



Development of an Indonesian Language E-Learning Platform Based on Islamic Values through Gamification Technology

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Abstract

This study aims to develop an Indonesian-language e-learning platform integrated with Islamic values, using gamification to enhance student engagement and meaningful learning in the digital era. The research employed a research and development approach using the ADDIE model, including analysis, design, development, implementation, and evaluation. Needs analysis involved Indonesian language teachers and students to identify learning challenges and integration opportunities. The developed platform provides interactive materials, gamified quizzes, discussion forums, and automated feedback. Expert validation results show high validity, with an average feasibility score of 87.2%, while practicality testing indicates a convenient category, with a user response score of 88.8%. The novelty lies in the systematic integration of gamification and Islamic values within an ADDIE-based Indonesian language e-learning platform.

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Introduction

The development of Indonesian language learning plays a strategic role in developing academic literacy competencies, critical thinking skills, and holistically shaping students' character. Ideally, Indonesian language learning is not only oriented toward mastering linguistic

rules but also toward developing functional, communicative, and contextual language skills across various academic and social situations (Widodo et al., 2022; Widhiyanto et al., 2024). In the context of national education, Indonesian serves as a vehicle for strengthening academic literacy as well as a means of internalizing the nation's noble values, including Islamic values that emphasize noble morals, honesty in language, academic responsibility, and moderation in communication (Abni et al., 2024; Hasanudin et al., 2021).

However, field conditions indicate that Indonesian language learning still faces various fundamental problems. Learning practices tend to be conventional, teacher-centered, and do not utilize digital technology optimally or pedagogically (Putrayasa et al., 2025; Rahmawati et al., 2021). The e-learning platforms used in many educational units generally still function as a medium for distributing materials and assignments, without being designed to be interactive, adaptive, or meaningful for students (Zainuddin et al., 2020; Al-Fraihat et al., 2020). This condition results in low learning motivation, limited student engagement, and suboptimal achievement of Indonesian language learning objectives, especially among the digital generation (Hasanudin et al., 2021; Hamzah et al., 2022).

The challenges of learning Indonesian are increasingly complex in the digital era. Today's students live in a learning ecosystem saturated with technology, visual culture, and interactions based on games and social media. Unpreparedness in Indonesian language learning to respond to these characteristics has the potential to create a gap between the world of learning and the real world of students (Kencana, 2022). Furthermore, the rapid digital flow also poses challenges to values, such as weakening language ethics, increased hate speech, and low awareness of polite language in the digital space (Faiz et al., 2021; Hidayat & Lestari, 2022). Therefore, Indonesian language learning is required not only to foster technological adaptability but also to instill Islamic values as a foundation for character building and language ethics among students.

One relevant innovative approach to addressing these challenges is the use of gamification technology in e-learning platforms. Gamification enables the integration of game elements such as points, levels, challenges, badges, and feedback to increase intrinsic motivation, learning engagement, and the meaningfulness of students' learning experiences (Dichev et al., 2022; Xi & Hamari, 2020). Recent research shows that gamification in language learning can increase active participation, retention of materials, language skills, and positive attitudes toward learning (Sailer & Homner, 2020). However, most gamification-based e-learning development still focuses on cognitive and motivational aspects, without explicitly integrating values and spiritual dimensions.

In the context of Islamic education, internalizing Islamic values in Indonesian language learning is a crucial aspect. Values such as language etiquette, honesty in communication, academic responsibility, and moderation in expressing opinions need to be systematically instilled through structured learning designs (Maarif et al., 2025). An adequately designed e-learning platform can be a strategic medium for integrating these values into interactive,

reflective, and contextually relevant learning activities (Maesaroh et al., 2024). Tawakkal (2025) emphasized that integrating learning technology with Islamic values should not be merely symbolic; it must be internalized into the structure of the material, learning activities, and the assessment system.

Previous research has shown that Indonesian language e-learning generally focuses on the technical aspects of the platform, interactive multimedia, and quantitative improvements in learning outcomes, without explicitly linking these to the integration of Islamic values and an integrated gamification approach (Utami & Handayani, 2023). Other research examines gamification in language learning, but most of this work is conducted in a foreign-language context. It has not been explicitly directed at Indonesian language learning or strengthening Islamic character (Teo et al., 2024). Thus, a significant research gap remains regarding the development of gamification-based Indonesian-language e-learning platforms integrated with Islamic values.

Based on the above description, this study aims to develop an Indonesian-language e-learning platform grounded in Islamic values, using gamification technology that is valid, practical, and aligned with learners' characteristics in the digital era. The novelty of this study lies in the conceptual and practical integration of gamification, Indonesian language learning, and the internalization of Islamic values within a systematically designed e-learning platform oriented towards character building. This research is expected to make theoretical contributions to the development of technology-based Indonesian language learning models and practical contributions to educators in creating innovative, meaningful, and Islamic-characterized learning. Unlike previous research, this study not only uses gamification as a motivational strategy but also fully integrates it into the design, activities, and evaluation of Indonesian language learning.

Method

This study employed a research and development (R&D) method aimed at producing a valid, practical, and suitable product in the form of an Indonesian language e-learning platform based on Islamic values through gamification technology. The R&D approach was chosen because it allows researchers to systematically design, test, and refine learning products based on real user needs and empirical evaluation results. This method is considered relevant to digital learning development because it emphasizes integrating theoretical studies, instructional design, and continuous product testing (Sugiyono, 2022).

The research procedure was implemented through five main stages: needs analysis, design, development, limited implementation, and formative evaluation. The needs analysis stage was conducted to identify the conditions of Indonesian language learning, student characteristics, and the need to integrate Islamic values and gamification into digital-based learning. The analysis involved teachers and students through questionnaires, limited

interviews, and a review of learning documents. The analysis focused on the limitations of the e-learning platform, the level of student engagement, and opportunities to internalize Islamic values in Indonesian language learning activities. This stage serves as the basis for product development, ensuring it is contextual and aligned with real-world learning needs ([Trust & Whalen, 2021](#)).

Based on the needs analysis results, the design phase involved developing a conceptual design for the e-learning platform, encompassing the structure of Indonesian-language materials, the learning flow, and the integration of gamification elements such as points, levels, challenges, and feedback. Furthermore, Islamic values were mapped into learning activities through content, reflection, and task scenarios. The platform design was presented through flowcharts, storyboards, and learning feature specifications, adhering to the principles of meaningful learning and active student engagement. This approach aligns with research findings showing that pedagogically designed gamification can increase student motivation and participation in learning ([Kohnke, 2020](#)).

The development phase involved realizing the design into an online e-learning platform. Indonesian language materials were presented in the form of interactive content, gamification-based quizzes, and reflective activities that integrated Islamic values. The developed product was then validated by Indonesian language, learning media, and Islamic education experts to assess the appropriateness of the content, the quality of the presentation, and the suitability of the integrated values. Expert validation aimed to ensure the academic and pedagogical quality of the product before implementation in learning ([Bond et al., 2021](#)).

A limited implementation was conducted to test the practicality of use and user response to the developed e-learning platform. The trial subjects were purposively selected Indonesian language teachers and students. The platform was used for specific learning activities, and users were then asked to complete questionnaires and participate in guided discussions. This stage aimed to identify the product's strengths and limitations as a basis for improvements before wider use ([Xi & Hamari, 2020](#); [Martin et al., 2022](#)).

The evaluation was conducted formatively by analyzing expert validation results, user responses, and findings during limited implementation. The evaluation focused on usability, learning engagement, and the successful integration of Islamic values into Indonesian language learning. The evaluation results were used as a basis for product revisions to better align with learning objectives and student characteristics ([Dichev et al., 2022](#); [Hodges et al., 2020](#)).

The research subjects involved Indonesian language teachers and students participating in a limited trial. Data collection instruments included a needs analysis questionnaire, an expert validation sheet, a user response questionnaire, and a semi-structured interview guide. Quantitative data were analyzed using descriptive statistics to determine the product's feasibility and practicality, while qualitative data were analyzed through thematic analysis to identify response patterns and provide feedback for improvement ([Sugiyono, 2022](#); [Miles et al., 2020](#)).

Results and Discussion

Results

This section presents research results and an integrated discussion of the development of an Indonesian-language e-learning platform grounded in Islamic values through gamification technology. Product development was conducted using the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. The presentation of the results focuses on a description of the product developed at each ADDIE stage. At the same time, the discussion links the research findings to learning theory, e-learning, gamification, and relevant previous research (Zainuddin et al., 2020). Results of the Development of an E-Learning Platform Based on the ADDIE Model

Analysis Stage (Needs Analysis)

The analysis phase was conducted to identify Indonesian language learning needs and opportunities for integrating Islamic values into digital learning. The needs analysis included a study of student characteristics, Indonesian language learning objectives, and the limitations of conventional learning. The analysis revealed the need for an e-learning platform that is not only interactive but also capable of internalizing Islamic values in a contextualized manner (Hasanudin et al., 2021).

Table 1. Results of Learning Needs Analysis (Analysis Stage)

No	Needs Analysis Aspects	Percentage of Respondents (%)	Category
1	The need for an interactive e-learning platform	87.5	Very high
2	Integration of Islamic values in the material	85.0	Very high
3	Limitations of conventional learning	82.5	Tall
4	Interest in gamification	90.0	Very high
5	The need for automated feedback	88.0	Very high

The needs analysis results showed that the majority of respondents ($\geq 82\%$) stated a need to develop an interactive Indonesian-language e-learning platform integrated with Islamic values. The high level of interest in gamification (90.0%) indicates that a game-based approach has significant potential to increase student engagement. These findings reinforce the urgency of developing a pedagogically and contextually oriented ADDIE-based e-learning platform.

Design Stage (Platform Design)

Platform Interface Design

During the design phase, the e-learning platform was designed using user-centered design principles that emphasize ease of navigation, text readability, and proportional visual appeal. The dashboard displays learning progress, points earned, and recommended learning activities. The selection of colors, icons, and illustrations is tailored to students' characteristics

and the context of Indonesian language learning to create a comfortable, educational learning environment.

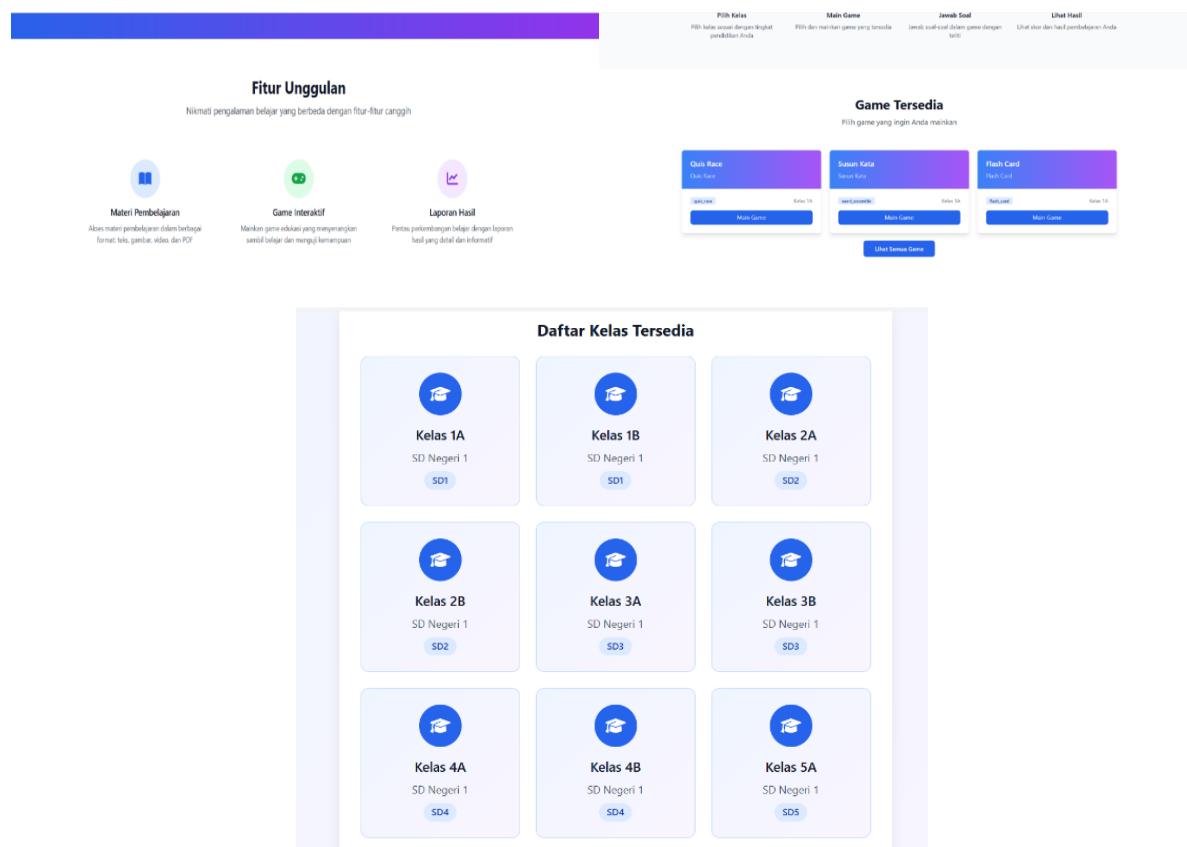


Figure 1. Display of the interface of the Indonesian language e-learning platform based on gamification

Pedagogically, this interface design supports learning engagement by providing immediate visual feedback on student activity. This finding aligns with research suggesting that informative and responsive gamification interfaces can increase student participation and sustain learning in digital learning (Dichev et al., 2022).

Development Stage (Platform Development)

Learning Features

During the Development phase, the design was realized as a functional e-learning platform. This platform has several key features, including: (1) interactive Indonesian language learning materials, (2) gamification-based quizzes and exercises, (3) discussion forums oriented towards instilling Islamic values, and (4) an automated feedback system. The learning materials are presented in interactive text, audio, and visuals tailored to Indonesian language-learning competencies.

The integration of Islamic values is realized through the material, examples of polite language, reflections on moral values, and moral messages at the end of the learning activity. This approach emphasizes that learning technology functions not only as a means of delivering

material but also as a medium for internalizing values and building character (Nuriah et al., 2024).

Table 2. E-Learning Platform Features and Their Functions

No	Learning Features	Function Description
1	Interactive Material	Presenting Indonesian language material in a multimodal manner
2	Gamification Quiz	Measure understanding through point-based and level-based challenges
3	Discussion Forum	Practice polite and argumentative language skills
4	Automatic Feedback	Provide a direct response to learning outcomes

Gamification Content

The gamification content developed includes a points system, levels, badges, and learning challenges. Students earn points each time they complete a learning activity and progress through levels based on competency achievement. Badges are awarded as a token of appreciation for consistent learning, academic honesty, and positive attitudes in discussion forums.

Gamification is designed to foster intrinsic and extrinsic motivation through meaningful and reflective learning challenges. This aligns with the findings of [Xi & Hamari \(2020\)](#), who emphasized that gamification is effective when designed in line with pedagogical goals and students' learning experiences.

Implementation Phase (Limited Implementation)

The implementation phase involved limited trials of the e-learning platform with students and educators. This trial aimed to assess usability, user engagement, and the platform's suitability for Indonesian-language learning in the classroom. The implementation results demonstrated practical usability and positive user feedback.

Evaluation Stage (Formative Evaluation)

The evaluation phase included validity and practicality tests as formative evaluation. The validity test involved subject matter experts and learning media experts to assess the suitability of the content, the integration of Islamic values, and the quality of the interface and navigation design. The validation results indicated that the platform was considered valid.

A practicality test was conducted based on student and educator responses. The results showed that the platform was easy to use, engaging, and facilitated a more interactive Indonesian language-learning experience. These findings reinforce the view that pedagogically and contextually designed e-learning has high acceptance in learning practices ([Widodo et al., 2022](#)).

Table 3. Expert Validation Results of E-Learning Platform (Evaluation – Validity Stage)

No	Rated aspect	Eligibility Percentage (%)	Category
1	Suitability of Indonesian language materials	88.5	Very Valid

No	Rated aspect	Eligibility Percentage (%)	Category
2	Integration of Islamic values	86.0	Very Valid
3	Interface design and navigation	87.5	Very Valid
4	Suitability of gamification elements	85.0	Very Valid
5	Integration with learning objectives	89.0	Very Valid
Average		87.2	Very Valid

Expert validation results showed an average feasibility score of 87.2%, indicating high validity. This indicates that the developed e-learning platform consistently meets standards for material substance, media design, and integration of Islamic values. This high level of validity indicates that the product is suitable for implementation in the learning trial phase.

Table 4. Results of Practicality Test by Users (Implementation Stage)

No	Practical Aspects	Percentage (%)	Category
1	Ease of use of the platform	89.0	Very Practical
2	Clarity of navigation and menus	87.5	Very Practical
3	Attractive appearance and gamification	90.0	Very Practical
4	Clarity of learning materials	86.5	Very Practical
5	Benefits of learning Indonesian	91.0	Very Practical
Average		88.8	Very Practical

The practicality test yielded an average score of 88.8%, placing it in the convenient category, indicating that the platform is easy to use, engaging, and helpful for learning Indonesian. The high score for learning benefits (91.0%) indicates that integrating gamification with Islamic values can positively enhance student engagement and learning experiences.

Discussion

The results of developing an e-learning platform based on the ADDIE model demonstrate that integrating gamification technology and Islamic values into Indonesian language learning can be implemented systematically and sustainably. Each ADDIE stage is interconnected, from needs analysis to formative evaluation, resulting in pedagogically and practically relevant learning products.

From a learning theory perspective, this platform supports the principles of active learning and student engagement because students are actively involved in learning activities that require participation and reflection (Zainuddin et al., 2020). From an e-learning theory perspective, this platform fulfills the characteristics of digital learning: it is interactive, adaptive, and oriented towards user learning experiences (Widodo et al., 2022).

The novelty of this research lies in integrating gamification with the internalization of Islamic values as the conceptual and operational foundation for each stage of the ADDIE model. Unlike previous research that emphasized motivation and learning outcomes, this study grounds e-learning-based Indonesian language learning in Islamic values (Hasanudin et al., 2021; Tawakkal, 2025).

Conclusion

This research successfully developed an Indonesian-language e-learning platform grounded in Islamic values through gamification, following the ADDIE model: needs analysis, design, development, limited implementation, and formative evaluation. The results of the needs analysis indicate a very high demand for an interactive e-learning platform integrated with Islamic values; therefore, the product development is deemed relevant to the context of Indonesian language learning in the digital era. Expert validation results indicate that the developed e-learning platform is highly valid across material suitability, integration of Islamic values, interface design, and gamification elements. Furthermore, practicality testing during the limited implementation phase indicates that the platform is efficient, easy to use, engaging, and capable of increasing student engagement in Indonesian language learning. The novelty of this research lies in integrating gamification and the internalization of Islamic values as the conceptual and operational foundations across each stage of the Development of an Indonesian-language e-learning platform. Theoretically, this research contributes to strengthening the study of technology-based Indonesian language learning oriented toward character building. In practice, the developed e-learning platform has the potential to serve as an alternative, innovative learning medium for sustainable improvements in the quality and engagement of Indonesian language learning.

Authorship Contribution Statement

Tawakkal: acted as the lead researcher, responsible for formulating research ideas and conceptualization, designing and developing methodologies, and managing and controlling all stages of the research. Sahri: contributed to field research, data collection, instrument translation, and final manuscript editing. Cecilia: contributed to the literature review, the discussion, and the formulation of conclusions. Zaka: was responsible for data analysis and presentation, compiling research results, and assisting in supervising the implementation of the research. All authors have read and approved the final version of the manuscript and are responsible for its content.

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