

Determining the Usability of an E-Learning Module Design for Teaching Metaphor (Kināyah) in Prophetic Hadith via Minecraft Education: A Fuzzy Delphi Method Approach

تحديد قابلية الاستخدام لتصميم وحدة تعليم إلكتروني في تعليم الكناية

في الحديث الشريف عبر منصة ماينكرافت التعليمية: تطبيق أسلوب دلفي الضبابي

Muhammad Nur Farhan bin Zamziba¹, Rahmah binti Ahmad H. Osman^{2*}, Muhammad Anwar bin Ahmad³, Rabiatal Fatimah Azzahra binti Rashid⁴, Munirah⁵, Rauzatul Jannah⁶

^{1,2,3,4}International Islamic University Malaysia, Malaysia

^{5,6}Maulana Malik Ibrahim Islamic State University, Indonesia

*Corresponding E-mail: rahmahao@iiu.edu.my.

ABSTRACT

Traditional approaches to teaching complex literary concepts in prophetic traditions, such as *al-Kināyah* (metaphorical expressions) in *al-Ḥadīth al-Sharīf*, often struggle to engage modern learners, highlighting a gap in integrated gamified e-learning frameworks within Islamic studies. To address this, this article is centered on creating an e-learning module for Islamic civilisation education that utilizes Minecraft Education to teach the content of *al-Kināyah* in *al-Ḥadīth al-Sharīf*. The module was developed following the Design and Development Research (DDR) model, which included needs analysis, content development, and evaluation of usability. This research focuses on the last stage, which involved evaluating usability with feedback and observations from twelve Subject Matter Experts (SMEs) to gain insights into the module's usability and engagement using the Fuzzy Delphi Method (FDM). The results confirmed that the experts' consensus was accepted and the Fuzzy scores from this article supported the mean values obtained from experts' judgments, ranging from 0.750 to 0.872 for all items. The findings of this article contribute to the field of e-learning by demonstrating the usability of the DDR model in designing instructional modules that integrate Minecraft educational games as a means for teaching and learning complex literature concepts. The module provides a comprehensive framework for educators interested in incorporating e-learning and gamification elements into Islamic studies and language education.

Keywords: Design and Development, Fuzzy Delphi Method, *Al-Ḥadīth al-Sharīf*, *al-Kināyah*

مستخلص البحث

تتمحور هذه الدراسة حول تصميم وحدة تعليم إلكتروني لتعليم الحضارة الإسلامية، توظف منصة Minecraft Education في تدريس مفهوم الكناية في الحديث الشريف. وقد طُوِّرت الوحدة التعليمية وفق نموذج البحث في التصميم والتطوير (Design and Development Research - DDR)، الذي اشتمل على تحليل الاحتياجات، وتطوير المحتوى، وتقويم قابلية الاستخدام. وتركز هذه الدراسة على المرحلة الأخيرة المتمثلة في تقويم قابلية استخدام الوحدة التعليمية، وذلك من خلال الاستفادة من آراء وملاحظات اثني عشر خبيراً من خبراء المحتوى (Subject Matter Experts - SMEs)، بهدف الكشف عن مستوى قابلية استخدام الوحدة ومدى قدرتها على تعزيز التفاعل والانخراط في عملية التعلم، باستخدام أسلوب دلفي الضبابي (Fuzzy Delphi Method - FDM). وأكدت النتائج قبول إجماع الخبراء، كما دعمت القيم الضبابية التي توصلت إليها الدراسة متوسطات أحكام الخبراء، حيث تراوحت القيم بين 0.750 و0.872. وتسهم نتائج هذه الدراسة في إثراء مجال التعليم الإلكتروني من خلال إبراز فاعلية نموذج البحث في التصميم والتطوير (DDR) في تصميم الوحدات التعليمية التي تدمج الألعاب التعليمية القائمة على منصة Minecraft Education بوصفها وسيلة لتعليم المفاهيم الأدبية المعقدة وتعليمها. كما تقدم الوحدة التعليمية إطاراً شاملاً للمعلمين والمهتمين بتوظيف التعليم الإلكتروني وعناصر التلعيب في تعليم الدراسات الإسلامية واللغة.

Citation:

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INTRODUCTION

One of the biggest challenges in teaching Prophetic Hadith in the twenty-first century is that many teachers are not ready to integrate information and communication technology (ICT) into their teaching and learning methods (Kawaid et al., 2018, p. 133). These teachers prefer traditional methods to e-learning. They argue that e-learning may not suit some groups of learners. They also lack familiarity with the e-learning environment and struggle to keep up with the rapid development of e-learning technologies (Ahmad et al., 2025, p. 5). Teachers often need specialized training in e-learning before they can move to this mode of instruction effectively. Learners may also need extra support, such as orientation courses, encouragement, and motivation, to adapt to the e-learning environment and complete their learning activities (Hoque et al., 2019, p. 2).

Accordingly, this study identifies digital games as an effective tool for teaching Islamic knowledge to Muslim children. A recent study found that Islamic digital games attracted users' attention and stimulated their interest in learning (Aziz et al., 2019, p. 110). Other recent studies have also reported improved brain function through e-learning methods. One study (A. A.-A. Ahmed et al., 2022, p. 2) reported that the distribution of valence and arousal signals extracted from electroencephalography (EEG) signals, as shown in emotional scatter plots, reveals a clear visual link between brain function and video game design (Cheng & Lin, 2002, p. 3).

In addition, recent studies show that game-based learning (GBL) media are effective (Kassim et al., 2024, p. 41) (Kawaid et al., 2018, p. 133) because they require players to participate in and contribute to the outcomes of the game (Sandrone & Carlson, 2021). Research also indicates that educational games can improve learning outcomes and have a positive effect on creativity, activity, and problem-solving skills (Syaliman et al., 2022, p. 479).

Accordingly, this study selected Minecraft Education based on two main factors: asynchronous lessons and dynamic elements. The first factor concerns asynchronous lessons. Teachers can upload learning materials to the platform, and students can access them at a time that suits them (Izhar et al., 2021, p. 1296). For example, Malaysia widely uses Google Classroom as its official Learning Management System (LMS) platform

(Kumar et al., 2020). Likewise, Minecraft Education provides tools for asynchronous learning, so students can interact with the platform whenever their circumstances allow. Studies have also shown that Minecraft Education can support the learning of Arabic language, Arabic literature, and Islamic studies (M. N. F. Bin Zamziba et al., 2023, p. 110); (M. nur F. bin Zamziba et al., 2024, p. 4).

The second factor is that Minecraft Education contains three important elements that make it an effective tool for developing writing, reading, speaking, and listening skills. Its developers designed the platform specifically for educational purposes. It includes features that support collaboration, assessment, coding, and other learning activities. Minecraft Education also offers more than 600 ready-made lessons aligned with educational standards, which provide a comprehensive curricular experience (Rust & Susan Golombok, 2016, p. 144). Users can also create their own lessons and upload them to Minecraft. In addition, Minecraft supports cross-curricular learning. Users can explore a wide range of fields, including science, technology, engineering, and mathematics (STEM), coding, social and emotional learning (SEL), history, language arts, and twenty-first-century skills (Nebel et al., 2016) (Gambatese & Behm, 2008, p. 1).

Minecraft Education also runs on Windows, Mac, and mobile devices. It gives students an environment to demonstrate teamwork and allows teachers to integrate digital elements into their teaching methods (Baek et al., 2020). Minecraft builds on the concept of game-based learning. According to Callaghan (2016), Minecraft is a gamification tool that enables students to build, participate in, and evaluate project-based learning activities. Minecraft remains one of the best-selling video games in history, with more than 200 million copies sold and 131 million monthly active users (Andrade & Souza, 2024, p. 3) (Chrysostomou et al., 2025, p. 2).

Learning a second language is a difficult and often unpopular task, especially for students whose mother tongue differs from the target language (Nurhayarti et al., 2020, p. 4263) (Daud & Nadhilah Abdul Pisal, 2014, p. 119). Language learning involves mastering writing, reading, and speaking skills (Al-Dosakee & Fezille Ozdamli, 2021, p. 561). Many researchers have conducted studies to improve students' achievement in and understanding of Arabic language and literature (Fadhlan et al., 2024, p. 1975).

Students face real difficulties in understanding Arabic language and literature. These challenges stem from internal and external factors. Internally, students have limited vocabulary mastery, low self-confidence, and low motivation (Kamarudin et al., 2022, p. 2). Externally, non-native speakers of Arabic face a shortage of learning media

and accessible references (Al-haddad et al., 2025, p. 521).

Other factors also weaken the learning of Arabic language and literature, particularly 'ilm al-balāghah (Arabic rhetoric) (Shabriyah & Nuruddien, 2022, p. 69) (Abdul et al., 2020, p. 20). This study, however, focuses on kināyah as one of the topics of 'ilm al-balāghah. The main weaknesses in this area include the following (Afthon et al., 2026, p. 1075): (1) insufficient variety in the methods used to teach balāghah; (2) negative or weak attitudes, motivation, or perceptions among students towards their field of study; (3) shortcomings in pedagogical practices and assessment methods; (4) a lack of integrated references and learning modules on balāghah at the tertiary level; and (5) unclear objectives and a curriculum that does not align with them (Binti Affendi, 2024, p. 2).

Al-Jurjānī explained the concept of kināyah in more detail. In his view, kināyah is a process in which the speaker affirms a particular meaning without stating it directly through the word that originally denotes it. Instead, the speaker uses a related meaning or word that accompanies the literal meaning, and through it points to and affirms the intended meaning (Rahimi & Sani, 2025, p. 2) (Yusuf & Miswar, 2024, p. 143). Examples include ṭawīl al-nijād (long sword-belt) to denote tallness, kathīr al-ramād (abundant ashes) to denote generosity, and na'ūm al-ḍuhā (one who sleeps until late morning) to denote a woman who lives in comfort and luxury (Harb, 2015). In short, al-Farāhīdī defined kināyah linguistically as expressing one thing to signify another. Examples include words such as jimā', ghā'it, and rafath, which refer to sexual intercourse or relieving oneself, depending on context and usage (Cheng & Lin, 2002, p. 1) (Latuconsina et al., 2026, p. 235).

Based on the above, this study aims to examine the usability of Minecraft Education for learning kināyah in Prophetic Hadith from the experts' perspective. It also aims to reveal how experts evaluate the usability of Minecraft Education for learning kināyah in Prophetic Hadith using the Fuzzy Delphi Method (FDM) (Zharias et al., 2009, p. 1).

RESEARCH METHOD

This study employs the Design and Development Research (DDR) approach, which includes the analysis, design, development, and evaluation phases. The study examines the usability of a game-based e-learning approach through Minecraft Education for teaching Prophetic Hadith from the perspective of kināyah. It draws on the DDR

framework proposed by (Yusof et al., 2023, p. 2). The DDR model consists of three main phases: (1) the analysis phase, (2) the design and development phase, and (3) the evaluation phase. This study focuses only on the evaluation phase (Zharias et al., 2009, p. 3).

RESULTS AND DISCUSSION

Model Evaluation

This study analyzes the usability of Minecraft as an educational game platform for learning Prophetic Hadith. The analysis explores the potential benefits and challenges of game-based learning in religious education. It also reviews studies and research evidence on applying the kināyah perspective to the teaching of Prophetic Hadith (M. N. F. Bin Zamziba et al., 2023, p. 533) (Ekaputra et al., 2013, p. 240).

In addition, this study evaluates the usability of the educational game Minecraft for learning kināyah in Prophetic Hadith. Twelve Subject Matter Experts (SMEs) from various fields conducted the evaluation. Their fields include Arabic language and literature, Prophetic Hadith, Islamic education, gamification (Callaghan, 2016, p. 246), instructional design, and Minecraft Education. These experts evaluated the usability of the module and verified its suitability as a learning tool (Sripan & Manyam, 2025, p. 270) (A. Ahmed et al., 2026, p. 857).

Fuzzy Delphi Method

Many researchers use the Fuzzy Delphi Method (FDM) to obtain experts' opinions, ideas, consensus, and agreement on a particular topic, with the experts participating as respondents. Expert consensus plays an important role in determining the variables to measure and in interpreting the results quantitatively (Khairulnazrin et al., 2021, p. 770). The FDM also offers a distinct advantage. It allows researchers to reach reliable results based on the collective opinions, consensus, and insights of subject matter experts (SMEs) (Khairulnazrin et al., 2021, p. 770).

Accordingly, this study adopts a quantitative approach through the FDM, which Murray et al. (1985) developed and Kaufmann and Gupta (1998) later refined. According to Jamil et al. (2020), researchers can apply the FDM to reach expert consensus on a specific issue or topic. This study chose the FDM over the conventional Delphi technique because it saves time and cost in administering questionnaires (Yusoff et al., 2021). The FDM also allows experts to express their opinions consistently throughout the evaluation

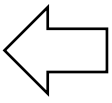
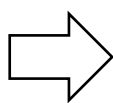
process (Manakandan et al., 2017) (Kaufmann & Madan M. Gupta, 1998, p. 1).

Researchers need to set an appropriate minimum number of experts in the FDM to ensure a high level of consistency among expert judgments (Okoli & Pawlowski, 2004). This study therefore selected twelve experts through purposive sampling. These experts hold expertise in Arabic language and literature, Prophetic Hadith, Islamic education, gamification, instructional design, and Minecraft Education (Slattery et al., 2024, p. 967).

The study applied two criteria in selecting the experts: (1) a doctoral degree as the academic qualification, and (2) at least ten years of experience in the relevant field. These criteria align with Berliner (2004), who defines an expert in a given field as a person with more than five years of experience in that field. Gambatese et al. (2008) also stress that experts should hold high academic qualifications.

The FDM represents Triangular Fuzzy Numbers through three average fuzzy number values: M1, M2, and M3. M1 refers to the minimum value, M2 to the most plausible value, and M3 to the maximum value (Manakandan et al., 2017). The method uses these values because the fuzzy system cannot treat each scale point as a fixed value. Instead, it must match each point to the 7-point Likert scale (Manakandan et al., 2017).

Figure 1 Differences Between the 7-Point Likert Scale and the Fuzzy Scale

Likert Scale		Scale Level		Fuzzy Scale
7		Strongly agree		(0.9, 1.0, 1.0)
6		Agree		(0.7, 0.9, 1.0)
5		Somewhat agree		(0.5, 0.7, 0.9)
4		Neutral		(0.3, 0.5, 0.7)
3		Somewhat disagree		(0.1, 0.3, 0.5)
2		Disagree		(0.0, 0.1, 0.3)
1		Strongly disagree		(0.0, 0.0, 0.1)

(Manakandan et al., 2017)

These experts then verified the usability of the e-learning module design for teaching kināyah in Prophetic Hadith through Minecraft Education using the Zaharias (2003) approach. The questionnaire consists of two main sections:

Section A: Respondents’ demographic information.

Section B: Criteria for content, learning support, visual design, navigation, accessibility, interactivity, and learnability.

Findings

In the final phase of this study, the researchers employed the Fuzzy Delphi Method (FDM) to evaluate the usability of an e-learning module design for Islamic civilization education that addresses kināyah in Prophetic Hadith through Minecraft Education. The method presents a set of items to the study respondents, who are Subject Matter Experts (SMEs). The research methodology drew on usability evaluation criteria from Mohamad Yusof, M. A. (2023), Zaharias (2023), Anastasi and Urbina (1997), and Rust and Golombok (1989) to analyze the usability of the module (Ming, 2020, p. 14).

Table 1 Respondents' Demographic Information

No.	Item
1	Gender
2	Level of education
3	Specialization/ field of study
4	I have studied kināyah in Prophetic Hadith before.
5	I have prior experience in gamification-based learning.
6	I have used Minecraft Education in an educational context before.

Table 2 Content Evaluation Items for Subject Matter Experts

No.	Item
1	The content on kināyah in Prophetic Hadith suits undergraduate students.
2	The gamification approach enhances my understanding of the meanings of kināyah.
3	The gamification approach helps me distinguish between the types of kināyah.
4	The activities on kināyah in Prophetic Hadith deepen my understanding of kināyah.

Table 3 Learning Support Evaluation Items for Subject Matter Experts

No.	Item
5	The gamification-based module is easy to use.

6	The gamification approach effectively supports learning kināyah in Prophetic Hadith.
7	The gamification design is engaging and sustains my interest.
8	The game interface is easy to use.
9	I can navigate and use the game with minimal difficulty.

Table 4 Visual Design Evaluation Items for Subject Matter Experts

No.	Item
10	The design theme suits undergraduate students.
11	The Immersive Reader feature functions effectively.
12	The background music suits the learning environment.
13	The 3D Sandbox world offers adequate visual clarity.
14	The graphic elements are well designed and relevant to the learning content.

Table 5 Navigation Evaluation Items for Subject Matter Experts

No.	Item
15	The gamification-based system includes all necessary functions.
16	The application runs stably and consistently without problems.
17	All tools work according to their intended functions.
18	The instructions remain consistent throughout the module.
19	The resources provide clear guidance for the user.
20	The items and options appear in their correct positions.
21	The game integrates its checkpoints well and logically.

Table 6 Accessibility Evaluation Items for Subject Matter Experts

No.	Item
22	This gamification approach saves time in learning kināyah in Prophetic Hadith.
23	The module is easily accessible for learning purposes.
24	The course is available free of charge within the educational domain.

Table 7 Interactivity Evaluation Items for Subject Matter Experts

No.	Item
25	Participants can interact with the user interface easily.
26	Gamification enhances students' understanding.
27	It increases motivation to participate in the learning process.

Table 8 Learnability Evaluation Items for Subject Matter Experts

No.	Item
28	Users can play the game independently without assistance.
29	Game-based learning is easy to understand.
30	The command steps in Minecraft Education are easy to remember.

Table 9 Open-Ended Question for Subject Matter Experts

No.	Item
1	What suggestions can the experts offer on the usability of the e-learning module design for Islamic civilization education that addresses kināyah in Ṣaḥīḥ al-Bukhārī and Ṣaḥīḥ Muslim through Minecraft Education?

Usability Questionnaire for Subject Matter Experts

The usability questionnaire contains a set of items for Subject Matter Experts (SMEs) to evaluate the usability of the gamification-based e-learning module for teaching kināyah in Prophetic Hadith through Minecraft Education. To verify the validity of the questionnaire, the researchers appointed two experts to evaluate the items and check their suitability for the study objectives.

Based on this evaluation, the experts provided a set of corrections, suggestions, and improvements to the usability questionnaire items, as Table 10 shows.

Table 10 Suggestions and Revisions to the Usability Questionnaire for Subject Matter Experts

No.	Item	Correction and Suggestion
1	Section Content	B: First, the question items do not refer directly to the learning materials developed or used in the gamification. Second, the items focus more on the technical aspects of gamification, particularly its functions in enhancing the understanding of

			kināyah. The experts suggested rewording the items in this section to reflect the learning content directly, such as the suitability of the kināyah material from the selected hadiths as learning content in the gamification, along with other elements directly related to the learning content.
2	Section Learning Tool	B:	Item 3 is a double-barreled item. The experts recommend rewording it so that it measures only one idea.
3	Section Learning Tool	B:	Item 5 is a double-barreled item. The experts recommend rewording it so that it measures only one idea.
4	Section Learning Tool	B:	The experts recommend revising the phrase “in my learning of kināyah” to express the learning purpose of the item more clearly and precisely.
5	Section Visual Design	B:	Item 2 is a double-barreled item. The experts recommend rewording it so that it addresses only one aspect.
6	Section Visual Design	B:	Item 5 is a double-barreled item. The experts recommend rewording it so that it measures a single variable or aspect.
7	Section Visual Design	B:	Item 6 is a double-barreled item. The experts recommend rewording it to avoid combining more than one idea in a single item.
8	Section Visual Design	B:	Item 7 is a double-barreled item. The experts recommend rewording it so that it clearly measures one aspect.
9	Section Navigation	B:	Item 9 is a double-barreled item. The experts recommend rewording it so that it focuses on one aspect of navigation within the module.
10	Section Accessibility	B:	The experts recommend adding an accessibility aspect, particularly access to the module anytime and anywhere, because it supports students’ learning needs and makes learning more flexible.
11	Section: Open-Ended Question		The experts recommend revising the open-ended question to read: “What suggestions do the experts offer on how to design a usable e-learning module for teaching Islamic civilization that focuses on kināyah in Ṣaḥīḥ al-Bukhārī and Ṣaḥīḥ Muslim using Minecraft Education?”

Revision of the Usability Questionnaire

The researchers revised the usability questionnaire for Subject Matter Experts (SMEs) based on the experts' feedback and suggestions. In Section B, under the content category, the original items did not directly measure the suitability of the learning materials used in the gamification-based module. Instead, they focused more on technical and functional aspects than on the suitability of the kināyah content drawn from the selected hadiths. The researchers therefore reworded the items to align better with the intended learning objectives.

In the learning tool subsection, items 3 and 5 were double-barreled items, as each combined more than one idea. The researchers therefore split these items into separate items. This step ensures clarity and lets respondents evaluate each aspect independently. The researchers also reworded some phrases, such as "in my learning of kināyah", to state the purpose of the item more precisely.

In the visual design category, items 2, 5, 6, and 7 also had double-barreled problems. The researchers reworded them by splitting each into separate statements that focus on one specific visual component. This step improves the precision of the SMEs' responses and strengthens the overall reliability of the questionnaire.

In the navigation section, the researchers reworded item 9 to address its double-barreled nature. Respondents can now evaluate each navigation feature independently and give clearer usability feedback. In the accessibility section, the researchers added new items based on the experts' recommendations. These items evaluate accessibility features, particularly students' ability to access the module anytime and anywhere. The experts considered these factors essential to meet learners' diverse needs.

Finally, the researchers added a new section to collect open-ended feedback from the SMEs. This section allows the experts to suggest how to design a usable e-learning module for teaching Islamic civilization, particularly kināyah in Ṣaḥīḥ al-Bukhārī and Ṣaḥīḥ Muslim, using Minecraft Education. This step enriches module development with the specialized insights of field experts.

The researchers then distributed the questionnaire items on the usability of Minecraft Education for learning kināyah in Prophetic Hadith to twelve experts to obtain their level of consensus and acceptance. The criteria for expert consensus in this study followed the Fuzzy Delphi Method (FDM) and a set of specific conditions. The main conditions are that expert consensus exceeds 75% (Chu & Hwang, 2008; Murry &

Hammons, 1995; Yusoff et al., 2021) and that the threshold value (d) is less than or equal to 0.2 (Chen, 2000; Cheng & Lin, 2002).

Table 11 summarizes the results of the FDM analysis of usability in the design and development phase of this study.

Table 11 Analysis of Expert Consensus Using the Fuzzy Delphi Method

No.	Items	Threshold value (d)	Consensus (%)	M1	M2	M3	Fuzzy score (A)	Expert decision
1	The content on kināyah in Prophetic Hadith suits undergraduate students.	0.0095	100.00%	0.731	0.900	0.985	0.872	Accepted
2	The gamification approach enhances my understanding of the meanings of kināyah.	0.095	100.00%	0.715	0.892	0.985	0.872	Accepted
3	The gamification approach helps me distinguish between the types of kināyah.	0.095	100.00%	0.669	0.862	0.977	0.836	Accepted
4	The activities on kināyah in	0.172	92.31%	0.654	0.838	0.946	0.813	Accepted

	Prophetic Hadith deepen my understanding of kināyah.							
5	The gamification-based module is easy to use.	0.196	92.31%	0.715	0.869	0.946	0.844	Accepted
6	The gamification approach effectively supports learning kināyah in Prophetic Hadith.	0.190	92.31%	0.685	0.854	0.946	0.836	Accepted
7	The gamification design is engaging and sustains my interest.	0.185	92.31%	0.685	0.854	0.946	0.836	Accepted
8	The game interface is easy to use.	0.095	100.00%	0.715	0.892	0.985	0.864	Accepted
9	I can navigate and use the game with minimal difficulty.	0.176	92.31%	0.700	0.862	0.954	0.838	Accepted
10	The design	0.085	100.00%	0.715	0.892	0.985	0.864	Accepted

	theme suits undergraduate students.							
11	The Immersive Reader feature functions effectively.	0.127	92.31%	0.715	0.885	0.969	0.856	Accepted
12	The background music suits the learning environment.	0.238	76.92%	0.638	0.808	0.915	0.787	Accepted
13	The 3D Sandbox world offers adequate visual clarity.	0.135	100.00%	0.623	0.815	0.954	0.797	Accepted
14	The graphic elements are well designed and relevant to the learning content.	0.117	100.00%	0.715	0.885	0.977	0.859	Accepted
15	The gamification- based system includes all necessary functions.	0.165	92.31%	0.638	0.823	0.946	0.803	Accepted
16	The application runs stably and consistently	0.150	92.31%	0.700	0.869	0.962	0.844	Accepted

	without problems.							
17	All tools work according to their intended functions.	0.130	100.00%	0.685	0.862	0.969	0.838	Accepted
18	The instructions remain consistent throughout the module.	0.163	92.31%	0.731	0.885	0.962	0.859	Accepted
19	The resources provide clear guidance for the user.	0.185	92.31%	0.685	0.854	0.946	0.828	Accepted
20	The items and options appear in their correct positions.	0.122	100.00%	0.669	0.854	0.969	0.831	Accepted
21	The game integrates its checkpoints well and logically.	0.117	100.00%	0.715	0.885	0.977	0.859	Accepted
22	This gamification approach saves time in learning kināyah in Prophetic Hadith.	0.220	76.92%	0.592	0.777	0.908	0.759	Accepted

23	The module is easily accessible for learning purposes.	0.182	92.31%	0.669	0.838	0.946	0.818	Accepted
24	The course is available free of charge within the educational domain.	0.244	76.92%	0.685	0.838	0.923	0.815	Accepted
25	Participants can interact with the user interface easily.	0.122	100.00%	0.669	0.854	0.969	0.831	Accepted
26	Gamification enhances students' understanding.	0.195	84.62%	0.715	0.869	0.946	0.844	Accepted
27	It increases motivation to participate in the learning process.	0.163	92.31%	0.731	0.885	0.962	0.859	Accepted
28	Users can play the game independently without assistance.	0.169	92.31%	0.685	0.854	0.954	0.831	Accepted
29	Game-based learning is easy to	0.190	92.31%	0.700	0.862	0.946	0.836	Accepted

	understand.							
30	The command steps in Minecraft Education are easy to remember.	0.095	100.00%	0.731	0.900	0.985	0.872	Accepted

Table 11 presents the analysis of expert consensus and evaluation using the Fuzzy Delphi Method (FDM) for all thirty items. This study focuses on three main aspects: (1) the threshold value, (2) the fuzzy score, and (3) the experts' acceptance. The results show that threshold values ranged from 0.095 to 0.244, and 90.00% of the items recorded values below 0.2. These results indicate a high level of consensus and acceptance among the experts.

In contrast, three items exceeded the set threshold value: item 12 with a threshold value of 0.238, item 22 with 0.220, and item 24 with 0.244. These items represent 10.00% of all items. Despite these differences, the researchers retained these items in the instrument because they achieved an acceptable level of expert consensus and high fuzzy scores. Their inclusion in the expert consensus analysis therefore remains relevant and justified.

In addition, the fuzzy scores in this study show that the average expert ratings ranged from 0.750 to 0.872 for all items. A fuzzy score above 0.5 is appropriate and acceptable. This result shows that the items are applicable and have the experts' acceptance and consensus.

Items 1, 2, and 30 obtained the highest fuzzy score of 0.872. This score indicates strong expert agreement on the importance of these items and on their inclusion in the gamification-based teaching and learning module. In contrast, item 22 recorded the lowest fuzzy score of 0.759, but it remained within the acceptable range. Overall, the fuzzy scores show that all items, with scores of 0.75 and above, received expert approval. This result reflects consensus on the module content and on the andragogical perspective.

Regarding expert acceptance, the evaluation showed that the experts accepted and endorsed all items. Thirteen items achieved 100% acceptance, which indicates unanimous consensus on these items. The acceptance levels of the remaining items

ranged from 76.92% to 92.31%, which reflects an acceptable and reasonable level of expert consensus.

Finally, the study also received comments and suggestions from the experts to improve this learning module, as Table 12 shows.

Table 12 Expert Consensus on Suggestions and Comments

No.	Subject Matter Expert (SME)	Suggestions and Comments
1	Expert A	The learning content and activities can be updated continuously.
2	Expert B	It would be better if all instructions were written in Arabic.
3	Expert C	Keep text to a minimum and rely on clear infographics, short videos, audio materials, or well-paced instructional presentations to speed up understanding.
4	Expert D	This innovative use of Minecraft Education to explore kināyah in the two Şahîḥs offers a new and engaging approach to the study of Islamic civilization and effectively encourages student participation.
5	Expert E	1. Display the gamification criteria on the user interface. 2. Provide clearer and more detailed graphics.
6	Expert F	This innovative use of Minecraft Education to explore kināyah in the two Şahîḥs offers a new and engaging approach to the study of Islamic civilization and effectively encourages student participation.
7	Expert G	This represents a new approach to studying kināyah.
8	Expert H	(1) Pedagogical usability: The usability is very good, as students can explore and interpret the meaning of kināyah through the virtual environment. (2) Gamification and student engagement: The reward system is well designed, but the developers should also apply it from the start of the game. For example, students should receive rewards each time they read the learning materials or complete activities such as taking photos. (3) Cultural and Islamic

		values: The female avatar on the home page appears without proper covering and does not observe the rules of ‘awrah. This issue needs attention from a cultural and religious perspective. (4) Cognitive load management: The module manages cognitive load very well. It presents hadith excerpts consistently, and the difficulty levels of kināyah learning match students’ abilities. (5) Collaborative learning and moral reflection: The activities are engaging and attractive. Add a reflective activity after each task. (6) Assessment and feedback: The assessments and tasks help students monitor and regulate their own learning. (7) Suggestions for implementation: 7.1 Provide a bilingual version (Arabic-English). 7.2 Add audio recitations of the hadiths with text transcripts for students with special needs.
9	Expert I	Include more specific activities that match each aspect of kināyah. This would broaden the scope of play and make the learning journey more enjoyable.
10	Expert J	Comprehensive documentation and an easy-to-learn tutorial can improve the usability of the Minecraft-based game module and ease the learning curve, especially for learners who have never used the game.
11	Expert K	Add more elements to the design, such as more challenges and varied assessment methods, to increase students’ interest, motivation, and engagement in learning the topic through the game.
12	Expert L	1. Apply scaffolding techniques by starting with simple hadith examples and moving gradually to more complex figurative meanings. 2. Ensure that the module design aligns with Islamic ethics and etiquette (adab) in all visual and textual content, characters, and audio. Apply gamification strategies such as points, badges, and levels, for example “Kināyah Explorer” and “Hadith Interpreter”, to motivate learners. 3. Ensure smooth performance across devices, such as desktop computers and tablets, and integrate an autosave system to preserve learner progress. 4.

Provide multiplayer or teamwork-based activities to promote discussion and collaborative problem-solving on the meanings of kināyah. 5. Include tasks that require group reflection or the building of symbolic scenes that represent the metaphors in the hadiths. 6. Apply short quizzes embedded in the system, provide immediate feedback, and add reflective tasks after each task to strengthen learning.

Table 12 presents expert consensus on the recommendations and comments on the usability of the module for teaching kināyah in Prophetic Hadith through Minecraft Education. Expert B stressed the importance of providing all instructions in Arabic. However, a review of this study and previous studies shows that Minecraft Education does not currently support Arabic fonts (Andrade & Souza, 2024, p. 2).

Experts H and L commented, from the perspective of cultural and Islamic values, on the female avatar, which appears without proper covering and does not observe the rules of ‘awrah. This comment highlights the importance of cultural and religious considerations in designing digital learning environments. The study therefore suggests that future research examine the need to ensure ‘awrah coverage for all avatars in learning environments.

Experts A, C, D, F, and G confirmed that the module for teaching kināyah in Prophetic Hadith through Minecraft Education suits educational purposes. They cited its game-based learning interface, infographics, visual elements, and audio materials. They also recommended further development of the module to make it more attractive, effective, and engaging for learners.

Experts I, J, K, and L addressed assessment and learning activities in more detail. Their suggestions included covering all aspects of kināyah, providing learning guides and instructions, adding new difficulty levels, varying assessment methods, applying scaffolding techniques, and offering multiplayer or teamwork-based activities. They also suggested embedded short quizzes, immediate feedback, and reflective tasks.

Accordingly, the expert consensus analysis in this study, which used the Fuzzy Delphi Method (FDM) (Bee et al., 2021, p. 63) (Beram et al., 2021, p. 84), found that the experts accepted and approved all items. The e-learning module design for Islamic civilization education, which addresses kināyah in Prophetic Hadith through Minecraft Education, is therefore acceptable and validated through expert consensus.

CONCLUSION

This study used the evaluation phase to determine the usability of the e-learning module design for Islamic civilization education in teaching kināyah in Prophetic Hadith through Minecraft Education. Twelve Subject Matter Experts (SMEs) took part in the usability verification. The study applied the Fuzzy Delphi Method (FDM) based on the Zaharias model, which covers seven main concepts: content, learning support, visual design, navigation, accessibility, interactivity, and learnability.

The researchers selected the SMEs based on their expertise in Arabic language and literature, Islamic studies, educational technology, instructional design, and Minecraft Education. The results confirmed the usability of the Design and Development Research (DDR) approach in integrating the teaching of kināyah in Prophetic Hadith through Minecraft Education.

The study concludes that expert validation confirmed the reliability of the study from an andragogical perspective. The FDM also verified the usability of the module and ensured its adherence to the principles of usability, accuracy, accessibility, and alignment with Islamic civilization education.

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AUTHOR CONTRIBUTIONS

Muhammad Nur Farhan Zamziba conceptualized the study and developed the research framework. Rahmah Ahmad H. Osman led the research methodology and the overall study design. Muhammad Anwar Ahmad conducted the statistical analysis and helped interpret the results. Rabiatal Fatimah Azzahra Rashid contributed to the validation and critical review of the manuscript. All authors contributed to the preparation of the manuscript and approved the final version for publication.

CONFLICT OF INTEREST

The authors declare no known financial, personal, or professional conflicts of interest that could influence the work reported in this study.

ETHICAL STATEMENT

This study did not involve human participants, animals, or any intervention that required ethical approval. All data analyzed in this research came from published and publicly available sources. Therefore, the study did not require ethical approval.

DECLARATION ON THE USE OF ARTIFICIAL INTELLIGENCE (AI)

The authors confirm that they prepared this manuscript with limited use of artificial intelligence (AI) technologies. They used AI-based tools only to improve clarity of expression, check grammar, and make language edits. They did not use any AI technologies to generate new ideas, analyze data, interpret results, or replace the authors' intellectual contributions.

DATA AVAILABILITY STATEMENT

The article contains the data that support the study's conclusions. Readers may contact the corresponding author and the first author for further inquiries about the information or resources used in this study.

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