tools, and management. If the elements in a game website are incomplete, it could lead to neglect of the main learning objective, which is to master Arabic language skills (Al-Srami, 2013). Furthermore, many websites are built without consulting experts and educators. As a result, many websites have weak content and unreliable sources (Elega, 2009).

### Discussion of Research Findings

Based on all the previously discussed studies, most the topic in game applications are developed based on topics from the standard curriculum textbooks for secondary schools (KSSM). Among the topics covered in the games are introductions, school equipment, professions, family, body parts, home situations, garden situations, school situations, library situations, cafeteria situations, telling time, daily activities, and recreational activities. The following is a summary of the themes present in game applications:

Table 1

*Data related to the topics used in the game application.*

Number	Reference	Article title	Topic Used in the Game Applications
1.	Hijriyah, U. (2016)	Analysis of Arabic Vocabulary Learning and Language Structure in Elementary Madrasah.	Introduction, school supplies, occupations, family, body parts, home situations, in the garden, at school, in the library, in the cafeteria, time, daily activities, and recreation.
2.	Kesuma et al. (2021)	Design of Arabic Vocabulary (Mufrodat) Learning Media Based on Android Games.	Body parts, time, numbers, and objects at school.
3.	Mufida, B. (2016)	Implementation of the A* (A-Star) method for enemy NPCs in a 3D game for Arabic vocabulary learning.	Fruits ( <i>al-fawakih</i> ) and numbers ( <i>al-a<sup>c</sup>dad</i> ).
4.	Yahaya, Sahrir & Nasir (2013)	Development of the EZ-Arabic website as an alternative online Arabic language learning platform for Malaysian lower secondary school students.	Class, name of animals and fruits.
5.	Izzah, Mauludiyah & Roziqi (2021)	Application arabic quiz and vocab (Arabic Q & V) as media for <i>muthola<sup>c</sup>ah</i> arabic vocabularies.	School, class, career and time.

Based on the table above, the frequently used topics are related to school, time, hours, and fruits. The selection of these topics revolves around the lives or situations that students encounter. These themes are also taught with the aim of enabling students to memorize and apply the vocabulary in daily exercises and communication.

Nevertheless, there is still an issue of students not mastering Arabic vocabulary. This is because they are not aware of the vocabulary that should be prioritized and the important topics to be understood in the subjects they are learning (Rahimi et al., 2014). In the context of Arabic language education in Malaysia, this happens due to a lack of emphasis on vocabulary mastery. According to Baharudin & Ismail (2014), vocabulary teaching is only implicitly covered through the topics taught, meaning that vocabulary aspects are indirectly addressed in language teaching, such as grammar, rhetoric, and so on.

As a result of the arising issue, improvements need to be made by teachers by emphasizing important topics and vocabulary in each chapter studied. Emphasis can be applied to questions by categorizing vocabulary questions into several categories or specific aspects, namely language aspect, meaning, specialization, and usage (Tu'aimah & Aimad 1986). From the specialization aspect, it is divided into two, namely 'functional' and 'specific' words.

Functional words are general words used in everyday life. For example, as listed in Table 1.1, the topics and vocabulary presented in the game relate to school, time, hours, fruits, and so on. All of these are related to matters that happen around students. On the other hand, 'specific' words are used for specific situations and fields, such as situations indicating past actions (fi'l madhi), ongoing actions (fi'l mudhari'), or directive actions (fi'l amar). Daif (2003) gives examples of these three verbs as كتب -wrote (fi'l madhi), يكتب -is writing (fi'l mudhari'), and اكتب -write (fi'l amar).

Through the mentioned categorization method, it can help students master Arabic vocabulary in a focused manner. Moreover, it facilitates students in distinguishing the function and meaning of these vocabulary words.

Regarding the second theme, which is the various question formats in game applications, it was found that each game application presents different question formats. The table below summarizes the data based on the information obtained from previous studies:

Table 2

*Data related to the types of questions used in the game application.*

<b>Number</b>	<b>Reference</b>	<b>Game applications</b>	<b>The types of questions used in the game application.</b>
1.	Fang (2019)	Quizizz	True or false, objective questions, open-ended questions
2.	Ab. Rahman & Ab. Ghani (2019)	Hot Potatoes	multiple-choice questions, short-answer, jumbled sentence, crossword, matching/ordering and fill in the blank.
3.	Amiruddin et al. (2015)	Quizlet	True or false, multiple-choice questions, Picture-based questions, fill in the blanks.

Through Table 2, there are three studies on game applications with varying question formats. From the examined game applications, it can be observed that true or false questions, multiple-choice questions, and fill-in-the-blank questions are among the common question formats given to students. Despite the implementation of various question formats to engage students, there is still an issue regarding the design of questions and the allocated time for students to answer them. For instance, the game "maze chase" in the Wordwall application requires students to find the meaning of vocabulary within a short period while evading enemies that act as obstacles (Fakhrudin et al., 2021). The opportunity to retry answering

incorrect questions is limited to 3-5 attempts, depending on the teacher who formulates the questions. This situation indirectly impacts students' results.

Therefore, the construction of exam or exercise questions given to students should be thoroughly examined, including considering the time allocation and analyzing questions that are suitable for students' levels and abilities. The time allocation for answering questions was discussed in the study by Mohamad (2020), where teachers set a time limit of 1 hour 30 minutes for students to answer 30 questions in a quiz, with each question having a specific time limit of 3 minutes. The time taken by students to complete the quiz was also recorded through that medium. Hence, it is evident that proper time allocation is crucial and should be tailored to the difficulty level of the questions presented to students.

Next, the third theme is the elements in game applications. Each game has different elements and components. Data from past studies regarding game elements are summarized in the table below:

Table 3

*Data related to the elements in the game application*

<b>Number</b>	<b>Reference</b>	<b>Game applications</b>	<b>Elements in the game application.</b>
1.	Jeeva, A. & M. Prakash (2022)	Kahoot	Dahsboard and Report Generation.
2.	Razali et al. (2020)	Quizizz	Points, level of difficulty, rewards dan avatar.
3.	Jad (2013)	Computer program for teaching Arabic language at the beginner level.	Arabic letters along with corresponding words and suitable images, interactive exercises of various question forms. There is multimedia such as audio nasheeds, letter pronunciations, and related lessons. Interactive games along with electronic assessments are also incorporated as the final elements of the program.
4.	Yahaya, Sahrir & Nasir (2013)	Prototype EZ-Arabic	There are 8 main components in the game application, namely e-Books, Videos, Websites, Audio, Games, Chat, Arabic Keyboard, and Contact Us. Each of them has its own elements with several divisions within them.
5.	Sahrir & Yusri (2012).	Prototype	Islamic expressions displayed in the form of animations. There are 34 vocabulary games categorized into seven main vocabulary learning categories. These categories start with alphabet level, words, synonyms, antonyms, grammar, phrases, sentences, and conclude with vocabulary test games.

Based on Table 3, it can be observed that game applications or web platforms that are developed have various types of elements, and these elements also depend on the level of students being tested. For instance, the study by Jad (2013) implemented a computer program suitable for students who want to grasp the basics of the Arabic language. On the other hand, the EZ-Arabic prototype is designed for primary school students. This application is user-friendly as it allows continuous practice outside the classroom or in a virtual setting. Furthermore, the Prototype application was tested on university students. Through all these studies, it is evident that the elements within game applications need to be designed according to the level of knowledge and educational stage of students, whether it is at the primary, secondary, or university level.

Table 3 shows the application of games or websites that are designed with various types of elements, and these elements depend on the level of students being tested. For instance, Jad's study (2013) implemented a computer program suitable for students aiming to master basic Arabic language skills. Meanwhile, the EZ-Arabic prototype is designed for primary school students. This application is user-friendly, allowing for continuous exercises outside the classroom or in a virtual environment. Furthermore, the Prototype application is tested on university students. Through all these studies, it is evident that the elements in game applications need to be designed according to the level of knowledge and educational level of students, whether they are in elementary, middle, or university.

However, al-Jahrawi & Abusham's study (2019) found that there are educational game website designs built without considering several aspects such as content, interaction, assessment, and game elements, leading to an impact on students. Not only that, but the design of educational game websites is seen to be of low quality and does not adhere to scientific standards.

Therefore, to address this issue, teachers or question developers need to adhere to scientific standards when creating educational websites for teaching Arabic. Among the elements that should exist in game websites are subject, objectives, content, feedback, control, navigation, tasks, tools, and management (Al-Youbi, 2017). If there are deficiencies in these elements in the game website, it can lead to neglecting the main learning objective, which is to apply Arabic language proficiency skills (Al-Srami, 2013).

## **Conclusion**

Based on the issues, improvements need to be made by teachers in emphasizing important topics and vocabulary through the method of categorization into various aspects such as language, meaning, specialization, and usage. This method can help students differentiate the use of vocabulary in the topics they are studying, whether they are functional or specific words. As for the construction of questions or exercises given to students, the researcher found a need for alignment with the time allocated for answering questions. This can impact their results if the question format is not suitable for the given time. Similarly, in the elements of games, website designs should adhere to scientific standards by including subjects, objectives, content, feedback, control, navigation, tasks, tools, and management. When all these elements are present in questions or games, the issues faced by students are likely to decrease. In conclusion, it can be summarized that detailed research should be conducted by teachers on every aspect involving teaching aids or materials. This is to facilitate the objectives and goals of teachers in the teaching and learning process to proceed smoothly and be fully achieved.

## Acknowledgments

This study was conducted with the support of the University Research Grant (GUP-2022-034) and the Teaching and Innovation Fund (PDI-2021-035). A million thanks to Universiti Kebangsaan Malaysia (UKM) for providing the funding to carry out this study.

## References

- Ab. Rahman, A., & Ab Ghani, N. A. (2019). Penggunaan Aplikasi Permainan Mudah Alih Global Zakat Game (GZG) dalam Pengajaran dan Pembelajaran. *Journal of Fatwa Management and Research*, 17 (2), 26-36.
- Al-Jahwari, H. S., & Abusham, E. E. (2019). A theoretical framework for designing educational website based on scientific standards to non-native Arabic speakers. *International Journal of Engineering Business Management*. 11, 1-9.
- Al-Srami A. (2013). Evaluation of educational websites for nonnative Arabic speakers on World Wide Web in the light of linguistic skills. Master Thesis, Imam Muhammad ibn Saud Islamic University, Saudi Arabia.
- Al-Youbi, K. (2017). Effectiveness of websites in teaching Arabic to non-native speakers. *Al-Athar Academic J2017*; (29), 57–68.
- Amiruddin, A. Z., Abdul Ghani, K., Hassan, A. T., Abdul Rahman, A., Abdul Rahman, N., Abdul, H. A., & Berhanuddin, Q. F. (2015). Aplikasi E-Pembelajaran Untuk Proses Pembelajaran dan Pengajaran Bahasa: Fungsi dan Kelebihan. *Seminar Antarabangsa Pendidikan dan Keusahawanan Sosial Islam (ICIESE 2015) Resort World, Langkawi, 12-14 Oktober 2015*.
- Amiruddin, A. Z., Hassan, A. T., Abdul Rahman, A., Abdul Rahman, N., & Abu, B, M. S. (2014). Penggunaan Aplikasi atas Talian dalam Proses Pengajaran dan Pembelajaran Bahasa Ketiga: Pengenalan Kepada Quizlet.Com. *Prosiding Seminar Antarabangsa Kelestarian Ihsan 2014 (INSAN2014) Batu Pahat, Johor, 9 – 10 April 2014*, hlm. 1-16.
- ArXiv, abs/1708.0933
- Asyhari, A., Sagala, R., & Kendedes, I. (2017). Respon pondok pesantren diniyyah putri terhadap modernisasi pendidikan islam. *TADRIS: Jurnal Pendidikan Islam*, 12(2), 232–242.
- Ayun, N., & Rahmawati, I. (2018). Pengembangan Media Interaktif Si Pontar Berbasis Aplikasi Android Materi Kpk Dan Fpb Mata Pelajaran Matematika Kelas Iv Sekolah Dasar. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 6(2), 254773.
- Baharudin, H., & Ismail, Z. (2014). Vocabulary learning strategies and arabic vocabulary size among pre-university students in malaysia. *International Education Studies*, 7(13), 219-226.
- Barata, G., Gama, S., Jorge, J., & Gonçalves, D. (2013). Improving participation and learning with gamification. *Proceedings of the First International Conference on Gameful Design, Research, and Applications - Gamification '13*, hlm. 10–17.
- Brinton, D. M., Snow, M. A., & Wesche, M. (2003). *Content-Based Second Language Instruction*. Ann Arbor Mich: University of Michigan Press.
- Bunchball, I. (2010). Gamification 101: An introduction to the use of game dynamics to influence behavior. *White paper*.
- Daif, S. (2003). *Al-Mu'jamu al-Wasith*. Kairo: Maktabah al-Syuruq al-Dauliyyah.
- Elega. (2009). *Teaching Arabic language by internet for nonnative Arabic speakers (basis & standards)*. *Sci Magaz Arabic Langu Institu Int Univ Africa* 2009; (8), 181–184.

- Fakhrudin, A. A., Firdaus, M., & Mauludiyah, L. (2021). Wordwall Application as a Media to Improve Arabic Vocabulary Mastery of Junior High School Students. *Arabiyatuna: Jurnal Bahasa Arab* 5 (2), 217-234.
- Fang, Z. (2019). Using quizizz to integrate fun multiplayer activity in the accounting classroom. *International Journal of Higher Education*, 8(1), 37-43.
- Farber, M. (2015). *Gamify your Classroom: a field guide to game-based learning*. Peter Lang, hlm. 1-255.
- Furdu, I., Tomozei, C., & Kose, U. (2017). Pros and cons gamification and gaming in classroom.
- Hijriyah, U. (2018). *Analisis pembelajaran mufrodat dan struktur bahasa Arab di Madrasah Ibtidaiyah*. CV. GEMILANG.
- Hoe, T. W. (2018). *Gamifikasi dalam pendidikan: pembelajaran berasaskan permainan (3rd ed.)*. Perak: Penerbit Universiti Pendidikan Sultan Idris.  
<https://doi.org/10.2304/elea.2010.7.3.198>  
<https://doi.org/10.37134/pendeta.vol>
- Ibrahim, F., & Mat Teh, K. S. (2015). Kaedah permainan bahasa dalam pengajaran dan pembelajaran bahasa Arab sekolah rendah. *Prosiding Persidangan Kebangsaan Bahasa Arab (NCAL2015)*, hlm. 306-318.
- Institut Pendidikan Guru Malaysia. (2018). *Modul Pendidikan Awal Kanak-Kanak*. Institut Pendidikan Guru Malaysia, Kementerian Pendidikan Malaysia.
- Izzah, N., Mauludiyah, L., & Roziqi, M. A. (2021). Application arabic quiz and vocab (Arabic Q & V) as media for mutholaah arabic vocabularies. *Al-Ta'rib: Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab*, 9(2), 173-186.
- Jad, F. A. M. (2013). *Tasmim barnamij mahusub li-ta'lim maharat al-lughah al-'arabiyah li-al-mubtadiin min al-natiqin bi-ghayriha*.
- Jamar, A., & Che Noh, M. A. (2020). Gamifikasi Aplikasi Kahoot dalam Pembelajaran dan Pemudahcaraan (PDPC) Pendidikan Islam. *Seminar Antarabangsa Isu-Isu Pendidikan. Kolej Universiti Islam Antarabangsa Selangor (KUIS)*, hlm. 269-280.
- Jasni, S. R., Zailani, S., & Zainal, H. (2018). Pendekatan gamifikasi dalam pembelajaran bahasa Arab. *Jfatwa: Journal of Fatwa Management and Research*, 358-367.
- Jeeva, A., & Prakash, M. (2022). Working mechanism of kahoot : a game based online learning application for students and teachers. *Emperor International Journal of Library and Information Technology Research*, 2(1), 1-8.
- Jonker, L., Elferink-Gemser, M. T., & Visscher, C. (2009). Talented athletes and academic achievements: a comparison over 14 years. *High Ability Studies*, 20 (1), 55-64.
- Kalantzis, M., & Cope, B. (2010). Learning by Design. *E-Learning and Digital Media*, 7(3), 198-199.
- Kapp, K. M. (2012). *The gamification of learning and instruction: game-based methods and strategies for training and education*. San Francisco: John Wiley & Sons.
- Kementerian Pelajaran Malaysia. (2002a). *Sukatan pelajaran Bahasa Arab Komunikasi*. Kuala Lumpur: Jabatan Pendidikan Islam dan Moral.
- Kementerian Pelajaran Malaysia. (2002b). *Sukatan pelajaran Bahasa Arab Tinggi KBSM*. Kuala Lumpur: Jabatan Pendidikan Islam dan Moral.
- Kesuma, M. E., Kesuma, G. C., & Saputra, D. (2021). Rancangan media pembelajaran kosa kata (mufrodat) bahasa Arab berbasis game android. *Jurnal SIENNA*, 2(1), 32-42.
- Salleh, M. N., Ghazali, K., & Mohd, N, M. (2017). Penceritaan digital dalam pemerolehan leksikal Bahasa Jepun. *GEMA Online Journal of Language Studies*, 17(1), 55-75.

- Mekler, E. D., Brühlmann, F., Opwis, K., & Tuch, A. N. (2013). Disassembling gamification: the effects of points and meaning on user motivation and performance. *CHI EA '13: CHI '13 Extended Abstracts on Human Factors in Computing Systems*, 1137-1142.
- Mohamad, A. M. (2020). Quizizz sebagai E-Penilaian Norma Baharu terhadap Penutur Antarabangsa dalam kursus Bahasa Melayu. *PENDETA Journal of Malay Language, Education and Literature*, 11, 80-92.
- Mohd, S. M. L. I. H., Nokman, A. Z., Yusoff, M. S. A., Mahpol, S., & Ahamad, M. (2017). Penggunaan aplikasi Kahoot! dalam pembelajaran bahasa Arab: satu tinjauan. *Seminar Kebangsaan Bahasa dan Kesusasteraan Arab 2017*, hlm. 741-751
- Mufida, B. (2016). Implementas Metode A\* (A-STAR) Untuk NPC Musuh pada Game 3D Pembelajaran Kosa Kata Bahasa Arab. Tesis Sarjana Komputer. Fakultas Sains dan Teknologi: Universitas Islam Negeri Maulana Malik Ibrahim Malang.
- Mukharomah, N. (2021). Penggunaan aplikasi Quizizz sebagai media penilaian berbasis daring di mi al Muqqorrobiah. *Jurnal of Islamic Education*, 2(1), 12-20.
- Prensky, M. (2007). *Digital game-based learning*. New York: Paragon House.
- Rahimi, N. M., Hussin, Z., & Normeza, W. (2014). Pembelajaran Kosa kata bahasa Arab secara aturan Kluster semantik dan aturan kluster bebas. *Jurnal Teknologi*, 67 (1), 33-38.
- Razali, N., Nasir, N. A., Ismail, M. E., Sari, N. M., & Salleh, K. M. (2020). Gamification elements in quizizz applications: evaluating the impact on intrinsic and extrinsic student's motivation. *International Conference on Technology, Engineering and Sciences (ICTES) 2020*, hlm. 1-10.
- Sahrir, M. S., & Alias, N. A. (2011). A study on Malaysian language learners perception towards learning Arabic via online games. *GEMA Online Journal of Language Studies*, 11 (3), 129-145.
- Sahrir, M. S., & Yusri, G. (2012). Online vocabulary games for teaching and learning Arabic. *Gema Online Journal of Language Studies*, 12 (3), 961-977.
- Sunarwan, A. (2014). The Effectiveness of Content-Based Instruction to Teach Speaking Viewed from Students' Creativity. *PREMISE: Journal of English Education and Applied Linguistics* 3 (1), 83-92.
- Tu'aimah & Ahmad, R. (1986). *Al-Marja' fi Ta'lim al-Lughah al- 'Arabiyyah li al-Nathiqin bi Lughat Ukhra*, Mekkah: Umm al-Qura University.
- Yahaya, M. F., Sahrir, M. S., & Nasir, M. S. (2013). Pembangunan laman web EZ-Arabic sebagai alternatif pembelajaran maya bahasa Arab bagi pelajar sekolah menengah rendah malaysia. *Jurnal Teknologi (Social sciences)*, 61 (1), 11-18.