

Development of a Gamification-Based *Tajweed* E-Module to Improve the Qur'an Reading Skills of *Madrasah Diniyah* Students

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Abstract: Many *Madrasah Diniyah* students still experience difficulties in understanding and applying *Tajweed* rules due to the limited use of interactive and technology-based learning media. In addition, conventional teaching methods often reduce students' motivation and engagement during the learning process. This study aims to develop a Gamification-Based *Tajweed* E-Module and examine its feasibility, practicality, and effectiveness in improving the Qur'an reading skills of *Madrasah Diniyah* students. The research employed a Research and Development (R&D) approach using the ADDIE model, consisting of analysis, design, development, implementation, and evaluation stages. Data were collected through media and material expert validation, teacher practicality tests, and limited student trials. The results of expert validation indicated that the e-module is highly feasible, with an average score of 3.78 (95%) from media experts and 3.84 (96%) from material experts. Teacher practicality tests showed an average practicality percentage of 95%, while student responses averaged 92%. These findings suggest that the e-module is user-friendly, engaging, and can enhance students' learning motivation. The application of gamification elements, such as points, levels, interactive quizzes, and audio-based learning, was proven to increase student engagement during learning activities. Therefore, the Gamification-Based *Tajweed* E-Module can be considered an effective, practical, and enjoyable learning medium for improving the Qur'an reading skills of *Madrasah Diniyah* students.

Keywords: *Tajweed* E-Module; Gamification; Qur'an Reading Skills; *Madrasah Diniyah*; ADDIE Model.

INTRODUCTION

Effective learning cannot be separated from the role of teaching materials used in the teaching and learning process. Teaching materials function as the main tools to help students understand the material in a systematic and well-directed manner, and in accordance with learning objectives (Ginantara & Aguss, 2022). The use of appropriate teaching materials can increase student engagement, facilitate conceptual understanding, and support the achievement of optimal learning outcomes (Manihuruk & Sutabri, 2024). In educational practice, teaching materials not only present information, but also serve as a link between learning content and students' learning experiences (Tarigan & Sukmawarti, 2025). Therefore, effective use of teaching materials is an important factor in supporting learning success.

In the context of religious education, the availability of appropriate teaching materials becomes increasingly important because the content being taught is not only cognitive in nature, but also related to the formation of attitudes and religious skills (Kamila, 2023). *Madrasah Diniyah*, as a non-formal Islamic educational institution, plays a strategic role in providing religious education to students from an

early age (Maskuro & Acetylena, 2025). Learning in *Madrasah Diniyah* aims to equip students with basic Islamic competencies that can be applied in their daily lives (Cacang et al., 2025). To achieve these objectives, the learning process needs to be supported by effective strategies and learning facilities. Thus, the quality of learning in *Madrasah Diniyah* is strongly affected by appropriate teaching planning and implementation.

Learning how to read the Qur'an is a crucial competence for students of *Madrasah Diniyah*. One of the fundamental aspects of learning the Qur'an is mastery of the science of *Tajweed* (the science that regulates the correct and precise recitation of the Qur'an). Qur'an reading skills are not only related to fluency, but also to accuracy in articulating the *makhraj* (the place where each Arabic letter is pronounced), the characteristics of the letters, and the rules of recitation. However, in practice, many students in *Madrasah Diniyah* still have a limited understanding of the proper application of *Tajweed* (Supriandi, 2021). Kondisi ini memperlihatkan bahwasannya proses belajar tajwid memerlukan strategi efektif dan menarik (Fadhli et al., 2021). Therefore, learning innovations to improve the quality and outcomes of *Tajweed* learning for students are highly needed.

Problems in *Tajweed* learning are usually caused by traditional teaching methods. Teachers commonly use lecture-based, memorization-oriented approaches without support from interactive learning media (Marta, 2022). As a result, students' activeness decreases, and they tend to feel bored during the learning process (Ahmad, 2020). In addition, the *Tajweed* material is relatively abstract, making it difficult for students to understand. The lack of technology-based learning media also becomes an obstacle in creating engaging learning experiences (Sudaryanto & Sofa, 2025). These conditions affect students' low motivation to learn and limited ability to read the Qur'an (Hakim & Hasan, 2023).

The development of technology has provided broad opportunities for advancing digital-based learning media. E-modules represent one form of the digitalization of learning materials. E-modules offer advantages in terms of ease of access, flexibility of use, and the presentation of content that can be adjusted to students' needs (Millar & Schrier, 2015). Through e-modules, learning materials can be organized in a more systematic, engaging, and interactive manner. E-modules also foster students' learning independence (Öngöz & Mollamehmetoğlu, 2017). Therefore, the use of e-modules is considered relevant for implementation in *Tajweed* learning at *Madrasah Diniyah*.

A well-designed learning strategy is required for developing a high-quality e-module. One such approach is the application of a gamification strategy. Gamification can be defined as the use of game elements in contexts that are not related to games, including in learning activities (Saputra, 2022). Elements such as points, levels, challenges, and rewards can stimulate students' engagement during the learning process. In the process of learning *Tajweed*, gamification can accelerate students' understanding of the material in a gradual manner (Fatimah et al., 2023). Therefore, gamification has the potential to optimize students' ability to read the Qur'an significantly.

The development of a gamification-based *Tajweed* e-module is expected to address the problems encountered in *Tajweed* learning. The e-module not only functions as a learning resource, but can also be used as an interactive learning medium that encourages student activeness (Istiqoma et al., 2023). By presenting



material accompanied by exercises and educational games, the *Tajweed* learning experience for students can become more meaningful. This e-module also enables teachers to perform their role as facilitators in the learning process (Fadilah & Sulistyowati, 2022).

Several previous studies have examined *Tajweed* learning among students of *Madrasah Diniyah* from various perspectives. Studies by Andrini et al. (2025) and Khuzaemy (2024) show that students' ability to apply *Tajweed* rules remains relatively low, particularly in *makhraj* and certain recitation rules. Furthermore, studies by Al Hasanah et al. (2025), Nisa and Maharani (2022), and Panjaitan (2023) emphasize that teachers' learning methods affect students' levels of understanding and their skills in reading the Qur'an. Meanwhile, studies by Al Fathoni et al. (2025), Mulyanto et al. (2025), and Ramat (2025) found that engaging learning media or strategies can increase students' motivation to learn *Tajweed*. One example is the application of e-modules that can optimize the delivery of learning materials (Rofiyadi & Handayani, 2021; Ramanda et al., 2023). Although several of these studies have made important contributions to the understanding of *Tajweed* learning, research that specifically develops and examines systematic and contextual *Tajweed* teaching materials in *Madrasah Diniyah* remains limited. Therefore, this study aims to fill this gap by focusing on the development and use of teaching materials, particularly e-modules, to improve the quality of *Tajweed* learning.

The process of optimizing learning media should be carried out systematically and measured. Research and development are applied to create high-quality learning products. The ADDIE model is selected because its stages are fixed and well-structured. Through the implementation of ADDIE, the feasibility, practicality, and effectiveness of product development can be clearly tested (Hendriawan et al., 2023). Therefore, the use of the ADDIE model in developing a gamification-based *Tajweed* E-Module is appropriate for achieving the research objectives. This approach also enables product improvement based on the evaluation results.

Based on this description, this study is conducted to develop a gamification-based *Tajweed* E-Module, to examine its feasibility, and to assess its effectiveness in optimizing the Qur'an reading skills of *Madrasah Diniyah* students. This study is expected to contribute to the development of innovative *Tajweed* learning media. The results of this study are also expected to serve as a reference for teachers in implementing technology-based *Tajweed* learning. In addition, this e-module is expected to foster students' motivation to continue learning. Thus, the *Tajweed* learning process in *Madrasah Diniyah* can be carried out more optimally.

RESEARCH METHOD

This study applied the Research and Development (R&D) method to develop a gamification-based *Tajweed* E-Module and to examine its feasibility and effectiveness in optimizing students' Qur'an reading skills at *Madrasah Diniyah*. The researchers selected the ADDIE development model, which consists of Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). This model was chosen because its structure is systematic, making it suitable for developing technology-based digital teaching materials. The research was conducted in sequential stages to ensure that the resulting product meets the intended objectives.



The analysis stage was conducted to identify the needs of *Tajweed* learning and the problems faced by students of *Madrasah Diniyah* through classroom observations, interviews with teachers, and documentation studies of teaching materials. The design stage focused on planning a gamification-based *Tajweed* E-Module by formulating learning objectives, defining basic competencies, structuring the material, and designing the gamification elements, including points, levels, challenges, and feedback. Furthermore, the development stage involved implementing the design by developing the e-module using digital learning software, which was then validated by subject matter and media experts to assess the feasibility of the content, language, presentation, and visual appearance.

Subsequently, the implementation stage in this study was conducted as a limited trial involving students of *Madrasah Diniyah* Addawam as the research subjects. The implementation focused on the use of the gamification-based *Tajweed* E-Module in learning activities, with data collected through student response questionnaires and teacher response questionnaires to assess the practicality and acceptability of the product. A broader field trial using a pretest–posttest design was planned as a subsequent stage; however, it has not yet been conducted and therefore is not discussed in this article. The evaluation stage was carried out by analyzing the results of expert validation and the limited trial questionnaires. Qualitative data, including suggestions and feedback from experts, teachers, and students, were analyzed descriptively to refine the *Tajweed* E-Module for use as teaching material for *Tajweed* learning in *Madrasah Diniyah*. Meanwhile, quantitative data were obtained from expert validation questionnaires, teacher response questionnaires, and student response questionnaires, which were measured using a four-point Likert Scale and then converted into numerical scores, namely 4 = Very Good/Strongly Agree, 3 = Good/Agree, 2 = Less Good/Less Agree, and 1 = Not Good/Disagree (Sugiyono, 2013). The results of these measurements were analyzed using a feasibility percentage formula and converted into assessment criteria. The formula is presented as follows:

$$P = \frac{F}{N} \times 100$$

Description:

P = feasibility percentage

F = total score

N = highest possible score

The percentage scores obtained from the formula were interpreted according to the criteria presented in Table 1 (Ernawati, 2017).

Table 1. Feasibility Categories

Feasibility Level	Category
81% - 100%	Very Feasible
61% - 80%	Feasible
41% - 60%	Moderately Feasible
21% - 40%	Not Feasible
< 21%	Very Not Feasible



RESULT AND DISCUSSION

This study is a continuation of the initial stage, a needs analysis of *Tajweed* learning in *Madrasah Diniyah*. The analysis indicates that *Tajweed* learning remains dominated by conventional methods, with limited use of learning media, resulting in suboptimal student involvement in the learning process. This condition causes students to be less motivated and to experience difficulties in understanding and applying *Tajweed* rules accurately. Therefore, an innovation was undertaken by developing a gamification-based *Tajweed* E-Module. This development was based on the fact that the majority of students already own smartphones and show a high interest in technology-based learning, particularly through the implementation of this gamification-based e-module. The use of e-modules is considered capable of enhancing students' motivation, engagement, and understanding by integrating educational and game elements in a balanced manner, thereby improving their ability to read the Qur'an in accordance with *Tajweed* rules. The strong student support for this innovation reflects their readiness to adopt modern learning methods.

The development of this e-module was carried out by paying attention to visual aspects, interactivity, and ease of use in order to support the learning process effectively. The next stage of this study is product refinement through a feasibility assessment. The assessment was conducted to ensure that the developed e-module met quality standards for both media and content. Therefore, the following section presents the results of the validation conducted by media experts on the developed gamification-based *Tajweed* E-Module. The media expert validation was conducted by lecturers competent in learning media and educational technology. The results of the media expert validation are presented in Table 2:

Table 2. Results of Media Expert Validation

Expert	Mean Score	Percentage	Category	Conclusion
Media Expert I	4.00	100%	Very Feasible	Eligible
Media Expert II	3.57	89%	Very Feasible	
Average	3.78	95%	Very Feasible	

The validity results from the media experts presented in Table 2 indicate that the developed gamification-based *Tajweed* E-Module falls into the very feasible category. The assessment was conducted by two experts in the field of learning media, focusing on screen display, ease of use, consistency, graphic utilization, and usefulness. Based on the evaluation by Media Expert I, a mean score of 4.00 was obtained, with a total of 100%, while Media Expert II obtained a mean score of 3.57, with a total of 89%. Thus, the overall average reached a score of 3.78 with a percentage of 95%, which is categorized as very feasible. Therefore, in terms of visual appearance, functionality, and technical aspects, the e-module has met good quality criteria.

Nevertheless, Media Expert II provided several suggestions for improving the e-module. These suggestions included adjusting the background to match the subject matter better, adding supporting components such as an introduction, learning objectives, a concept map, and a summary, and adding a navigation button to the main menu on each page. These suggestions are useful for revising the product to make it more optimal. Meanwhile, Media Expert I emphasized that the e-module can be used without revision. Thus, these validity results confirm that the e-module has met the very feasible standard.



Next, the results of the validation conducted by the subject matter expert will be presented. The subject-matter expert in this study is a lecturer who is competent in Qira'ah Al-Qur'an and Islamic Religious Education. The results of the subject matter expert validation are clearly presented in Table 3.

Table 3. Results of Subject Matter Expert Validation

Expert	Mean Score	Percentage	Category	Conclusion
Subject Matter Expert I	3.81	95%	Very Feasible	Eligible
Subject Matter Expert II	3.88	97%	Very Feasible	
Average	3.84	96%	Very Feasible	

The validity results from the subject matter experts presented in Table 3 indicate that the gamification-based *Tajweed* E-Module is categorized as very feasible in terms of content and material presentation. The validation was conducted by two subject matter experts who assessed the feasibility of content, language use, presentation techniques, interactivity, and the application of gamification. Subject Matter Expert I obtained a mean score of 3.81 with a percentage of 95%, while Subject Matter Expert II obtained a mean score of 3.88 with a percentage of 97%. Thus, the overall mean score for the material reached 3.84 with a percentage of 96%, which falls into the very feasible category. Therefore, it can be seen that the presentation of *Tajweed* material aligns with the subject's learning objectives.

The subject matter experts provided several suggestions. Subject Matter Expert I recommended that the language transliteration be aligned with the Ministry of Religious Affairs' standards. Meanwhile, Subject Matter Expert II suggested that greater attention be given to font color selection, as some parts showed insufficient contrast with the background, making them difficult to read clearly. These suggestions were used as references to refine the product so that the material's absorption can be more effective. The validity results, therefore, indicate that this e-module is feasible for use. The following section presents the display of the developed E-Module:



Figure 1. Start Page



Figure 2. Home Page (Main Menu)

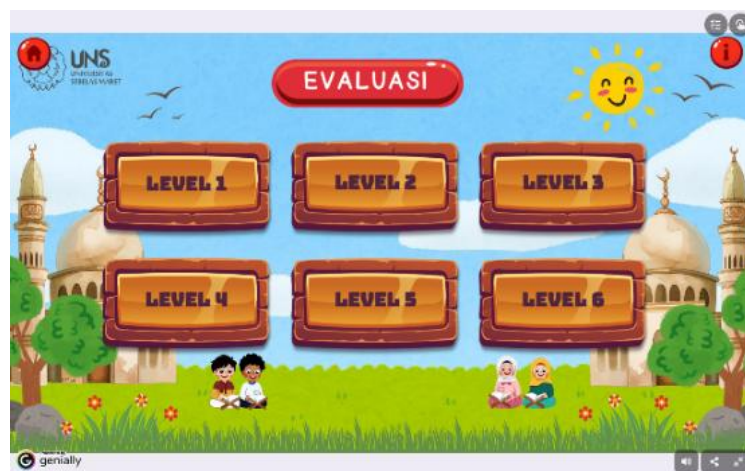


Figure 3. Evaluation Page (Gamification-based)



Figure 4. Sample Evaluation Page

Discussion

The validity assessment conducted by media experts confirms that the gamification-based *Tajweed* E-Module is categorized as very feasible for implementation. The high percentage obtained in the feasibility test indicates that aspects of visual appearance, ease of use, consistency, and graphic quality meet the

standards of digital learning media. This finding affirms that the visual design, layout, and navigation of the e-module optimally support students' learning processes. Visually well-designed learning media can enhance students' focus and learning interest, especially for abstract subjects such as *Tajweed* (Emanuel & Ratni, 2025). Although several improvement suggestions were provided by the media experts, these were intended as refinements and do not reduce the overall feasibility of the product.

The validation conducted by the subject matter experts is also categorized as very feasible, indicating that the presentation of *Tajweed* material is aligned with the learning objectives. The relevance of the content, clarity of language, and completeness of presentation are important factors in assisting students to understand *Tajweed* concepts. The systematic organization of the material and the inclusion of audio, video, and interactive quizzes help accelerate students' understanding when applying *Tajweed* rules in reading the Qur'an. These findings are in line with the principles of digital learning that emphasize the integration of content and media (Sugiantoro et al., 2025). The suggestions regarding transliteration and font color selection indicate the experts' attention to accuracy and students' learning comfort. Overall, the validation results confirm that the e-module is feasible and strong in terms of the substance of the material.

The teacher's practicality test indicates that the gamification-based *Tajweed* E-Module is very practical for learning. This test was conducted by two teachers who evaluated the learning aspects, quality, functionality, and visual appearance of the e-module. Teacher I obtained a mean score of 3.70 with a percentage of 93%, while Teacher II obtained a mean score of 3.90 with a percentage of 98%. The overall average percentage of practicality reached 95% and was categorized as very good. The teachers stated that the e-module facilitates the delivery of *Tajweed* material. Well-structured learning steps, easily understandable language, and the completeness of the material were identified as supporting factors for the practicality of the e-module. The e-module is also useful for fostering students' motivation for independent learning (Arifin et al., 2023). These results indicate that the e-module can function both as a supportive medium for teachers and as an alternative learning resource for students.

The students' responses to the implementation of the gamification-based *Tajweed* E-Module were also positive. This trial involved 12 students who evaluated the learning aspects, quality, functionality, and visual appearance of the e-module. The percentage of student responses ranged from 85% to 100%, with an overall average of 92%, which falls into the very good category. The students stated that the e-module was easy to understand, engaging, and helpful for learning *Tajweed*. The e-module was also easily accessible using both smartphones and laptops. The high percentage of student responses indicates that this e-module can be understood quickly, is engaging, and is enjoyable to use. Gamification elements, such as quizzes and learning audio, can enhance student involvement during the learning process (Pramesti et al., 2025). This shows that gamification can reduce the monotonous impression often found in *Tajweed* learning. Students' interest in the e-module contributes to increased motivation for learning and active participation. Thus, it can provide a more authentic and meaningful learning experience.

The practicality tests conducted with teachers and students show an alignment between the development objectives and the implementation of the product in the



field. The e-module is not only considered feasible and practical, but is also well accepted by its users. This indicates that the product development process has addressed the needs of *Tajweed* learning at *Madrasah Diniyah*. Feedback from teachers and students, such as suggestions to add more examples and increase font size, indicates that users are actively involved in the product evaluation process. These suggestions can serve as a basis for further development to make the e-module more optimal. Thus, the e-module has the potential to be continuously refined in accordance with users' needs.

Overall, the results of this study indicate that developing a gamification-based *Tajweed* E-Module using the ADDIE model has successfully produced a new product that is both valid and practical. Feasibility in terms of media and content, along with positive responses from teachers and students, provides evidence that the e-module can be implemented in *Tajweed* learning. The use of gamification has been proven to enhance students' interest and motivation during the learning process. These findings support the view that integrating technology and game elements into learning can improve the quality of the learning process. Therefore, the gamification-based *Tajweed* E-Module can serve as an alternative learning medium to develop the abilities of *Madrasah Diniyah* students as they practice reading the Qur'an.

CONCLUSION

Based on the study's results and discussion, the conclusion is that developing a gamification-based *Tajweed* E-Module using the ADDIE model has successfully produced a new learning product that is both valid and practical. Validation by media and subject matter experts indicates that the e-module falls into a very feasible category for implementation in *Tajweed* learning at *Madrasah Diniyah*. The practicality tests conducted with teachers and students also demonstrate very positive responses, including ease of use, visual attractiveness, and usefulness in the learning process. The application of gamification elements in the e-module can enhance students' motivation and active participation. Thus, the gamification-based *Tajweed* E-Module can serve as an alternative learning media to improve the quality of *Tajweed* learning and the reading abilities of *Madrasah Diniyah* students in the Qur'an.

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