Educational Journal of Learning Technology
Vol. 3, No. 1, pp. 61-73, September 2025
https://doi.org/10.58230/edutech.v3i1.65
Received August 16, 2025; Revised September 09, 2025; Accepted September 10, 2025

Development of Game-Based Interactive Modules to Increase Interest in Learning the Qur'an Hadith

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Abstract. This study aims to develop and evaluate a game-based interactive digital module designed to enhance students' interest in learning Al-Qur'an Hadith, specifically Surah At-Tin, for fourth-grade students at MI Al-Mu'minun, Wajo Regency. The research employed the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model with 18 students and one teacher as participants. Data were collected through observation, interviews, and questionnaires, and analyzed using both qualitative and quantitative approaches. The validation results showed the module was feasible, with scores from media experts (75%), material experts (95%), and linguists (88.8%). Practicality tests indicated very positive outcomes, with teacher assessments reaching 96.15% and student responses 93%. Effectiveness testing revealed a significant improvement in learning outcomes, from 69% (adequate) before using the module to 98% (very effective) after its implementation. These findings demonstrate that the game-based interactive module is valid, practical, and highly effective for supporting Al-Qur'an Hadith learning.

Keywords: Interactive Module; Game-Based Learning; Elementary Islamic Education.

1. Introduction

Education has consistently been recognized as a fundamental instrument in shaping human development holistically. The Indonesian National Education System, as outlined in Law Number 20 of 2003, underscores that education is not merely about transferring knowledge but also about cultivating spiritual strength, noble character, and essential life skills needed by individuals, society, and the nation (Ridwana et al., 2022). Within this framework, Islamic education, particularly Qur'an Hadith learning, holds a central role in instilling spiritual and moral values in students from an early age (Hendawi dkk., 2024). By learning the Qur'an and Hadith, students are guided not only to acquire knowledge but also to internalize ethical values that form the basis of their daily behavior.

Despite its importance, empirical observations reveal that Qur'an Hadith learning in many madrasah ibtidaiyah (MI) still encounters various challenges. Classroom activities are often dominated by conventional teaching methods that rely heavily on lectures, rote memorization, and limited use of interactive media (Javed, 2023; Amirova, 2025). This condition has contributed to low student engagement and limited motivation. Findings from preliminary observations at MI Al-Mu'minun, Wajo Regency, revealed that many students were passive, less enthusiastic, and often distracted during lessons. Such disengagement not only hampers mastery of content but also weakens students' spiritual appreciation of the Qur'an and Hadith values. The situation highlights the need for innovative instructional designs that respond to the learning styles and preferences of

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today's learners—students who are digital natives, accustomed to interactive technology, and strongly influenced by digital experiences in their daily lives.

The rapid development of information and communication technology has created both opportunities and challenges for the education sector (Chatterjee, 2020). Students in the digital era are familiar with smartphones, tablets, and interactive applications from an early age (Dorouka dkk., 2020). Games, videos, and online platforms have become their daily companions. This reality implies that learning processes that fail to integrate such elements risk being perceived as less engaging and irrelevant (Ognibene dkk., 2023). Game-Based Learning (GBL) has emerged as a promising approach to bridge this gap. By embedding game elements such as levels, scores, challenges, and feedback into instructional materials, GBL can enhance students' motivation, encourage active participation, and improve learning outcomes (Anggraeni et al., 2024). For Qur'an Hadith subjects, the application of GBL not only makes learning more engaging but also contextualizes spiritual values within interactive experiences that resonate with students' lives.

Several recent studies support the potential of GBL in enhancing learning outcomes. Research conducted by (Nasution et al., 2024) Demonstrated that the application of Genially-based media in Qur'an Hadith learning significantly improved student interest and active participation at the Madrasah Tsanawiyah level. Similarly, (Hidayah & Pramesti, 2023) The use of GBL at the MI level was found to be more effective than traditional lecture-based methods, resulting in higher engagement and a deeper understanding of the material. Furthermore, (Suadi & Usmania, 2024) Reported that Wordwall-based interactive media increased active student involvement up to 96%, showing that interactive digital tools can create enjoyable and participatory learning atmospheres. These findings highlight a clear trend: integrating game elements into learning significantly boosts students' motivation and engagement across various educational levels.

Nonetheless, a closer examination of the literature reveals critical gaps that remain unaddressed. First, most existing studies emphasize the application of ready-to-use educational applications or online games, which tend to be individualistic and limited in scope (Husna & Dora, 2025). These approaches often prioritize entertainment over structured pedagogical design (Ishak dkk., 2023). There has been little focus on the systematic development of interactive digital modules that integrate Qur'an Hadith content with game-based features while maintaining a balance between enjoyment and instructional rigor (Herlina & Abidin, 2024). Second, research has rarely examined the involvement of students in interactive modules that combine structured learning content, game mechanics, and instructional design principles in a cohesive system (Errabo & Ongoco, 2024). This gap suggests the need for media that is not only entertaining but also pedagogically grounded and capable of being comprehensively evaluated in terms of validity, practicality, and effectiveness.

From a theoretical standpoint, while GBL has been widely studied, its integration with motivation theories such as Self-Determination Theory—which emphasizes autonomy, competence, and relatedness—has not been fully explored in the context of Islamic religious education (Sholeh dkk., 2024). Theoretical discussions rarely connect GBL with how spiritual and affective competencies can be nurtured through interactive media (Papakostas, 2024). This absence of integration means that although GBL is known to enhance cognitive and behavioral outcomes, its potential in shaping affective and spiritual dimensions of learning the Qur'an Hadith remains underdeveloped (Sugiarto, 2025). Developing a game-based interactive module tailored to Qur'an Hadith learning, therefore, provides a valuable opportunity to bridge this theoretical gap.

Another dimension of the research gap lies in the lack of studies conducted specifically at the madrasah ibtidaiyah level (Ma'ruf & Alfurqan, 2022; Hartanto dkk., 2024; Fakhruddin dkk., 2022).

Much of the literature focuses on secondary schools or higher education, whereas elementary-level students require different approaches that align with their developmental characteristics. At the MI level, instructional materials should emphasize simplicity, visual appeal, and engaging interactivity, all while nurturing values of honesty, discipline, respect, and piety (Piaget, 2013). Current findings suggest that while various digital media have been experimented with, few have been systematically designed as modules that can be directly integrated into daily classroom practices in Qur'an Hadith learning.

The practical implications of addressing these gaps are significant. Developing an interactive module with game-based features not only responds to students' digital-native characteristics but also empowers teachers with structured materials that can make lessons more engaging and meaningful. Teachers often struggle to design media independently due to limited time, training, or resources (Hulu, 2023; Zulfa dkk., 2023). Thus, providing a ready-to-use interactive module can be a practical solution that enhances teaching quality, reduces teacher workload, and increases student motivation simultaneously.

Given these gaps, this study formulates three main research questions. First, how is the process of developing a game-based interactive digital module for the subject of Qur'an Hadith at the MI level? Second, to what extent is the developed module feasible in terms of content validity, media quality, and language appropriateness as assessed by experts and user responses? Third, how effective is the implementation of the game-based interactive digital module in improving students' interest in learning Qur'an Hadith, particularly in Surah At-Tin? These questions are designed to guide the research systematically in addressing both theoretical and practical needs.

Aligned with these questions, the objectives of this research are threefold. The first objective is to design and develop a game-based interactive digital module tailored to the needs of MI students and the content of the Qur'an Hadith. The second objective is to assess the validity and practicality of the module through expert validation (in media, material, and language) and responses from teachers and students. The third objective is to test the effectiveness of the module in enhancing students' interest in learning the Qur'an Hadith. By achieving these objectives, the study seeks to provide both theoretical contributions—by expanding the understanding of GBL integration in Islamic education—and practical benefits, by offering applicable instructional media for teachers in the field.

In summary, this research is grounded in both empirical urgency and theoretical relevance. Empirically, it responds to the challenges of low student motivation in Qur'an Hadith learning at MI Al-Mu'minun by introducing an innovative digital learning tool. Theoretically, it seeks to integrate GBL with instructional design and motivation theory to enrich the discourse on interactive media in Islamic education. Ultimately, this study is expected to contribute significantly by offering a structured, validated, practical, and effective game-based interactive module that can inspire a more engaging and meaningful learning process for Qur'an Hadith subjects at the elementary level.

2. Methods

Research and Development (R&D) used in this study refers to the type of research being conducted, because the primary focus of this research is to produce a product. This research not only seeks to test the effectiveness of a treatment but also places greater emphasis on the process of designing, developing, and testing the feasibility of the desired product. Therefore, the development approach is considered to be most appropriate to the research objectives.

This study employs a five-stage approach based on the ADDIE model. This model was chosen because it has systematic, simple, and flexible steps, making it suitable for use in the development of learning media.

This stage of development research begins by identifying the needs and problems that occur in the field, as well as determining the characteristics of the users of the product to be developed. At the design stage, designing the product concept involves compiling a teaching module that will later be used in the Qur'an Hadith Subject. The development stage includes design development and product validation. Following the implementation and revision of the validation, the implementation stage is conducted as a trial with teachers and students as respondents to assess the practicality of the developed product. After seeing the results of the practicality data test, an evaluation is carried out to see whether the developed product is practical to use or not (Ibrahim & Yusuf, 2019). The last stage involves evaluating the quality of learning products, a process that can be observed before and after implementation. At this stage of evaluation, the quality of the product can be determined through three aspects, namely Perception, Learning (results), and Performance (attitude).

The data collection technique in this study involves open observation, which enables the author to record field events without limitations on answers. This approach also facilitates gathering information about fundamental problems and obtaining insights through questionnaires.

The data analysis techniques used are qualitative and quantitative analysis. Qualitative analysis is used to manage the data from validator reviews. Meanwhile, quantitative analysis is used to manage data on the results of the dissemination of practicality questionnaires, learning interests (students, pre- and post). The analysis procedure involves collecting questionnaires from teachers and students after use, scoring each answer according to the Likert scale, summing the overall scores of all respondents for each statement item, and calculating the total score obtained. The data is then analyzed with the formula (Jaya, 2022).

$$\mathrm{P} = \frac{scores\ obtained}{maximum\ score} x100\%$$

Then, determine the category of results and compare the results of the pre- and post learning interest questionnaire to show an increase as an indicator of effectiveness.

The criteria for testing digital-based learning media products can be seen in the following table.

Table 1. Validity Criteria

Valuation	Criterion
76%-100%	Highly Valid
51%-75%	Valid
26%-50%	Quite Valid
0%-25%	Invalid

Table 2. Practicality Criteria

Valuation	Criterion
76%-100%	Very Practical
51%-75%	Practical
26%-50%	Quite Practical
0%-25%	Impractical

Table 3. Effectiveness Criteria

Valuation	Criterion
76%-100%	Highly Effective
51%-75%	Effective
26%-50%	Quite Effective
0%-25%	Ineffective

3. Results

This development research uses the ADDIE model, which produces products in the form of interactive digital modules about the material. Let us study Surah At-Tin, which is applied at MI Al-Mu'minun Wajo Regency, especially class IV. The following are the stages of developing interactive digital modules.

a. *Analysis*

The analysis stage is the initial stage carried out by the researcher. At the needs analysis stage, several key factors are analyzed, including the following.

1. Needs analysis

The results of the needs analysis were obtained from interviews conducted by researchers with Islamic religious education teachers, as well as observations of student needs. Based on the interview results, it was found that teachers lack the development of e-modules in Islamic religious education subjects. Consequently, during the learning process, they primarily use printed books as teaching materials, indicating a need for an intuitive and efficient learning medium. The researcher also found that the modules used were lacking for students, as they tended to be monotonous, focusing solely on general material, which was occasionally supplemented by pictures taken from the surrounding environment. This is a significant challenge for teachers to demonstrate their ability by leveraging technology to develop engaging and diverse teaching resources or materials, including graphic elements and games that cater to the needs of elementary school students.

2. Curriculum Analysis

Based on the interview results, it was found that MI Al-Mu'minum Wajo continues to use K13. Consequently, the researcher selected Class IV as the research site for developing learning media.

b. Design

The stages of designing or preparing learning media involve developing the concept of Digital Modules, which is based on the results of considering student needs in the analysis. The preparation of learning media is in the form of an interactive digital module *of game-based* learning, which consists of the content components of the learning module, namely the cover, foreword, instructions for use, KI and KD, the purpose of the defense, the content of the material, the requirements/exercises, the summary, and the bibliography. In designing and compiling the module, we utilized the Canva application for visual design and the Heyzine Flipbooks application for digital book creation. Additionally, we incorporated the Wordwall application, a website-based learning game, into the digital module, which features a story concept.

The design of teaching materials for interactive digital modules of game-based learning is presented in the following flowchart.

c. Development

The digital module development stage is the product realization stage that follows the design stage. It involves compiling and producing designs through the Canva application, presenting all pre-designed elements to the stage of product completion in the form of digital-based learning

modules. The development of the module has been adjusted to meet the needs of students, incorporating material on Surah at-Tin in the Qur'an and Hadith lesson for Grade IV students, specifically Mi al-Mu'minun. The results of the development of the digital module (prototype) are presented in several images as follows:



Figure 1. Digital module cover



Figure 2. KI and KD

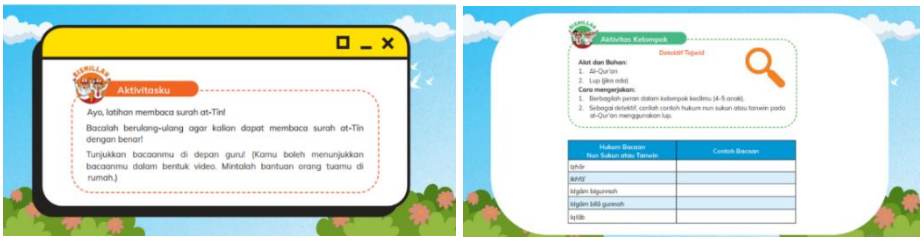


Figure 3. Material Description

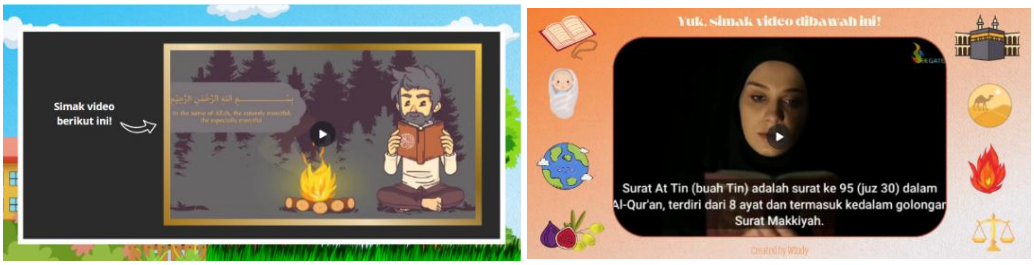


Figure 4. Learning Videos



Figure 5. Game Link

The products that have been successfully developed are then validated to determine the validity of the interactive digital module. Validation is carried out by several experts, including media experts, material experts, and linguists, to obtain assessments and suggestions from the validator, ultimately determining product results without revision.

1) Validation results of media experts

Media expert validation is assessed based on criteria in terms of product usability, appearance, and appeal. It can be seen in the following table.

Table 4. Hasul Test the Validity of Media Experts

Yes	Aspects/Indicators	Total Score	Max score	(%)	category
1	Uses	6	8	75%	Valid
2	Display	18	24	75%	Valid
3	Attraction	6	8	75%	Valid
	Average	**30**	**40**	**75%**	**Valid**

Based on the validity test of media experts, a total score of 30 was obtained, with a maximum score of 40, resulting in a presentation score of 75% and classification in the Valid category.

2) Results of Validation of subject matter experts

The results of the validation of material experts on the digital module can be seen in the following table.

Table 5. Results of the Validity Test of Subject Matter Experts

Yes	Indicators	Total score	Max score	Present (%)	Category
1	Content suitability	11	12	91,6%	Highly Valid
2	Learning materials	11	12	91,6%	Highly Valid
3	Presentation of the mater	16	16	100%	Highly Valid
	Average	**38**	**40**	**95%**	**Highly Valid**

Based on the acquisition of data validated by material experts in the TIFA assessment indicator, a total score of 38 with a maximum score of 40 was obtained, resulting in a percentage of 95% and a very valid category.

3) Linguist Validation Results

The results of the linguistic validation are presented in the following table.

Table 6. Language Validation Test Results

Yes	Indicators	Total score	Max score	Present (%)	Category
1	Language clarity	15	16	93,7%	Highly Valid
2	Readability	10	12	83%	Valid
3	Display	7	8	87%	Highly Valid
	Average	**32**	**36**	**88,8%**	**Highly Valid**

Based on the validity test conducted by linguists on digital-based teaching materials, a total score of 32 was obtained, with a maximum score of 36, resulting in a percentage of 88.8% and a very valid category.

d. Implementation

At this stage, digital-based teaching material products are applied directly to educators to determine whether the developed learning modules are practical. Before it is given to students, it is first assessed in the subject of the Qur'an Hadith for its practicality and the quality of the teaching materials that have been made. This is done for the practicality of digital learning modules from the perspective of an educator. This trial stage was carried out on all grade IV students at MI-Mu'Minun, utilizing assessment questionnaires.

The results of the practicality test based on the responses of educators and students can be seen in the following table.

1) Practicality Results

Table 7. Results of the Educator Practicality Test

No.	Assessment indicators	Score	Max score	Present (%)	category
1	Content eligibility	19	20	95%	Very practical
2	Language	11	12	91%	Very practical
3	Ease of use	8	8	100%	Very practical
4	Benefits	12	12	100%	Very practical
	Average	**50**	**52**	**96%**	**Very practical**

Table 8. Results of Students' Practicality Test

Yes	Assessment indicators	Score	Max score	Present (%)	category
1	Ease of use of media	273	288	94,7%	Very practical
2	Time effectiveness	332	360	92%	Very practical
3	Media uses	266	288	92%	Very practical
	Average	**871**	**936**	**93%**	**Very practical**

Based on the table above, it is evident that educators and students are keen to utilize digital-based learning modules. Let us examine Surah At-Tin in the teaching process, achieving a 96% response rate among educators and a 93% response rate among students, both within the convenient category.

2) Effectiveness Results

The effectiveness test stage is evident in the results of the student learning interest questionnaire. The results of students' learning interests can be seen based on the questionnaire of students' learning interest responses before and after using jar materials. The research subjects, which included students before and after using the digital module, were applied to all grade IV students. The instrument used before the teaching material of the assessment item about learning the Qur'an Hadith on the mathematician is to study Surah At-Tin. Similarly, the instrument used after the digital learning module on the material is to study Surah At-Tin.

The following table presents the results of students' learning interest responses before using digital teaching materials.

Table 9. Results of Students' Learning Interest Questionnaire Before Using Digital-Based Modules

Yes	Indicators	Score	Max score	Present (%)	category
1	Interest in learning	209	288	72.56%	Effective
2	Attention to learning	190	288	65.97%	Effective
3	Feeling good	99	144	69.44%	Effective
	Learning engagement	149	216	68.75%	Effective
	Sum	**647**	**936**	**69.12%**	**Effective**

According to the questionnaire results, 69.12% of students are interested in learning before using digital-based learning media. Let us explore Surah At-Tin to identify an effective category.

Table 10. Results of Students' Learning Interest Questionnaire After Using the Module Digital-Based

Yes	Indicators	Score	Max score	Present (%)	category
1	Interest in learning	283	288	98,26%	Highly Effective
2	Attention to learning	283	288	98,26%	Highly Effective
3	Feeling good	140	144	97,22%	Highly Effective
	Learning engagement	213	216	98,6%	Highly Effective
	Sum	**919**	**936**	**98,18%**	**Highly Effective**

After using digital-based learning media in grade IV, the respondents' questionnaires, which the students had filled out, measuring learning interest, obtained a score of 98.18% with a very effective category.

e. Evaluation

This evaluation stage has been carried out at every stage of the product development process, namely the evaluation of needs analysis, the evaluation of product validation by experts, and the evaluation of product practicality and effectiveness in terms of instruments to produce products that are feasible and practical to be used in the learning process.

4. Discussion

The results of this study aim to address the problem formulation of developing E-learning modules for the Surah At-Tin material. The researcher obtained the points that became the research objectives of the development of interactive digital modules in Surah At-Tin material in class IV Surah Al-Mu'minun as follows.

1) Needs Analysis

Based on the results of observations and interviews, it is known that the learning of Surah At-Tin material is still dominated by the cermah method. The learning media used are generally in the form of packaged books. This makes learning tend to be one-way and less actively involved. Students expressed that they wanted learning to be more varied and fun, especially with technology-based media. The results of the needs questionnaire reveal that most students become bored when learning is confined to lectures. In contrast, educators cite the media as a barrier to developing students' interest in learning.

In line with the opinion (Arsyad, 2011) The right learning media can help educators convey learning messages effectively, attract students' attention, and increase interest in learning. Supported by research conducted by (Mahmudin, 2021)Teaching materials are needed that support the learning process and can stimulate students to focus on the material. This is because learning

requires more concentration in understanding the material well, and teaching materials can provide direct feedback to create a more effective teaching and learning process.

2) Validity

The results of the research, as submitted by the validators, were as follows: media experts achieved a 75% validity rate, material experts a 95% rate, and linguists an 88.8% rate, all within the very valid category. Thus, digital-based learning modules are feasible to be tested for students.

The validity of learning products is assessed after they have been created. This validation is an important step in product development, which aims to find out whether the product developed is suitable for field trials. (Sugiana & Muhtadi, 2019). In relation to the validity according to (Ismawati & Mustika, 2021) Validity is a measure that indicates the level of validity or authenticity of an instrument. (Sugiono et al., 2020) It was explained that validity refers to the extent to which a measuring instrument can accurately and precisely perform its function.

Regarding the concept of validity, it is evident that validity indicates the accuracy and suitability of the percentage results used to assess the validity of learning media from experts. Additionally, validity demonstrates the extent to which the statement aligns with the validity coefficient.

3) Practicality

The assessment of education and students in grade IV of MI Al-Mu'minun was conducted using a response questionnaire. The results of this assessment refer to the level of practicality of the media, as measured by the practicality interval. The assessment of educator responses yielded a percentage of 9615% in the convenient category, whereas the student response questionnaire obtained 93% in the same category. Based on these results, it is evident that digital-based learning modules are efficient for the learning process. Let us examine the material of Surah AT-Tin.

Practicality is a measure of the product's developed skills, its size, and the ease of presentation by students. The results of this study are in line with the findings. (Alwi et al., 2020) In testing the practicality of the learning media developed, it is easy to use and has an attractive design. Based on this explanation, in the practicality of learning media, several aspects need to be considered to support learning, namely, seen from the use of media as a learning support, the suitability of media with the needs of students in the process of understanding learning related to the content of the material and the development of students' experiences, and seen from the perspective of media appearances that contain elements of attractiveness.

4) Effectiveness

The effectiveness assessment aims to determine the level of differences in students' learning interests before and after using learning media in the form of digital modules. Based on the analysis of student response data before and after using learning media, the percentage score increased from 69.12% to 98%, with 18% falling into the very effective category. The use of digital-based learning media in grade IV of MI Al-Mu'minun is stated to increase students' interest in learning.

Digital materials are practical and efficient digital media in the form of images, videos, audio, and audio-visuals that aim to help students solve problems in their own way. (Dayani et al., 2021). The effectiveness of teaching materials is evaluated through the implementation stage, directly with grade IV students, to assess their learning interests. This is achieved by measuring two categories: the learning interest before and after the use of digital teaching materials.

The findings of this study provide several practical contributions. For teachers, the interactive digital module offers ready-to-use teaching material that reduces reliance on conventional methods while making learning more engaging and meaningful. The module can serve as an alternative

instructional tool that is easy to integrate into daily practice, thereby reducing teachers' workload in preparing varied media. For students, the module creates an interactive and enjoyable learning environment that fosters motivation, independence, and active participation. Schools and madrasahs can also benefit by adopting such digital innovations to strengthen their learning culture, making Qur'an Hadith classes more relevant to the needs of digital-native learners.

From a theoretical perspective, this research enriches the discourse on the integration of Game-Based Learning (GBL) with instructional design models such as ADDIE in the context of Islamic religious education. The study demonstrates that modules designed with game-based features can effectively enhance students' learning interest, supporting theories of motivation such as Self-Determination Theory that stress the importance of autonomy, competence, and relatedness. Furthermore, the findings bridge a gap in previous research, which often focused only on standalone digital applications rather than structured, validated, and systematically designed modules. Thus, this research contributes new insights into how digital pedagogy can be tailored to nurture not only cognitive but also affective and spiritual dimensions of student development in Qur'an Hadith learning.

5. Conclusion

The development of an interactive digital module based on game-based learning for the subject of Qur'an Hadith, specifically Surah At-Tin, was successfully carried out using the ADDIE model through the stages of analysis, design, development, implementation, and evaluation. The validation results from media experts (75%), material experts (95%), and linguists (88.8%) confirmed that the module is highly valid and feasible for use in learning. Practicality assessments also demonstrated very positive outcomes, with teacher responses reaching 96.15% and student responses 93%. Furthermore, effectiveness testing indicated a significant increase in students' learning interest, from 69.12% before using the module to 98.18% after implementation, showing that the developed digital module is highly effective in fostering student engagement and motivation.

This research contributes to the field of Islamic education by providing empirical evidence that game-based interactive modules can enhance learning interest in Qur'an Hadith subjects at the elementary level. Practically, the study recommends that future module development should not only assess learning interest but also include students' cognitive and skill-based achievements to gain a more comprehensive understanding of effectiveness. It is also suggested that subsequent developments incorporate more diverse content and adaptive learning features to adjust material difficulty according to students' abilities. Theoretically, this study enriches the discourse on the integration of game-based learning with instructional design models, offering new insights into the design of interactive media that balances pedagogical rigor with engaging digital experiences.

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