

Original Article

Impact of Gamified Learning Platforms on Student Motivation in Grade 3

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Abstract

This study examined the association between the reported level of gamified learning platform implementation and student motivation among Grade 3 pupils in selected public elementary schools in Sultan Kudarat, Philippines, during School Year 2025–2026. Specifically, it determined the level of implementation of gamified learning platforms in terms of game mechanics, interactive digital activities, reward system, and feedback system; assessed the level of student motivation in terms of interest in learning, participation and engagement, and persistence in task completion; identified the challenges encountered by the pupils; and examined the relationship between gamified learning platform implementation and student motivation. The study employed a quantitative descriptive-correlational design involving 63 Grade 3 pupils from three selected public elementary schools in Sultan Kudarat, Philippines. The gamified learning platforms utilized by the pupils included Kahoot!, Quizizz, Prodigy, and Classcraft. Data were gathered using a researcher-made questionnaire validated by a Master Teacher and tested for reliability, yielding a Cronbach's alpha of 0.8877. Descriptive statistics, including mean and standard deviation, were used to summarize the data, while the Pearson product-moment correlation coefficient was used to examine the relationship between the variables at the 0.05 level of significance. Results showed that the reported level of gamified learning platform implementation was very high ($M = 4.21$, $SD = 1.06$), while student motivation was also very high ($M =$

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4.61, SD = 0.77). The pupils reported a high level of challenges ($M = 3.49$, $SD = 1.29$), particularly regarding the need for teacher guidance. A moderate positive and statistically significant association was found between gamified learning platform implementation and student motivation ($r = 0.49$, $p < .05$). These findings indicate that higher reported levels of gamified learning platform implementation tended to be associated with higher reported levels of student motivation. However, the correlational design does not establish a causal relationship between the variables. The findings provide context-specific evidence of an observed association between pupils' reported experiences with gamified learning platforms and their reported motivation.

Keywords: descriptive-correlational design, gamified learning platforms, Pearson product-moment correlation, Philippines, primary-level students, student motivation

1. Introduction

In recent years, the integration of technology into educational settings has reshaped the way students learn, interact, and engage with academic content, as highlighted by Zainuddin and Chu (2020), who discussed how digital tools transform instructional delivery. This growing use of technology in education also aligns with the United Nations Sustainable Development Goal 4 (SDG 4: Quality Education), which promotes inclusive and equitable quality education and encourages the use of innovative strategies to improve learning opportunities for all learners. Among the most innovative approaches is gamified learning, which incorporates game elements such as points, badges, levels, challenges, and rewards into traditional instruction. This method is supported by Koivisto and Hamari (2019), who found that gamification enhances learners' participation and enjoyment. This approach has gained popularity as educators seek ways to boost motivation, sustain attention, and improve learning outcomes, particularly among primary students. Primary learners, being naturally curious, playful, and receptive to interactive experiences, benefit from gamified platforms that create stimulating classroom environments and enhance engagement and learning outcomes (Kocakoyun & Ozdamli, 2018).

Motivation plays a crucial role in students' willingness to engage in learning tasks. Huang et al. (2019) emphasize that motivated learners demonstrate greater persistence, higher confidence, and better academic performance. However, many primary learners still struggle to maintain motivation due to monotonous instruction, low engagement, or limited interactive learning opportunities. These challenges

highlight the need for alternative instructional approaches that align with children's developmental characteristics and support their cognitive, emotional, and social growth.

Gamified learning platforms such as Kahoot!, Classcraft, Prodigy, and Quizizz are widely used in schools worldwide. These platforms combine education with play by offering activities that encourage participation and provide instant feedback, rewards, and recognition, which help increase motivation. Research also shows that gamification can boost participation, build self-confidence, and stimulate intrinsic motivation by satisfying students' natural desire for achievement and competition (Koivisto & Hamari, 2019). For primary-level learners, who respond well to visual cues, interactive tasks, and friendly competition, gamified lessons can significantly enhance motivation and interest in classroom activities.

Despite the growing use of gamified learning tools, research on their effects on primary students' motivation, especially in local contexts, remains limited. While some studies report positive outcomes, others caution that excessive gamification may shift focus from learning to earning rewards (Zainuddin et al., 2020b). Its impact may also vary depending on learners' abilities, teacher implementation, technology access, and classroom environment. The role of gamification has become even more relevant as schools continue to adopt digital learning tools following the challenges of the COVID-19 pandemic, making it essential to determine whether these platforms genuinely enhance learning or only provide temporary engagement (Kalogiannakis et al., 2021).

This study examined the impact of gamified learning platforms on the motivation of primary-level students, focusing on their influence on interest, participation, engagement, and persistence in task completion. Although these platforms were increasingly used, gaps remained in understanding their effects in Philippine classrooms, particularly regarding intrinsic and extrinsic motivation, long-term engagement, and learning outcomes, as well as factors such as teacher implementation, learner differences, technological access, and curriculum alignment. Therefore, this study explored how gamified learning platforms contributed to meaningful, enjoyable, and sustained learning experiences in a technology-rich, post-pandemic classroom environment.

2. Methodology

The study employed a quantitative descriptive-correlational research design to examine the relationship between the reported level of gamified learning platform implementation and student motivation among Grade 3 pupils. The descriptive component determined the levels of gamified learning platform implementation, student motivation, and challenges encountered during gamified learning activities. Meanwhile, the correlational component examined the strength, direction, and statistical significance of the relationship between gamified learning platform implementation and student motivation. The study did not involve experimental

manipulation, treatment and control groups, or pre-intervention and post-intervention measurements. Both variables were assessed using a researcher-made questionnaire administered to the same respondents during approximately the same period. Thus, the research focused on identifying statistical associations rather than establishing causal relationships between gamified learning platform implementation and student motivation.

The study was conducted during School Year 2025–2026 in three selected public elementary schools in Sultan Kudarat, Philippines. These schools were selected because they served Grade 3 pupils and incorporated technology-based learning activities into classroom instruction. The respondents consisted of 63 Grade 3 pupils drawn from a total population of 75 learners enrolled in the participating schools. The sample size was determined using Slovin's formula with a 5% margin of error. Proportionate random sampling was employed to distribute the respondents across the three participating schools, with 9, 24, and 30 pupils selected from the respective schools. The sampling procedure provided eligible pupils within each school an opportunity to participate while maintaining proportional representation across the participating schools. The inclusion criteria covered officially enrolled Grade 3 pupils during the specified school year, while those who were absent during data collection or whose parents or guardians did not provide consent were excluded.

The gamified learning platforms examined in the study included Kahoot!, Quizizz, Prodigy, and Classcraft. These platforms represented the digital learning resources experienced by the participating Grade 3 pupils during their regular classroom activities. Their features included game mechanics, interactive digital activities, reward systems, and feedback mechanisms, which corresponded to the indicators measured in the research instrument. The learning activities involved interactive questions, game-based exercises, feedback on pupils' responses, and reward-related features designed to encourage participation in classroom learning tasks. The utilization of these platforms reflected the existing instructional practices of the participating teachers and schools. The researchers did not prescribe or control the frequency, duration, or manner of platform utilization. Consequently, the study examined pupils' naturally occurring experiences with gamified learning platforms rather than implementing a researcher-controlled instructional intervention.

A researcher-made survey questionnaire served as the primary instrument for data collection. The questionnaire was developed in accordance with the research objectives and statement of the problem and consisted of four sections: respondents' profile, level of gamified learning platform implementation, level of student motivation, and challenges encountered during gamified learning activities. The implementation section assessed four indicators: game mechanics, interactive digital activities, reward systems, and feedback systems. The student motivation section measured interest in learning, participation and engagement, and persistence in task completion. Meanwhile, the challenges section examined difficulties encountered by pupils, particularly technical concerns and the need for teacher guidance. The questionnaire items were written using simple, clear, and age-appropriate language to

facilitate comprehension among Grade 3 pupils and enable them to provide responses based on their experiences.

To establish content validity, the research instrument underwent expert validation by Master Teachers with expertise in elementary education and instructional practices. The validators assessed the questionnaire items in terms of clarity, relevance, appropriateness, and alignment with the research objectives and variables being measured. Their comments and recommendations were considered in refining the instrument before its administration. The validation process yielded an overall mean validity score of 4.41, interpreted as Very Highly Valid, indicating that the questionnaire items were considered appropriate and relevant to the intended constructs. Following content validation, reliability testing was conducted to determine the internal consistency of the instrument. The analysis yielded a Cronbach's alpha coefficient of 0.8877, indicating good internal consistency among the questionnaire items. These results provided supporting evidence of the instrument's content validity and reliability for data collection.

Responses to the questionnaire were measured using a five-point Likert scale, with the following response categories: 5 – Strongly Agree, 4 – Agree, 3 – Moderately Agree, 2 – Disagree, and 1 – Strongly Disagree. The responses were used to determine the reported levels of gamified learning platform implementation, student motivation, and challenges encountered by the respondents. The use of a standardized response scale facilitated the quantification and statistical analysis of pupils' reported experiences with gamified learning activities.

The data-gathering procedure followed a systematic process to ensure the proper administration of the research instrument. Before conducting the study, the researchers secured the necessary permission from the administrators of the participating schools. Informed consent was obtained from the parents or legal guardians of the pupil respondents, and the pupils were informed about the purpose of the study and the voluntary nature of their participation. The questionnaire underwent validation and pilot testing, with necessary revisions incorporated based on the recommendations of the validators. Following these procedures, the finalized questionnaires were administered during regular class hours with the assistance of the class advisers. Clear and age-appropriate instructions were provided to ensure that the respondents understood the questionnaire items and response procedures. After administration, the completed questionnaires were collected, checked for completeness, organized, coded, and tabulated for statistical analysis.

Ethical considerations were observed throughout the conduct of the study, particularly because the respondents were minors. Participation was voluntary, and the respondents were informed of their right to withdraw at any stage without penalty or unfavorable consequences. The confidentiality and privacy of the participants were protected by excluding personally identifying information from the questionnaires and restricting access to the collected data to the researchers. The identities of the participating schools were also withheld in reporting the findings to maintain institutional confidentiality. All information gathered was used exclusively for

academic and research purposes. Furthermore, appropriate safeguards were observed to minimize potential physical, emotional, or psychological discomfort associated with participation in the study.

The collected data were analyzed using descriptive and inferential statistical methods with the aid of statistical software. Mean and standard deviation were employed to determine the reported levels of gamified learning platform implementation, student motivation, and challenges encountered by the respondents. These descriptive measures provided a quantitative summary of pupils' experiences with gamified learning activities and their reported motivation. Meanwhile, the Pearson product-moment correlation coefficient (Pearson r) was utilized to determine the strength, direction, and statistical significance of the relationship between gamified learning platform implementation and student motivation. The level of significance was set at .05 to determine whether the observed relationship was statistically significant.

The results of the correlational analysis were interpreted within the limitations of the descriptive-correlational research design. A statistically significant correlation was considered evidence of an association between the measured variables rather than a direct causal relationship. Since both gamified learning platform implementation and student motivation were measured through self-reported responses obtained from the same pupils during approximately the same period, the analysis did not establish temporal precedence or determine whether changes in one variable produced changes in the other. Accordingly, the findings were interpreted as evidence of the observed relationship between pupils' reported experiences with gamified learning platforms and their motivation within the participating public elementary schools in Sultan Kudarat, Philippines.

3. Results

Table 1. Level of implementation of the gamified learning platform.

Variables	Mean	SD	Interpretation
Game Mechanics	4.33	1.06	Very High Implementation
Interactive Digital Activities	3.63	1.47	High Implementation
Reward	4.79	0.60	Very High Implementation
Feedback System	4.34	1.09	Very High Implementation
Overall Mean	4.21	1.06	Very High Implementation

Table 1 shows that the reported level of gamified learning platform implementation was very high overall. among the indicators, the reward system obtained the highest rating, indicating that reward-related features were the most strongly reported aspect of the platforms used by the pupils. The feedback system and game mechanics were also rated at a very high level of implementation. In contrast, interactive digital activities received the lowest rating and was interpreted as high implementation. Overall, the results indicate that the pupils reported substantial

exposure to the different features of gamified learning platforms, with reward-related features being the most prominent.

Table 2. Level of student motivation.

Variables	Mean	SD	Interpretation
Interest in Learning	4.47	0.91	Very High Motivation
Participation and Engagement	4.69	0.67	Very High Motivation
Persistence in Task Completion	4.66	0.74	Very High Motivation
Overall Mean	4.61	0.77	Very High Motivation

Table 2 indicates that the pupils reported a very high level of student motivation across all three indicators. Participation and Engagement received the highest rating, followed closely by persistence in task completion, showing that active involvement and continued effort were the most strongly reported aspects of motivation. Interest in learning obtained the lowest rating among the indicators but remained within the very high motivation category. The results therefore show a consistently high level of reported motivation across the three dimensions measured in the study.

Table 3. Mean distribution on level of challenges encountered by students in using gamified learning platforms in terms of technical difficulties and need for teacher guidance.

Indicators	Mean	SD	Interpretation
1. I have trouble accessing the online learning platform.	3.13	1.37	Moderate Challenges
2. Sometimes the online platform stops working or has errors.	3.37	1.25	Moderate Challenges
3. I find it hard to understand how to use the online platform.	3.65	1.06	High Challenges
The online platform is slow or takes too long to load.	3.67	1.16	High Challenges
The instructions on what to do in the online platform are not clear.	3.11	1.39	Moderate Challenges
I need my teacher to help me understand the activities.	4.06	1.28	High Challenges
I feel confused when I use the online platform without the teacher.	3.30	1.36	Moderate Challenges
I need my teacher to explain the rules of the games.	3.43	1.54	High Challenges
I cannot fix problems in the online platform without asking the teacher.	3.56	1.20	High Challenges
I feel better and more confident when the teacher guides me.	4.33	1.09	Very High Challenges
Technical problems stop me from enjoying the games.	2.71	1.31	Moderate Challenges
I like it when I can do the activities by myself without asking the teacher all the time.	3.62	1.49	High Challenges
Mean	3.49	1.29	High Challenges

Table 3 shows that the pupils reported a high level of challenges when using gamified learning platforms. The most prominent challenge was related to teacher guidance, particularly the pupils' reported confidence when receiving guidance from their teacher. Other notable challenges involved understanding platform activities and

dealing with technical concerns such as slow loading. Meanwhile, the item concerning technical problems affecting enjoyment of the games received the lowest rating and was interpreted as a moderate challenge. Overall, the findings suggest that the challenges reported by the pupils were more pronounced in relation to instructional support and platform use than to the loss of enjoyment caused by technical problems.

Table 4. Correlation analysis between gamified learning platform elements and student motivation.

Variable	r	T-computed	T-critical	Interpretation	Decision
Gamified Learning Platform Student Motivation	0.49	4.39*	2.00	Significant moderate Correlation	Reject the null Hypothesis

*Significant@5%, $r^2 = 24\%$

Table 4 presents a moderate positive and statistically significant association between the reported level of gamified learning platform implementation and student motivation. The result indicates that pupils who reported higher levels of gamified learning platform implementation also tended to report higher levels of student motivation. The statistical test led to the rejection of the null hypothesis at the 0.05 level of significance.

The coefficient of determination ($r^2 = 0.24$) indicates that approximately 24% of the variance is shared by the two measured variables through their linear association, while the remaining variation may be related to other factors not examined in the study. This value should not be interpreted as evidence that gamified learning platforms caused or directly explained 24% of student motivation. Rather, it describes the extent of the observed linear association between the two variables among the respondents.

4. Discussion

The findings revealed that the reported implementation of gamified learning platforms was very high among the participating pupils, indicating that game mechanics, interactive digital activities, reward systems, and feedback mechanisms were commonly experienced during classroom instruction. This finding is consistent with Guan et al. (2024), whose systematic review highlighted the educational relevance of game-based learning in primary education. The integration of game elements into instructional activities provides opportunities for learners to experience structured challenges, receive feedback, and recognize their progress. However, the high level of implementation observed in the present study reflects pupils' reported experiences rather than an independent assessment of instructional effectiveness. The findings therefore suggest that gamified learning features were widely experienced within the participating classrooms, although their instructional value may depend on how teachers incorporate these features into learning activities.

Among the indicators of implementation, the reward system obtained the highest rating, suggesting that recognition and achievement-related features were particularly prominent in the pupils' experiences. This finding is supported by Ratinho and Martins (2023), whose systematic review identified points, badges, and rankings as frequently used elements in gamified learning environments. Similarly, Li et al. (2024) found that gamification can support learners' intrinsic motivation, particularly when learning environments promote autonomy and social connectedness. From a behaviorist perspective, rewards may function as reinforcement that encourages learners to repeat desirable learning behaviors, such as participating in activities and completing assigned tasks. Nevertheless, the prominence of reward-related features should not automatically be interpreted as evidence of stronger intrinsic motivation. External rewards may encourage participation, but their motivational value may vary depending on how learners perceive them and how they are incorporated into instruction.

The very high implementation of game mechanics and feedback systems further indicates that pupils commonly experienced structured learning activities and responses to their performance. These features may provide learners with recognizable goals, opportunities to monitor their progress, and information about their performance during classroom tasks. This interpretation is consistent with Leitão et al. (2022), who examined how different game elements relate to students' motivation and found that their motivational contributions varied according to the features utilized. Likewise, Grabner-Hagen and Kingsley (2023) emphasized the importance of combining game elements with instructional and motivational scaffolding in elementary classrooms. Meanwhile, interactive digital activities received the lowest implementation rating, although the level remained high. This difference indicates that pupils' reported experiences were less favorable for interactive digital activities than for the other gamification features. The variation may reflect differences in instructional practices, familiarity with digital platforms, or access to learning resources, although these possible explanations were not directly established by the study.

The findings further demonstrated that pupils reported a very high level of motivation in terms of interest in learning, participation and engagement, and persistence in task completion. This result is consistent with Li et al. (2024), whose meta-analysis identified a positive overall relationship between gamified learning approaches and intrinsic motivation, although the magnitude and nature of the effects varied across studies. Similarly, Ramírez Ruiz et al. (2024) emphasized the importance of examining school engagement through multiple dimensions rather than focusing exclusively on observable participation. The high motivation reported in the present study suggests that pupils generally demonstrated favorable attitudes toward their learning activities and expressed willingness to participate and complete classroom tasks. However, the findings describe pupils' reported motivation and do not establish that their motivation developed specifically because of their exposure to gamified learning platforms.

Participation and engagement emerged as the most prominent dimensions of student motivation, followed closely by persistence in task completion. These findings

suggest that pupils reported strong involvement in classroom activities and a willingness to continue working on assigned tasks. Grabner-Hagen and Kingsley (2023) similarly demonstrated how thoughtfully designed gamified classroom experiences can address learners' psychological needs through instructional support, structured challenges, and opportunities for achievement. Furthermore, Li et al. (2024) emphasized that learners' perceived autonomy, competence, and relatedness are important considerations when examining motivation in gamified learning environments. These perspectives provide possible explanations for the high levels of participation and persistence observed among the respondents. However, participation and persistence may also be influenced by classroom expectations, teacher encouragement, and individual learning characteristics. Thus, the findings should be understood within the broader instructional context rather than attributed solely to gamification.

Interest in learning received the lowest rating among the motivation indicators, although it remained within the very high category. This finding is important because pupils' willingness to participate and complete tasks does not necessarily indicate that they experience the same level of personal interest in the learning content. Ratinho and Martins (2023) observed that gamified learning strategies may support motivation, but the sustainability of motivation can be influenced by the novelty of activities and the use of external rewards. Similarly, Li et al. (2024) identified differences in the extent to which gamification supports intrinsic motivation and learners' psychological needs. These findings suggest that the motivational value of gamified learning may depend on more than the presence of enjoyable game features. In the present study, the comparatively lower interest rating indicates that pupils' reported motivation varied across dimensions, even though their overall motivation remained very high.

The findings also revealed that pupils encountered a high level of challenges when using gamified learning platforms, particularly in relation to understanding activities, navigating digital resources, and obtaining teacher assistance. These findings are consistent with Sun et al. (2023), whose systematic literature review emphasized the importance of teacher scaffolding during game-based learning in primary education. Their review identified different forms of instructional support that helped young learners become familiar with game activities and participate meaningfully in learning tasks. The present findings similarly suggest that teacher guidance remained an important component of pupils' experiences with gamified platforms. From the perspective of Vygotsky's Sociocultural Theory, instructional scaffolding can support learners as they perform activities that may be difficult to accomplish independently. Teacher assistance may therefore help pupils interpret instructions, understand game mechanics, and manage unfamiliar digital learning activities.

The strong agreement with the statement concerning greater confidence when teachers provided guidance further emphasizes the importance of instructional support. However, this response reflects a positive perception of teacher assistance rather than a difficulty in itself. It should therefore be distinguished from negatively

worded indicators that directly measure challenges. The finding is nevertheless consistent with Sun et al. (2023), who emphasized the contribution of teacher scaffolding to pupils' learning, engagement, and enjoyment in game-based learning environments. Similarly, Grabner-Hagen and Kingsley (2023) demonstrated how instructional and motivational scaffolding could support elementary learners within a gamified classroom. These studies reinforce the importance of examining gamified learning as a teacher-supported instructional process rather than assuming that the presence of digital platforms enables pupils to learn independently.

Technical difficulties were also evident in the pupils' responses, particularly in relation to slow platform loading, difficulty understanding platform functions, and problems encountered during digital activities. These findings suggest that access to technology does not necessarily guarantee ease of use, especially among younger learners who may still be developing the skills needed to navigate digital learning environments. Guan et al. (2024) emphasized the importance of designing game-based learning experiences that respond to the characteristics and learning needs of primary school pupils. In the present study, technical problems interfering with enjoyment received a comparatively lower rating than several instructional and navigational challenges. This suggests that although technical difficulties were experienced, pupils were less likely to report that such problems prevented them from enjoying gamified activities. Nevertheless, the findings do not establish that these difficulties had no effect on learning or motivation.

The correlational analysis revealed a moderate positive and statistically significant relationship between the reported implementation of gamified learning platforms and student motivation. This indicates that pupils who reported greater exposure to or implementation of gamified learning features also tended to report higher levels of motivation. This finding is consistent with Li et al. (2024), whose meta-analysis identified positive motivational outcomes associated with gamified learning. Likewise, Ramírez Ruiz et al. (2024) highlighted the relevance of gamification to school engagement while emphasizing the need to consider different dimensions of learners' educational experiences. The observed relationship in the present study suggests that gamified learning platform implementation and student motivation were meaningfully associated among the participating pupils. However, the moderate strength of the relationship also indicates that motivation cannot be understood exclusively through pupils' experiences with gamified platforms.

The observed association may be interpreted through the motivational features commonly incorporated into gamified learning environments. Reward systems, feedback mechanisms, interactive activities, and structured challenges may provide learning experiences that correspond with pupils' reported participation, interest, and persistence. From a behaviorist perspective, rewards and feedback may reinforce desirable learning behaviors, while motivational perspectives emphasize the relevance of competence, autonomy, and achievement. Nevertheless, these theoretical explanations do not establish that the gamified learning platforms directly caused higher motivation among the participating pupils. Because the study employed a

descriptive-correlational design and measured both variables through the same respondents during approximately the same period, the findings cannot establish temporal precedence or rule out the influence of other instructional and learner-related factors.

Overall, the findings contribute to the understanding of gamified learning platform implementation and student motivation among Grade 3 pupils in selected public elementary schools in Sultan Kudarat, Philippines. The very high levels of reported implementation and motivation, together with their significant positive association, are consistent with recent literature recognizing the relevance of gamification to classroom learning experiences. However, the challenges encountered by pupils demonstrate that successful participation in gamified activities may still require appropriate instructional guidance and accessible digital resources. The findings therefore highlight the importance of examining game-related features, learner motivation, and instructional support together when understanding gamified learning in primary education. Rather than establishing a causal effect, the study provides context-specific evidence of an association between pupils' experiences with gamified learning platforms and their reported motivation.

5. Conclusion

The findings of the study showed that the reported level of gamified learning platform implementation was high to very high among the Grade 3 pupils, while the reported level of student motivation was very high. The pupils also reported moderate to high challenges in using gamified learning platforms, particularly in relation to technical concerns and the need for teacher guidance. Furthermore, the study found a moderate positive and statistically significant association between the reported level of gamified learning platform implementation and student motivation. This indicates that pupils who reported higher levels of gamified learning platform implementation also tended to report higher levels of student motivation. However, the significant association should not be interpreted as evidence of a causal relationship. Since the study employed a descriptive-correlational design and did not involve experimental manipulation, a comparison group, or pre- and post-intervention measurements, the findings cannot establish that gamified learning platforms caused changes in student motivation. Instead, the results provide context-specific evidence that the pupils' reported experiences with gamified learning platforms were associated with their reported motivation. The findings suggest that gamified learning platforms may serve as one of several instructional approaches that can be considered in supporting pupils' learning experiences and motivation. At the same time, the challenges reported by the pupils highlight the importance of appropriate teacher guidance, clear instructions, and adequate technological support when using digital learning platforms. Thus, the findings provide a balanced view of both the positive association observed between

gamified learning platform implementation and student motivation and the challenges that may accompany their use in the classroom.

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Conflict of Interest Statement

The authors declare that they have no known financial, personal, or professional conflicts of interest that could have influenced the conduct, analysis, interpretation, or reporting of this study.

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