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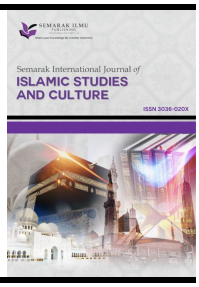

Game-Based Learning on Halal Education for Generation Alpha

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ABSTRACT

Game-based learning has emerged as an innovative and effective approach to education, especially for Generation Alpha, the cohort born after 2010. In the context of Halal education, which focuses on promoting adherence to Islamic principles and practices, integrating game-based learning methods can enhance engagement and knowledge retention. However, educators nowadays might struggle in choosing the best method that can help students face new terms, ideas, and concepts that pop up as if they were the only definitive solution to all the problems in education. Thus, this paper is to highlight an instructional design element in developing game-based learning on Halal education. This article relies on content analysis of scholarly papers from sources such as Scopus and Google Scholar. The explanation involves the key elements in an Instructional Design about the strategy in promoting Halal education among generation Alpha. From the result, it shows that game-based learning is one of the best ways in promoting Halal Education among generation alphas.

1. Introduction

The global educational games industry has experienced remarkable growth, valued at USD 11.24 billion in 2021 and projected to reach USD 93.53 billion by 2030, with a compound annual growth rate (CAGR) of 38.67% between 2022 and 2030 (Verified Market Research, 2025) (see Fig. 1). This surge reflects the increasing adoption of game-based learning (GBL), which has evolved into a prominent research domain attracting significant attention from both scholars and practitioners Recognised as an innovative approach to education and training, GBL is now widely utilised across diverse contexts. However, despite its growing popularity, scholars have noted a gap in empirical evidence supporting its long-term effectiveness.

With the introduction of computer labs in schools across the globe, students have increasingly interacted with educational games that blend sensory stimuli with engaging, interactive experiences. This integration is not merely supplementary but has become central to modern educational

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strategies. GBL actively immerses learners, enhances motivation, and cultivates practical skills through authentic, task-based scenarios [6,10]. Moreover, it encourages creative pedagogical methods, leverages technology to craft immersive learning environments, and provides valuable insights for assessing and improving educational programmes. By incorporating game mechanics into non-game contexts, GBL has transformed traditional learning, fostering a more dynamic and participatory educational experience.

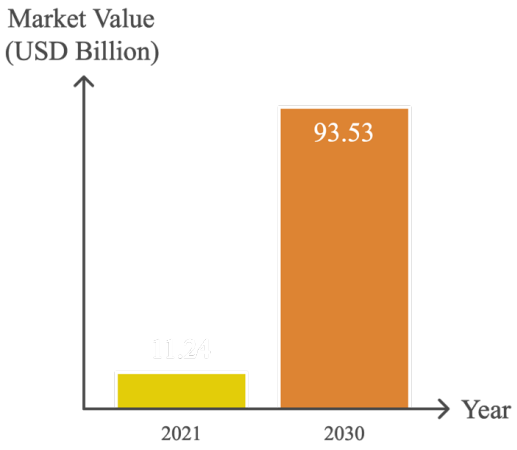

Fig. 1. Projected growth of the global educational games industry

Generation Alpha is characterised by their high level of technological proficiency, having been exposed to smartphones and games from an early age . One effective method of capturing the interest of Muslim consumers is by including halal teaching into their games, by incorporating a halal gaming component into a Muslim brand. Research shows games such as Industrial Halal hunted game [4], animated video [9] and gamification contents [7,8] are among the approach to help generation alpha learners. Interactivity holds significance in domains beyond gaming, and employing polls or promos is a means to prevent users from simply scrolling past. It is crucial to inspire and empower Muslim to lead the development of Halal media and entertainment, as they have unrestricted access to diverse content irrespective of their age, gender, or religious convictions (halal or haram). Game development and programming are permissible in Islam, provided that they do not involve depictions of animate beings. The utilisation of gamification, which incorporates the application of game thinking and game features, has been empirically demonstrated to facilitate the acquisition of novel knowledge.

Game developers may encounter difficulties while incorporating halal education. One of the difficulties is that classical propositional logic is seen as a dry subject [1]. Another difficulty is that Islamic law forbids showing intricate depictions of living things, which can have an impact on game character design. Furthermore, creating educational games that are interesting to play and useful for learning can be difficult. But by developing Islamic games for children that impart moral principles, Islamic dietary requirements, and Islamic teachings, these difficulties can be addressed. Another strategy is to include a halal gaming component into a Muslim brand in order to draw in Generation Alpha, the group with the highest level of technology sophistication. Making games that are suitable for Muslim kids and devoid of offensive content like violence, illegal activity, and nudity is also crucial.

By following specific guidelines, game makers can ensure that the products are both engaging and educational for young players. One effective approach is to offer children opportunities to solve problems, make decisions, and utilise connections to explore novel knowledge, so fostering the development of their critical thinking skills and enhancing their level of involvement with the curriculum [5]. Another option is to create educational games that incorporate the appealing elements of gripping computer games, such as visually engaging graphics, feedback based on performance in previous levels, and several levels of difficulty [3]. Hyper-casual games, characterised by short and diverse gameplay sessions, are well-suited for educational games targeting younger players. In order to enhance the enjoyment of learning and captivate children's focus, game developers may allocate funds towards the creation of visually captivating animations, sound effects, and artwork. Game creators assert that the content of educational games must be precise and grounded in verified facts. In addition, these applications can incorporate features that allow parents to establish goals, customise information, monitor their child's progress, and receive reports or recommendations. To enhance the quality of the games, game creators must stay updated on the latest educational research and carefully consider user feedback.

This article aims to shed light on a particular aspect of instructional design that is involved in creating game-based learning for Halal education. The explanation covers the essential components of an instructional design and the tactic used to encourage Halal education among Alpha Generation students.

2. Methodology

To unravel the instructional design elements crucial for developing game-based learning on Halal education for Generation Alpha, this study employs a rigorous content analysis approach [2]. This study employs a quantitative content analysis method to identify instructional design elements crucial for developing game-based learning in Halal education for Generation Alpha. Data is sourced from 50 scholarly articles retrieved from reputable databases such as Scopus and Google Scholar (refer to Figure 2).

The selected articles are analyzed based on predefined categories, including interactive gameplay, adaptive learning paths, storytelling, assessment methods, industry simulations, and collaborative learning features. Each article is scored against these categories on a scale of 1 to 5, reflecting the presence and emphasis of each instructional element. The aggregated data is then visualized using a bar graph to highlight the frequency and significance of the instructional elements across the reviewed literature (refer to Figure 3).

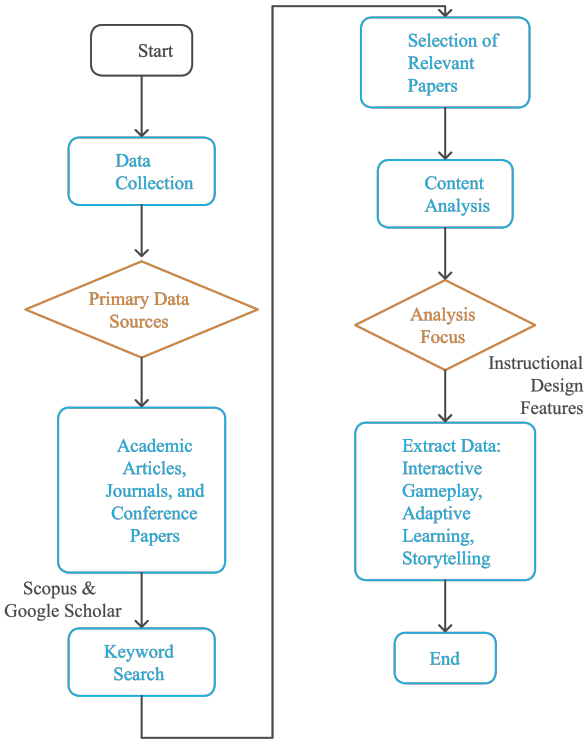

Fig. 2. Process flow for methodology

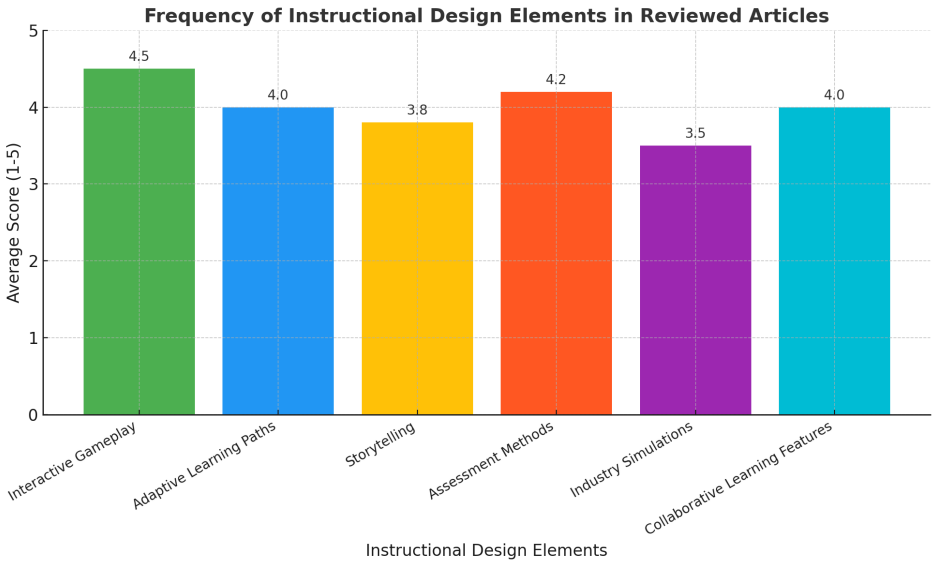

Fig. 3. Frequency of instructional design elements in reviewed articles

3. Result

3.1 The Value of GBL in Language Learning and Integration

GBL has garnered considerable attention in the realm of language education, particularly for its capacity to enhance learner engagement and improve academic outcomes. Scholars have shown that incorporating games into language classrooms fosters more active learning and improved performance [12]. The role of GBL becomes even more significant for **migrant learners**, for whom language acquisition is essential for successful integration into new sociocultural environments [13]. By simulating real-life communicative scenarios and offering contextualised practice, GBL provides a

supportive platform for language development, particularly for learners navigating complex linguistic landscapes.

Key Findings : Instructional Design Principles in GBL

Based on a comprehensive review of the literature, three major principles emerged regarding effective instructional design in GBL environments:

3.2 Instructional Design Should Proceed at an Efficient Pace

Recent research highlights the growing interest in integrating game elements into educational settings, particularly in Islamic and Halal education contexts. For instance, Ali [1] demonstrated how game-design elements can effectively be used to teach logic and fallacies in a school environment, offering a creative, student-friendly approach to traditional subjects. Similarly, Ramlan and Fabil [3] proposed an Islamic Game Development Framework that emphasizes sustainability, underscoring the need for values-based game design. In a related effort, Mat *et al*., [7, 2023) developed and explored mobile gamification strategies to increase Halal awareness among Japanese communities, bridging cultural gaps through engaging content.

Educational games have also shown promise in improving student motivation. Yusoff *et al*., [6], for example, developed a game based on the Sirah of Prophet Muhammad (SAW), which significantly enhanced student motivation. Saffinee and Ramlan [9] further supported the role of digital tools by promoting animated videos as an effective medium within the Halal education ecosystem.

Beyond Islamic contexts, broader academic studies provide useful frameworks and insights. Bengtsson (2016) offered a practical guide on planning and conducting qualitative content analysis—an essential method for evaluating game-based educational content. Farouk *et al*., [4] explored Halal meat production, reflecting the interdisciplinary nature of Halal research that intersects with food sciences and ethics.

In terms of pedagogical effectiveness, Gani *et al*., [5] found that problem-based learning, combined with an understanding of thinking styles, significantly improved information literacy among Islamic education students. Zainuddin *et al*., [10] similarly developed GBL media for Islamic education and reported positive results in student engagement. Meanwhile, Nadeem *et al*., [15], though not listed above, also highlighted increased motivation and enjoyment among students using game-based learning, reinforcing the idea that GBL not only supports educational outcomes but also enriches the learning experience.

3.3 Instructional Design Should Contextualise Information

For learning to be truly effective, instructional design must ground new knowledge in the learners' own experiences. When content is meaningfully connected to what students already know, it becomes easier to understand and internalise. This process of linking prior knowledge with new concepts not only enhances comprehension but also strengthens cognitive connections. Additionally, presenting information in a variety of formats, such as visuals, videos, and written texts, helps accommodate diverse learning preferences and makes content more accessible. Embedding tasks within real-life or simulated contexts further deepens engagement, encouraging learners to see the relevance of what they are learning. Most importantly, instruction should not separate theory from practice; instead, it should integrate both to reinforce understanding and support long-term retention. When learners can apply what they've learned in authentic situations, the educational experience becomes more meaningful and enduring.

3.4 Courses Should Be Learner Community-Based

In the context of game-based learning (GBL), the establishment of a learner-centred community plays a critical role in enhancing educational outcomes. A strong sense of community fosters collaborative learning, which has been shown to improve student engagement, motivation, and academic achievement. Peer feedback and teamwork activities encourage learners to participate actively in the learning process, facilitating the development of critical thinking, communication, and interpersonal skills that are essential in both academic and professional environments. In digital or blended learning settings, promoting peer-to-peer interaction is particularly crucial, as it helps mitigate feelings of isolation, builds social presence, and strengthens learners' sense of belonging.
Moreover, learner-generated content, such as reflective writing, digital portfolios, or oral presentations, enables students to internalise and reconstruct knowledge, thereby deepening their understanding. Embedding opportunities for students to engage with diverse viewpoints further cultivates cognitive flexibility and promotes lifelong learning attitudes. These skills are vital for adapting to complex, dynamic professional environments. To support this, assessment practices should be designed to be continuous and formative, with spaced evaluations and constructive feedback provided throughout the learning journey. This approach not only supports the retention of knowledge but also guides learners in self-reflection and ongoing improvement, thus fostering a holistic and sustainable learning experience.

Game-based learning (GBL) environments are significantly enriched when they incorporate a strong sense of learner community. Collaborative learning through peer feedback and teamwork not only fosters active participation but also cultivates critical thinking and enhances real-world communication skills. These collaborative processes promote reciprocal learning, enabling students to both give and receive constructive input, thereby reinforcing their understanding of content through social interaction.

Learner interaction is particularly vital in digital learning contexts, where fostering peer-to-peer engagement contributes to higher levels of academic achievement and the development of social and professional networks. Activities that encourage original content creation—such as reflective journals, presentations, and creative projects—further support cognitive processing and deeper internalisation of knowledge. These tasks provide opportunities for learners to synthesise ideas and articulate their understanding in meaningful ways.

Moreover, embedding critical thinking into learning design through exposure to diverse perspectives helps develop cognitive flexibility, a skill essential for navigating complex problems and sustaining lifelong learning. The implementation of continuous assessment strategies, including spaced testing and detailed, formative feedback, also plays a crucial role in promoting long-term retention and conceptual mastery. By moving beyond rote memorisation, such assessments encourage reflective learning and support the development of higher-order thinking skills.

3.5 GBL's Effectiveness

GBL refers to the use of digital or physical games for educational purposes [17]. While numerous studies have explored its effectiveness, the results remain mixed. Some research supports positive impacts on motivation and knowledge retention [11], with students reporting greater enjoyment and preference for GBL over traditional methods. Others, however, found no statistically significant improvements [16].

The **majority of supportive studies** reported gains in **motivation**, **engagement**, **performance**, and **conceptual understanding**, yet many of these were **based on qualitative self-reports** and lacked

rigorous empirical validation. Furthermore, inconsistencies in **study design**, such as vague descriptions of experimental context, **short duration**, and **limited sample sizes**, have limited the ability to draw conclusive generalisations or perform reliable meta-analyses [10,18]

4. Conclusion

4.1 Future Research and Recommendation

Many overlook the extensive career opportunities within the halal ecosystem, spanning roles such as laboratory analysts, accreditation auditors, and consultants, open to individuals from all backgrounds. To bridge this awareness gap, the Fatwa and Halal Institute may develop a gamified digital platform designed to educate and engage. By integrating edutainment, this initiative not only promotes halal-related careers but also deepens public understanding of halal principles, making it accessible and impactful for students and the wider community.

4.2 Conclusion

In conclusion, game-based learning stands as a dynamic solution for addressing the educational challenges faced by Generation Alpha, particularly in the context of Halal education. By leveraging interactive and immersive platforms, this approach fosters deep engagement, active participation, and enhanced knowledge retention. To effectively navigate this innovative method, educators must adopt instructional designs tailored to the unique preferences and learning styles of Generation Alpha, emphasizing practical relevance and cultural resonance.

The integration of game-based learning in Halal education not only simplifies complex Islamic principles but also bridges the gap between traditional teachings and modern pedagogical techniques. Grounded in evidence from leading scholarly resources, this strategy highlights the transformative potential of gamified learning to inspire curiosity, strengthen moral understanding, and cultivate a lifelong commitment to ethical practices among young learners.

Ultimately, the findings reaffirm that game-based learning, when effectively designed and implemented, emerges as a superior method for advancing Halal education, equipping Generation Alpha with the tools to navigate their personal and professional lives in alignment with Islamic values.

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