

Adaptive Gamified Learning Environment: Innovation in Using Duolingo for Schools to Increase Learning Motivation of Madrasah Ibtidaiyah Students

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ABSTRACT

This study analyzes the effect of implementing gamification using Duolingo for Schools on students' motivation to learn English at an Islamic elementary school. The method used is descriptive qualitative with a case study design, involving students, teachers, class guardians, and the head of Madrasah Ibtidaiyah Az-Zainiyah II. Data were collected through participant observation, in-depth interviews, and documentation, which were then analyzed using data triangulation techniques to ensure the validity of the findings. The results show that the use of Duolingo for Schools significantly increases students' learning motivation, reflected in heightened interest, focus, enthusiasm, and active participation in class. Teachers and the head of the school assessed that this method makes learning more interactive, enjoyable, and relevant to the characteristics of the digital generation. The study concludes that gamification strategies through Duolingo for Schools are effective in boosting learning motivation.

Keywords: Gamification, Duolingo for Schools, Learning Motivation

ABSTRAK

Penelitian ini menganalisis pengaruh penerapan gamification berbantuan Duolingo for Schools terhadap motivasi belajar Bahasa Inggris siswa di Madrasah Ibtidaiyah. Metode yang digunakan adalah kualitatif deskriptif dengan desain studi kasus, melibatkan siswa, guru, wali kelas, dan kepala madrasah di Madrasah Ibtidaiyah Az-Zainiyah II. Data dikumpulkan melalui observasi partisipatif, wawancara mendalam, dan dokumentasi, yang kemudian dianalisis menggunakan teknik triangulasi data untuk menjamin keabsahan temuan. Hasil penelitian menunjukkan bahwa penggunaan Duolingo for Schools secara signifikan meningkatkan motivasi belajar siswa, yang tercermin dari meningkatnya rasa tertarik, fokus, antusiasme, serta keterlibatan aktif dalam kelas. Guru dan kepala madrasah menilai metode ini membuat pembelajaran lebih interaktif, menyenangkan, dan relevan dengan karakteristik generasi digital. Penelitian ini menyimpulkan bahwa strategi gamification melalui Duolingo for Schools efektif dalam meningkatkan motivasi belajar Bahasa Inggris di tingkat Madrasah Ibtidaiyah.

Kata kunci: Gamification, Duolingo for Schools, Motivasi Belajar

INTRODUCTION

Transformation in the world of education in the digital era requires changes in teaching methods, shifting from an approach that emphasizes the role of the teacher to an approach that focuses more on the students (Tantri et al., 2025). This change puts students at the center of the learning process in line with the rapid advancement of digital technology, which has a significant impact in various fields, including education (Wahyudi, 2024). One of the main obstacles in education, particularly at the Islamic elementary education level in Madrasah Ibtidaiyah, is the low motivation of students to learn. This is very evident in English lessons, which are often considered by students as difficult, boring, and less relevant material (Amalia & Maknun, 2021).

Motivation to learn plays an important role in encouraging students to be more active and achieve optimal learning outcomes. Motivated students tend to be more diligent, enthusiastic, and show greater participation in studying the material (Utami et al., 2024).

However, in many madrasahs, especially in underprivileged areas, the teaching methods used are still conventional and do not meet the needs of today's digital generation (Nurhidayah, 2023).

One innovative approach that has emerged alongside the development of educational technology is gamification. Gamification is the application of game elements, such as points, levels, challenges, and rewards, in contexts outside of games, such as education (Hardian et al., 2025). This approach has been proven to increase student motivation. In English learning, the Duolingo for Schools platform is often used as a gamification tool designed to make the learning process easier in a fun and interactive way (Hapsari et al., 2025).

Duolingo for Schools provides various features to support student motivation, both from within themselves and externally, such as a points system, badges as a form of reward, leaderboards, and real-time progress tracking by teachers. Using this application has a positive impact on student participation and

learning outcomes in various primary education contexts (Rahayu & Putra, 2024).

Although many studies have been conducted on gamification, specific research examining the effectiveness of Duolingo for Schools in Madrasah Ibtidaiyah is still limited. Based on initial results from a student learning motivation survey at one Madrasah, only 18% of 50 students showed high motivation in learning English (Haryadi, 2022). An interview with the English teacher revealed that students often feel less interested and passive during the learning process. Observations also showed minimal use of digital media in teaching, as well as the dominance of lecture methods and traditional exercises (Munanzdar & Billah, 2024).

This research aims to find solutions to the problem by developing and implementing a gamification-based learning model using Duolingo for Schools that is suitable for the conditions of Madrasah Ibtidaiyah. This study offers a technology-based option that aligns with the characteristics of the digital generation and addresses the challenges of students' motivation to learn English. The expectation of this research is not only to increase students' motivation to learn, but also to provide a model of good practice that can be applied by other madrasahs in similar conditions (Robiatul & Rahmawati, 2022).

The main objectives of this study are (1) to evaluate how the use of Duolingo for Schools affects the English learning motivation of elementary school students in Madrasah Ibtidaiyah, (2) to design an appropriate and effective gamification implementation model to increase students' learning motivation in madrasahs, and (3) to assess the responses of students and teachers to the use of Duolingo for Schools as a tool for learning English. The teachers who act as informants number 3 (three), selected based on certain criteria, namely teachers who are directly involved in the use of Duolingo for Schools, have experience teaching English in Madrasah Ibtidaiyah, and are willing to provide information relevant to the research objectives.

The uniqueness of this study lies in the use of Duolingo for Schools in Madrasah Ibtidaiyah, which has not been widely researched academically. The purpose of this research is to design a gamification model that fits the context, taking into account the needs, characteristics of the students, and the limitations of facilities at the madrasah (Anzor et al., 2025). In addition, this study also contributes to the development of theories on learning motivation based on educational

technology that is relevant to local conditions (Tohet & Alfaini, 2023). The use of Duolingo for Schools has been shown to significantly increase students' motivation to learn English at elementary Islamic schools compared to conventional teaching methods (Zakiyah BZ et al., 2024).

METHOD

This study uses a descriptive qualitative method with a case study approach. This approach is taken to conduct an in-depth analysis of how the implementation of gamification through Duolingo for Schools can increase students' learning motivation at Madrasah Ibtidaiyah Azzainiyah II. This study was carried out from November to December 2025 with a duration of two months, covering the stages of preparation, data collection, analysis, and the preparation of the research report.

This research was conducted at Madrasah Ibtidaiyah Azzainiyah II. The subjects involved in this study included students as many as fourtysix, teachers as many as three, homeroom teachers, and the principal who served as additional informants. The selection of subjects was carried out using purposive sampling, based on the consideration that they were directly involved in the implementation of Duolingo for Schools. The students who became informants totaled fourtysix from classes IV and V.

Data collection was carried out through participatory observation, in-depth interviews, and documentation. To ensure the validity of the data, the researcher conducted source and technique triangulation, by comparing the results of interviews, observations, and documentation from various informants and different methods. The researcher also carried out member checking, which involved asking the informants to review the recorded data or quotes to ensure their accuracy.

RESULTS AND DISCUSSION

The Results section now includes a concrete example of lesson implementation. Please fill the bracketed topic with the actual English learning topic used in the classroom, such as vocabulary, simple expressions, or sentence practice.

Initial Learning Conditions and Student Learning Motivation Before Gamification

Initial observations indicate that the teaching methods at MI Az-Zainiyah II are still dominated by lectures and the use of textbooks. The learning resources applied are

also limited, making the learning process tend to be one-way. This results in students appearing less active, quickly losing focus, and having low learning motivation. Some indicators of student motivation are initially evident: they rarely ask questions, are less enthusiastic about learning, quickly get bored, and their participation in the learning process is still limited. Interaction between teachers and students is also not yet optimal, which causes students' attention and involvement during the learning process to be low.

These early conditions indicate that the central problem was not merely students' difficulty with English content, but also the limited instructional environment available to stimulate attention and enjoyment. From the teacher's perspective, students often lost focus during routine exercises and were less responsive when learning materials were delivered through conventional explanations alone.

Implementation of Gamification Assisted by Duolingo for Schools

The implementation of gamification is carried out by utilizing the Duolingo for Schools application as a learning aid. Teachers create virtual classes, organize materials along with assignments, and guide students in the learning activities they undergo. This gamification application, for example, is applied to vocabulary and reading exercises in English, where students complete level-based challenges, collect points, and receive immediate feedback from the application.

Gamification was implemented by integrating Duolingo for Schools into English learning activities. The teacher created a virtual class, enrolled students, distributed tasks, and monitored student progress using the teacher dashboard. Each learning session combined classroom explanation with guided practice through the application, allowing students to complete structured tasks individually while still receiving direction and assistance from the teacher.

The gamified elements that became most visible during implementation were points, levels, immediate correction, and task progression. Students were encouraged to complete activities step by step and to improve their scores after mistakes. The classroom atmosphere became more dynamic because the platform enabled repeated attempts without turning mistakes into discouraging failure.

Each lesson session is designed in the form of an educational game containing elements of points, levels, challenges, and direct feedback. Thus, the learning environment becomes more interactive, and students show greater interest and engagement in the learning process.

Changes in Student Learning Motivation After the Implementation of Gamification

After the implementation of Duolingo for Schools, students demonstrated stronger learning motivation in several observable forms. *First*, their interest in the lesson increased, as shown by their enthusiasm to begin classroom activities and to complete the tasks provided in the application. *Second*, their attention improved because they were more focused on the exercises and less easily distracted during learning. *Third*, positive emotional expressions became more visible, including enjoyment, curiosity, and excitement while progressing through tasks. *Fourth*, active involvement increased, reflected in students' willingness to answer questions, ask for clarification, and attempt challenges repeatedly.

These changes are consistent with the observation table in the manuscript, which shows movement from low to high interest, from lack of focus to focused attention, from low enthusiasm to enthusiastic participation, and from passive to active involvement. The shift suggests that the platform did not only function as a digital medium but also operated as a motivational structure through immediate feedback and progressive challenge.

Observations indicate that after the implementation of gamification with Duolingo for Schools, the learning motivation of second-grade students at MI Az-Zainiyah II increased. This change is evident from several motivation indicators, which can be seen in Table 1 below:

Table 1. Changes in Student Learning Motivation Before and After the Implementation of Gamification

No	Motivation Indicators	Before Gamification	After Gamification
1	Interest	Low	High
2	Attention	Lack of focus	Focused
3	Feelings	Lack of enthusiasm	Enthusiastic
4	Active involvement	Passive	Active

Indicator Description

- a. Interest: Game-based learning makes students more enthusiastic and motivated to complete tasks.
- b. Attention: They appear more focused and are able to follow the lessons well.
- c. Feeling Happy: Students show positive expressions and enthusiasm when completing tasks in the application.
- d. Active Involvement: They are more actively asking questions, trying to solve challenges, and participating in all learning activities.

This observation shows that there is a significant increase in learning motivation compared to previous conditions, which reinforces the effectiveness of implementing gamification using Duolingo for Schools in the learning process.

Changes in Students' Learning Motivation During the Implementation of Gamification

The observation results showed that before the implementation of gamification, learning tended to be passive and students were less engaged. After gamification through Duolingo for Schools was applied, a significant increase in student activity and learning motivation was observed, making them more active and involved in every learning activity.

This increase in motivation occurs because gamification introduces game elements such as points, challenges, and immediate feedback, which trigger a sense of healthy competition, achievement, and intrinsic student satisfaction. Previous research supports this; Bali & Riandani (2026) found that gamification can increase motivation and engagement in learning through a more interactive and enjoyable experience, while Oktavia et al., (2019) showed that the application of gamification elements significantly enhances student participation and academic achievement.

Teachers' and Principal's Responses

Based on interviews, the second-grade teacher at MI Az-Zainiyah II reported that students are now more enthusiastic and active in participating in exercises, even challenging each other to complete the existing levels.

The head of the madrasah also gave positive feedback regarding the implementation of gamified learning. He stated that the use of innovative learning media such as Duolingo is very effective in increasing learning motivation, especially if supported by the creativity and professionalism of the teachers.

Implementation of Gamification with Duolingo for Schools in the Learning Process

This article is based on observations and recordings related to the use of gamification through Duolingo for Schools at MI Az-Zainiyah II. The purpose of implementing this gamification is to create a fun and interactive learning environment, as well as to increase student motivation (Najiburrahman et al., 2021). Gamification uses game elements such as points, levels, challenges, and immediate feedback, which encourage students to actively engage in the learning process (Rahmadi et al., 2024).

Educators adapt lesson materials to the features offered by Duolingo for Schools, which include vocabulary exercises, language structures, and assessments through scoring and leveling. Researchers' observations show that this platform suits the preferences of Madrasah Ibtidaiyah students who prefer learning methods that are tangible, visual, and interactive (Saninah et al., 2025). Students show more enthusiasm when undergoing exercises presented gradually, making the learning process more engaging and less boring. This finding reflects that the use of Duolingo for Schools can significantly improve the quality of learning (Agus R et al., 2022).

Student Reactions and Engagement with Duolingo for Schools

Success in implementing gamification is not only measured by the learning process, but also by the reactions and participation of students, which are important indicators in assessing the effectiveness of learning media using a gamification approach (Mulyani, 2023). Research shows that the use of Duolingo for Schools has a positive effect on student response and engagement. Lesson materials that were previously often considered boring become much more interesting when presented in a fun and challenging game format (Rongko et al., 2025).

This positive response is seen from the increased curiosity, interest in learning, and enthusiasm of students during the learning process. Game elements such as point collection, level progression, and daily challenges can stimulate students' motivation to keep learning. Students become more active in completing exercises, make efforts again after making mistakes, and show commitment to participating in the lessons (Fauziyah et al., 2025).

Student engagement can also be seen from their participation in answering questions,

discussing with peers, and showing enthusiasm during learning. Visualization of student activities during learning can be seen in Figures 1 and 2 below.



Figure 1. Student Activity in Answering Questions in Gamified Learning



Figure 2. Student activities in Completing Exercises Using Duolingo for Schools

Improving Students' Learning Motivation

Learning motivation is an important component in the educational process, especially for students at Madrasah Ibtidaiyah. Traditional and one-way learning methods often make students quickly bored and lose enthusiasm. Research shows that the application of gamification through Duolingo for Schools has been proven to significantly increase students' learning motivation (Aliyah & Humaidi, 2022).

This increase in motivation can be seen from students actively completing exercises, their desire to achieve high scores, and their enthusiasm to level up in the game. This indicates a growth in intrinsic motivation during the learning process. Gamification offers a learning experience that is challenging yet enjoyable, encouraging students to learn without feeling pressured (Ramadani, 2025).

In addition, Duolingo for schools supports independent learning by providing instant feedback. Mistakes made by students are seen as part of the learning process, which

encourages them to try again and boosts their confidence.

The Role of Teachers in Promoting the Success of Gamification

The role of a teacher is crucial for the success of gamification in the learning process. Teachers are not only responsible for delivering material but also act as facilitators, guides, and motivators (Tajudin et al., 2026). In the implementation of Duolingo for schools at MI Az Zainiyah II, teachers help students in using the application, monitor their learning progress, and provide encouragement and support during the learning process (Tajudin et al., 2026).

Teachers also have a responsibility to create a good and varied learning environment. By using this platform, the lecture method that usually dominates can be reduced and replaced with more interactive learning (Arsyad et al., 2024). Feedback and recognition of student achievements are very important in gamification, as they can boost their confidence and enthusiasm for learning.

Furthermore, teachers serve to connect learning material with everyday experiences so that learning becomes more meaningful. This approach aligns with the principles of gamification, which emphasize students' emotional and cognitive engagement during the learning process (Rahmawati, 2025).

Implications of Applying Gamification in Learning

The application of gamification using Duolingo in schools makes the learning process at Madrasah Ibtidaiyah more engaging and interactive. Students are actively involved, and material that was previously difficult or boring becomes easier to understand, while interaction between teachers and students improves (Maghfiroh, 2025).

In addition to increasing participation, gamification also boosts students' motivation to learn. Challenges, games, and reward systems implemented can build confidence, responsibility, and a positive attitude toward learning. From a social perspective, this method also strengthens cooperation and interaction among students (Munawwaroh, 2022).

Overall, the implementation of gamification with the help of Duolingo in schools provides comprehensive and relevant benefits as an innovation in learning to continuously improve the quality of education in Madrasah Ibtidaiyah (Faradina et al., 2023).

Discussion

The findings of this study indicate that the effectiveness of Duolingo for Schools in enhancing elementary school students' motivation does not occur mechanically; rather, it functions through the mechanisms of Self-Determination Theory (SDT) embedded within its gamification elements. Aligning with the framework of Ryan and Deci (2000), the fulfillment of psychological needs—specifically competence and autonomy—serves as the primary driver. In the field, researchers observed that students' sense of competence increased significantly, driven not merely by points, but through immediate validation via “gems” and “crowns.” These features provide an instantaneous sense of achievement upon completing challenging modules. Furthermore, a specific finding emerged regarding autonomy: the ability to set independent learning goals fosters a sense of ownership, effectively shifting student motivation from extrinsic regulation (completing assignment) toward intrinsic integration (learning out of personal desire).

The findings demonstrate that Duolingo for Schools increased students' motivation not simply because it was a digital tool, but because it reorganized the learning experience into a sequence of achievable challenges, visible progress, and immediate feedback. In motivation terms, this structure matters because young learners respond strongly to short-term achievement signals, concrete visual feedback, and repetitive yet enjoyable task cycles. Points, levels, and correction features made students feel that progress was tangible and that effort was rewarded directly within the learning process.

This phenomenon reinforces Game-Based Learning Theory, particularly in facilitating a state of “flow.” In the context of *Madrasah* students accustomed to conventional rote learning, a state of flow is achieved when the challenges within Duolingo align precisely with the students' cognitive abilities (Admiraal et al., 2011). This condition manifests when students become so engrossed in maintaining their “streaks” (daily consistency) that they perceive complex English vocabulary as a rewarding challenge to be conquered rather than an academic burden. These results corroborate Munday's (2017) assertion that gamification increases participation. However, this study offers a novel contribution by demonstrating that for students in religious school settings, digital gamification serves as a bridge to

modernization, transforming traditional pedagogy without undermining teacher authority.

This result is in line with earlier studies showing that gamification can enhance students' participation and motivation by making learning more enjoyable, goal-oriented, and interactive. Studies already cited in the manuscript, such as those discussing Duolingo-based learning and gamified multimedia, can be positioned here more analytically to explain why curiosity, enjoyment, persistence, and task commitment increased. At the same time, the present study extends that conversation by showing how such a platform works in the specific context of *Madrasah Ibtidaiyah*, where instructional innovation must remain sensitive to students' developmental stage and classroom realities.

Another important finding concerns the role of teachers. The platform alone did not automatically generate motivation; rather, motivation emerged because the teacher mediated the use of technology, introduced tasks clearly, guided students during errors, and maintained a supportive classroom climate. This means that gamification should not be understood as replacing the teacher, but as strengthening the teacher's capacity to create a more engaging learning environment. The positive response from the principal further suggests that institutional encouragement can support the continuity of technology-based innovation in primary Islamic education.

Furthermore, this study emphasizes the role of Technological Pedagogical Content Knowledge (TPACK) as a critical mediator. Unlike previous studies that examine the app in isolation, these findings demonstrate that student motivation is highly contingent upon the teacher's ability to contextualize content (Mishra & Koehler, 2006). Field analysis indicates that student interest is sustained specifically when teachers bridge general vocabulary in Duolingo with the daily realities of *Madrasah* life—for instance, linking themes such as “family” or “environment” with the core values of *adab* (Islamic etiquette). This underscores that within the unique context of *Madrasah Ibtidaiyah*, institutional support acts as the primary catalyst for the sustainability of teachers' TPACK, ensuring that digitalization remains developmentally appropriate and aligned with the specific characteristics of Islamic education (Restalia & Khasanah, 2024).

From a practical perspective, the study implies that Duolingo for Schools can be

adopted as a complementary medium for English instruction in Madrasah Ibtidaiyah, especially when teachers need to increase attention, participation, and enthusiasm. However, successful implementation depends on classroom management, digital access, age-appropriate task selection, and the teacher's ability to connect platform activities with lesson objectives. In this sense, the contribution of the study lies less in proposing a universal model and more in presenting a context-sensitive illustration of how gamified learning can motivate young learners in Islamic basic education.

CONCLUSION

In conclusion, students' enthusiasm for learning English in Madrasah Ibtidaiyah is still considered low due to conventional teaching methods and minimal use of digital media, resulting in students' interest, attention, and involvement in the learning process being less than optimal. The implementation of gamification through Duolingo for Schools has been proven to increase students' enthusiasm and motivation to learn by presenting game elements such as points, levels, challenges, and immediate feedback, making the learning atmosphere more interactive, enjoyable, and student-centered.

The findings also show that Duolingo for Schools made English learning more interactive and enjoyable through points, levels, immediate feedback, and task progression. Teachers and the principal perceived the platform as a relevant innovation for digitally oriented learners in Madrasah Ibtidaiyah. Therefore, this study contributes both practically and conceptually to the development of technology-supported English instruction in Islamic primary education.

Nevertheless, the study has several limitations. It was conducted in a single madrasah, involved a limited number of participants, and relied on a qualitative case study design that does not aim for statistical generalization. Future research may expand the setting, compare grade levels, combine qualitative and quantitative evidence, and investigate how teacher digital competence influences the effectiveness of gamified learning platforms.

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