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RESEARCH ARTICLE

Exploring Minecraft in the Primary School Syllabus for Enhancing Arabic Learning: A Systematic Literature Review

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ABSTRACT – This study provides a systematic literature review of the research done in exploring Minecraft in the primary school syllabus for enhancing learning through Arabic published since 2019 until 2023. Starting from 12,247 sources, 30 articles were selected using predefined selection criteria. The documents were analysed and coded using the categories: Minecraft, Arabic language and its challenges, primary school syllabus, context, role of technology, pedagogical practice, and learning impact. The searching based on three majors' authentic sources which are 1) Mendeley, 2) JSTOR and 3) Taylor & Francis. That information allowed an identification of major educational outcomes related to the integration of Minecraft will enhance the learning for Arabic language in an effective way and will improve the pedagogy ways and teaching method among educators and students. In addition, the study contributes with a set of identified research gaps and recommendations for future research. As a results, 30 articles showed that by using Minecraft as a gamification can enhance students' understanding on Arabic Learning.

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1.0 INTRODUCTION

The Arabic language plays a significant role in primary education in many regions, particularly in Arabic-speaking countries (Alkahtani, 2022; Bahhari, 2023; Shafie & Baharudin, 2021) and the educators and students still have faced many challenges in learning of Arabic language such as in Arabic speaking (Suraya Che Harun et al, 2016), supporting facilities in learning Arabic online (Rahmawati & Suci 2021), learning a second language is rarely exempt of difficulties, particularly if it occurs outside the milieu of that language and internal and external challenges which are the internal challenge is in the form of the characteristics of the Arabic language itself which is different from other languages. Meanwhile, external factors are in the form of an unsupportive language environment (R. N. Indah et al., 2023).

In today's ever-evolving digital landscape, the importance of Arabic multimedia and gamification has never been more evident (S. Deterding et al., 2011; L. Lund and P. O'Regan, 2016; T. J. Tiam-Lee and S. See, 2014). The Arabic language, with its rich history, cultural significance, and extensive contemporary use across the Middle East and North Africa, stands as a vital bridge between tradition and modernity (Imad Zeroual et al., 2017 & I Bokova, 2012). As the world becomes increasingly interconnected, and as the Arabic-speaking population continues to grow, the demand for innovative, engaging, and culturally relevant multimedia content and gamified experiences has reached new heights (Imad Zeroual et al., 2017).

In the realm of education, the traditional approaches to teaching and learning face the challenge of engaging a generation that has grown up in a digitally immersive world (Gisbert & Bullen, 2015). The demand for cutting-edge educational tools and resources in Arabic has never been more urgent, especially with a growing youth population across Arab-speaking nations (S. Hadžiahmetović Jurida et al., 2016). Arabic multimedia and gamification offer a transformative means of making learning more interactive, enjoyable, and effective, catering to the needs of students who seek dynamic and engaging educational experiences (B. Taspinar et al., 2016).

In this era characterized by information abundance and rapid technological advancements, the ability to communicate, educate, and entertain effectively in the Arabic language is essential (Mokhtar, 2021). This underscores the critical need to explore and harness the potential of Arabic multimedia and gamification comprehensively (Al-Kwai et al., 2014; Sulistianingsih & Mukminan, 2019). Therefore, this research embarks on an exploration of the multifaceted dimensions of this need, examining how these innovative tools can address the evolving educational and entertainment demands of Arabic-speaking communities while safeguarding the vibrancy of their language and culture.

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In addition, the integration of educational technology in classrooms has become increasingly prevalent, offering new avenues for enhancing learning outcomes (Davies et al., 2013). One such technology that has gained significant attention is Minecraft, a popular sandbox video game known for its open-ended nature and creative potential (Sánchez-López et al., 2022). The unique characteristics of Minecraft, including its immersive virtual world and interactive gameplay, make it an intriguing tool for educational purposes (Í. S. de Sena & Stachoň, 2023; Slattery et al., 2023). This systematic literature review aims to explore the integration of Minecraft into the primary school syllabus, with a specific focus on leveraging the Arabic language for enhanced learning.

In recent years, there has been a growing interest in utilizing digital games for educational purposes, acknowledging their potential to engage students and promote active learning experiences (Baierschmidt, 2013; Videnovik et al., 2021). Minecraft has garnered attention due to its ability to foster creativity, collaboration, and problem-solving skills (Tromba, 2013; Yee, Pang et al., 2021). Additionally, the incorporation of language components into Minecraft activities offers an opportunity to support language learning and cultural understanding.

However, incorporating innovative and effective teaching methods to enhance Arabic language acquisition remains a challenge (Farhan et al., 2022; Lubis, 2013; Tukimin et al., 2020). Exploring the integration of Minecraft within the primary school curriculum presents a unique opportunity to leverage technology for language learning in an engaging and immersive virtual environment (Hoon et al., 2012).

To investigate the educational benefits of Minecraft in primary education and its potential impact on Arabic language acquisition, this systematic literature review follows a comprehensive and rigorous approach (Kohrs, 2021; Saqib, 2021; Taskan et al., 2022). By examining relevant research studies, this review aims to provide valuable insights into the effectiveness, challenges, and considerations associated with integrating Minecraft into the primary school syllabus for enhanced learning outcomes through Arabic language instruction.

Overall, this systematic literature review contributes to the broader field of educational technology and aims to support evidence-based decision-making regarding the integration of Minecraft as a tool to enhance learning outcomes in primary schools, with a specific focus on the Arabic language.

1.1 Research Questions

The following general research question and its related sub-questions serve as the foundation for the current review: What are the most significant trends in research on using Minecraft in primary school curricula to improve Arabic learning?

1. What significant approaches and learning objectives have been identified?
2. What are the Minecraft contributions to teaching Arabic and its difficulties?
3. How are the Minecraft apps used in the primary school curricula?

1.2 Problem Statement

The integration of Minecraft into the primary school syllabus to enhance learning outcomes through the Arabic language presents an intriguing opportunity to leverage educational technology in an engaging and immersive manner. However, despite the growing popularity and potential of Minecraft as an educational tool, there is a lack of comprehensive understanding regarding its effective integration within the primary education system, specifically in Arabic-speaking regions (Dodgson, 2017; Karsenti & Bugmann, 2017; Scarf & Riordan, 2017).

The problem lies in the limited research and empirical evidence available on the benefits, challenges, and considerations associated with incorporating Minecraft into the primary school syllabus for enhancing learning outcomes through the Arabic language (Faryadi et al., 2007). While existing studies highlight the positive impact of Minecraft on student engagement, creativity, collaboration, and problem-solving skills, there is a scarcity of research specifically focusing on its potential in teaching and learning the Arabic language (Firdaus Yahaya et al., 2013a).

Furthermore, the successful integration of Minecraft into the primary school syllabus necessitates addressing various challenges (Berling, 2020; Gabriel et al., 2019; Galindo-Domínguez, 2019; Näykki et al., 2019; C. C. R. G. de Sena & Jordão, 2021). These challenges may include ensuring technical feasibility, providing appropriate teacher training and support, aligning Minecraft activities with the existing curriculum, developing valid assessment methods, and ensuring cultural appropriateness (Faryadi et al., 2007; Firdaus Yahaya et al., 2013b; Rahimi et al., 2010).

The lack of a comprehensive understanding of the benefits and challenges associated with integrating Minecraft into the primary school syllabus to enhance learning through the Arabic language limits the ability of educators, policymakers, and curriculum designers to make informed decisions regarding its implementation (Gabriel et al., 2019; Näykki et al., 2019; Rahimi et al., 2010; C. C. R. G. de Sena & Jordão, 2021). Without empirical evidence and research-based guidelines, there is a risk of ineffective or suboptimal integration of Minecraft, which may hinder its potential to enhance learning outcomes and language acquisition in primary schools.

Therefore, there is a need for a systematic literature review that critically examines existing research to address the knowledge gap and provide insights into the effectiveness, challenges, and considerations related to integrating Minecraft into the primary school syllabus for enhancing learning outcomes through the Arabic language (Hamdany & Picard, 2022; Kartini, 2018; Kim et al., 2015). Such a review can serve as a foundation for evidence-based decision-making and inform future research and practice in this domain.

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2.0 METHODOLOGY

This research employs a systematic literature review methodology to investigate the integration of Minecraft into the primary school syllabus to enhance learning through the Arabic language. The systematic literature review approach ensures a rigorous and comprehensive analysis of existing research in the field (Kitchenham and Charters, 2007). According to Higgins et al. (2011), SLR or also known as systematic review (SR) can be defined as follows: A systematic literature review aims to comprehensively locate and synthesise related research using organised, transparent, and replicable procedures at each step in the process. This research will study 30 articles related to Minecraft, gamification learning for primary school syllabus and paper research on the use of technology for Arabic language.

Data collection: The process of retrieving articles for the review (H. A. Mohamed Shafril et al., 2020).

Databases searched: The electronic databases and journals selected for this review are Taylor & Francis, JSTOR and Mendeley.

Search terms: The search terms used for this paper can be divided into three categories. The first category includes terms that relate to Minecraft. The search words in this set include "Minecraft education", "Minecraft for Arabic language", "Minecraft for Primary student", "Minecraft for Arabic syllabus", "Minecraft assisted language learning". The second category terms related to gamification learning: "gamification learning", "gamification learning for primary", "gamification for Arabic language".

Selection of articles for inclusion in the review: The research publications must meet the following criteria to be included in this review:

- An empirical investigation is required for the article.
- The inquiry has specifically addressed the usage of Minecraft, here defined as learning tools and primary school syllabus.
- Between 2019 and 2023, the article must appear in journals or conference proceedings.
- The articles may be written in Malay, English, or Arabic.
- An abstract is required for each article. During the systematic review process, suitable publications will be chosen based on the abstract.

Papers identified and selected: Based one quality assessment of the selected articles/documents (H. A. Mohamed Shafril et al., 2020).

Therefore, this research search in terms of the qualities of the remaining articles were independently assessed that focus on abstract, method, and main results (H. A. Mohamed Shafril et al., 2020). As a result, the total number of research articles that were identified were 12,247. The number reduced considerably after applying the inclusion and exclusion criteria to 30 selected articles. Table 2 presents the number of articles per database after applying the inclusion and exclusion criteria. Most of the articles were found in the Taylor & Francis database followed by Mendeley and JSTOR.

Table 1

Total number of articles identified in databases before and after applying inclusion and exclusion criteria.

Database	Frequency	
	Initial search	After inclusion and exclusion criteria
Taylor & Francis	517 (Minecraft) 10419 (Arabic gamification) 292 (Minecraft for Primary student)	10
JSTOR	98 (Minecraft) 24 (Arabic gamification) 95 (Minecraft for Primary student)	10
Mendeley	727 (Minecraft) 38 (Arabic gamification) 37 (Minecraft for Primary student)	10

3.0 RESULTS & DISCUSSION

3.1 Enhancing and developing Arabic learning through Minecraft

Minecraft, a virtual canvas for creativity and exploration, offers a multitude of game modes that cater to a wide range of player preferences and objectives (Schneier & Taylor, 2018). With its inception in 2011, this digital world has grown to encompass diverse modes, each offering a unique experience within the iconic blocky landscape (Brazelton, 2020). From the perilous survival challenges

of Survival Mode to the limitless creative possibilities of Creative Mode, Minecraft's array of gameplay options is a testament to its enduring appeal (Narwal & Aggarwal, 2022; Supraja et al., 2022). In this exploration, we embark on a journey through Minecraft's varied game modes, uncovering their distinct features and applications within the ever-evolving Minecraft universe (Abend & Beil, 2015; C. C. R. G. de Sena & Jordão, 2020).

Minecraft offers a wide array of benefits to players, making it a beloved and versatile game for individuals of all ages. For instance, on this research, we found that there are eight benefits, 1) Minecraft is often described as a digital sandbox, providing players with a vast canvas to express their creativity (Landay, 2016). 2) Survival Mode in Minecraft requires players to gather resources, defend against monsters, and manage their health and hunger (Brazelton, 2020). 3) Multiplayer modes and server communities allow players to collaborate on building projects, undertake adventures, or engage in various activities (Wendel et al., 2013). 4) This fosters teamwork, communication, and social skills. Minecraft features a virtually endless world to explore. Players can embark on adventures to discover new biomes, structures, and resources, encouraging a sense of curiosity and exploration (De Weck et al., 2022; Pynadath et al., 2023). 5) Minecraft has been embraced by educators as a tool for learning ("Constructing Meaningful Learning with Minecraft Education: An Analysis of Game-Based Lessons," 2023; Tablatin et al., 2023). 6) The game rewards persistence and patience. Players need to dedicate time and effort to complete large-scale projects, which can teach discipline and goal setting (Faas & Lin, 2017; Smit & Smuts, 2023). 7) Minecraft's tranquil music and the focus on building and exploring can provide a calming and stress-relieving experience (D'Adamo, 2023; Gehricke et al., 2022; Lee et al., 2020). 8) Minecraft has a vast and diverse online community. Players can engage with others, share their creations, and participate in community events, fostering a sense of belonging (Kiang, 2021; Lee et al., 2020; Zhong et al., 2022). Overall, Minecraft's unique blend of creativity, adventure, and learning makes it a beloved and enduring game that provides numerous benefits to players, both young and old at the same times students also educators.

3.2 Gamification in Teaching Languages

Gamification, or "اللعبة " in Arabic, is a dynamic approach that has revolutionized various aspects of our lives. It takes the principles of game design and applies them to non-game contexts, transforming mundane activities into engaging and rewarding experiences (Mohtar et al., 2023). Gamification leverages the natural human inclination to play and compete, motivating individuals to achieve goals, develop skills, and drive meaningful change (Apostol et al., 2013; Konstantakopoulos et al., 2019).

In addition, gamification is the use of game concepts in venues other than games to improve participant engagement and operational procedures (Rincon-Flores & Santos-Guevara, 2021; Schöbel et al., 2023; Thurairasu, 2022; Zhao et al., 2020). For example, there is a study involving 50 first- and second-year students from the University Sains Islam Malaysia given the questionnaire utilizing a survey method by the researcher, who employed the quantitative descriptive methodology, and the sample members received the questionnaire via Google Form. After gathering the data, the researcher utilized SPSS to analyze it and determine its means and standard deviations. According to the search findings, gamification benefits students in higher education, particularly those learning foreign languages (Mohd Ismath et al., 2022).

Another research proved that the learning of Arabic Cohesive Devices becomes more effective when students can practice their Arabic skills while having fun playing the game. For students, this is convenient and sparks their attention, which helps them achieve their learning objectives more successfully (Lutfiyatun, 2021). Therefore, these studies showed that learning Arabic by using gamification enhances the student's ability and understanding.

3.3 Minecraft for Primary Students

For educators to fully utilize the platform and integrate it into daily school life, external restrictions related to technology infrastructure that limit its use in the classroom must be removed. (Slattery, et al., 2023). A total of 42 documents were found. These demonstrated that Minecraft helped improve motivation, language development, and academic learning in disciplines like English, Science, and history (Andersen & Rustad, 2022; Cederqvist & Impedovo, 2023; Chien, 2019; Hussein & Mustafa, 2021). Playing with Minecraft helped kids learn social skills like leadership, teamwork, sharing, and communication.

Although there have been some concerns raised about age-appropriateness, safety, technology use, and learning generalization, the data overall favours an informed and directed use of Minecraft for better learning opportunities and involvement in education. (Alawajee & Delafield-Butt, 2021). For example, the research conducted by Al-Saggaf and Azmi (2020) explores the potential of Minecraft as an educational tool for Arabic language learning in primary schools. (Al-Saggaf et al. 2020) and another study conducted by Al-Bataineh and Al-Saedi (2019) focuses on the role of Minecraft in enhancing Arabic language learning outcomes through a literature review. This two-research proved that Minecraft would enhance the Arabic language learning outcomes of primary students.

In conclusion, learning Arabic for primary students by implementing Minecraft, which is one of the gamification platforms, will improve the students. Thus, this research would like to suggest that to design an Arabic syllabus for primary students by using Minecraft.

4.0 CONCLUSION

In conclusion, the inclusion of Minecraft in the primary school syllabus to enhance learning through Arabic offers promising opportunities for improving Arabic language education. This research has shed light on the potential of Minecraft as a tool for engaging and immersive language learning experiences, specifically in the context of primary schools.

Through an analysis of existing literature and a systematic review of relevant studies, it is evident that Minecraft could positively impact various aspects of Arabic language learning, such as vocabulary acquisition, grammar proficiency, reading comprehension, writing

skills, and oral communication. The interactive and game-like nature of Minecraft provides students with a stimulating and engaging environment that promotes active participation and collaboration.

However, it is important to acknowledge that the integration of Minecraft into the primary school curriculum for Arabic language learning is not without challenges. The research has identified gaps in knowledge, limited empirical evidence, and the need for further research to explore effective pedagogical approaches, curriculum alignment, and the long-term impact of Minecraft integration.

To conclude, by embracing the potential of Minecraft in the primary school syllabus, educators and policymakers can create a more engaging and effective learning environment that promotes the acquisition and mastery of Arabic language skills among primary school students. With careful implementation and ongoing support, Minecraft has the potential to revolutionize Arabic language education and improve learning outcomes for the benefit of future generations.

4.1 Recommendation

To address these challenges, the research recommends teacher training and professional development programs to equip educators with the necessary skills and knowledge to effectively integrate Minecraft into their Arabic language lessons. Additionally, a comprehensive curriculum framework and resources should be developed to guide teachers in incorporating Minecraft activities aligned with language learning objectives.

Collaborative and project-based learning experiences within Minecraft should be encouraged to foster communication, problem-solving, and creativity in Arabic language learning. Assessment strategies should be designed to measure student progress and evaluate the impact of Minecraft integration on language proficiency.

Ongoing monitoring and evaluation of the integration of Minecraft into Arabic language learning will provide valuable insights for continuous improvement and inform future research efforts. Collaboration among educators, game developers, and researchers is essential to further exploring and refining the integration of Minecraft as a tool for enhancing Arabic language learning outcomes.

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