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THE USE OF GAMIFICATION, TEACHERS MEDIATING FACTORS AND LEARNING OUTCOMES

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ABSTRACT

This study investigated the application of gamification, mediating factors of teachers, and student learning outcomes in the context of public schools through the descriptive-correlational research approach and quantitative surveys. The implementation was evaluated by the researchers using points, badges, levels, narratives, and quests. The results showed that instructors were quite effective at self-efficacy and flexible practices with the lack of Technological Pedagogical and Content Knowledge, resource limitations, and workload. However, educators were not reluctant about gamification to increase motivation. The outcomes indicated that gamification improved the learning performance (engagement and retention) in a significant way, which aligns with the Self-Determination Theory. It was observed that there were high levels of performance in knowledge acquisition, motor skills as well as appreciation. Moreover, the significant connections were observed between the use of gamification, teacher moderating variables, and student performance, and the highly influential role of teacher efficacy. These results indicate that the curriculum should be improved by focusing on the use of gamification training and professional growth. Also, there should be regular evaluations and administration that will make teaching sensitive to resource-limited settings. Teachers are advised to use gamification in combination with reflective activities to improve self-efficacy and pedagogical learning, but future studies need to examine longitudinal effects. In the end, the present study confirms that gamification has a potential to improve the quality and performance of students provided that strong teacher moderators mediate it.

KEYWORDS: *Gamification, Teachers Mediating Factors, and Learning Outcomes.*

INTRODUCTION

This is a new age of education that has a drastic impact on teaching and learning in schools. Classroom learning now relies on gamification techniques or game-like features such as points, badges, leaderboards, and quests that can enhance student involvement, motivation, and entertainment in the classroom environment despite the ongoing problems of indifference, motivation disparity, and unequal participation.

Gamification is beyond mere tasks, it incorporates novel practice into the learning environments presenting greater engagement, performance and student-oriented interactivity, which aligns with the demands of digital natives to teamwork, resilience, and focus as they adapt to the swifter digital trends (Li, 2023; Alahmari, 2023; Leiss, 2025). It is this new understanding of gamification that evaluates the quality of student performance in interactive learning and provides the instructors with means of creating interesting, evidence-based environments.

Nevertheless, its influence differs across settings and hence the emphasis on teachers as essential mediators, whose beliefs, pedagogy, technological competency (as in TPACK), self-efficacy, and flexibility dictate effective integration which influences the structure of classroom settings, feedback, and long-term motivation in academic, cognitive, emotional, and social dimensions (Gini, 2025; Gejandran, 2025). It has been observed that the gaps in educational innovation are due to the fast-changing technological needs and limited research in the area of teacher variables in varied environments, which could be used to foster effectiveness, high-performance learning, and active interactions between teachers and students in case they are tackled. This paper will consider teacher mediating variables in gamification to guide professional learning, curricular design, and leadership in the design of effective learning environments that deliver the greatest sustained and long-term student benefit.

Theoretical Framework

The combination of the Self Determination Theory and Theory of Planned Behavior were the foundations of this study.

According to Self-Determination Theory (SDT) of Deci and Ryan (2000), the three psychological needs that humans require to be fulfilled to develop, motivate, and be a person are autonomy, competence, and relatedness (Deci and Ryan, 2000). If we think about this theory in terms of gamification, several elements of play can fulfill these needs. For example, challenges, feedback, and goal-setting help learners achieve mastery. Autonomy "occurs when students perceive that they have choices with respect to their actions and can regulate, modify, or reject behaviors. Social connections enhance relatedness. Gamification can be customized in academic institutions to align with the needs of learners and teachers in these three areas. Autonomy is experienced by teachers and learners when there is a sense of choice in engaging with gamified tasks. They get better when you make them feel competent in their role, use technology tools, or engage with content through gamification. Finally, relatedness is nourished by social interactions and positive relations established during these interesting learning activities.

Ajzen's (1985) Theory of Planned Behavior maintains that behavioral intentions serve as the most direct predictor of actual behavior (Ajzen, 1985). When a person works hard to try and act in a particular way, there are three things it largely depends on: their tendency to think positively or negatively about the behavior; what they think important people around them want them to do (subjective norm); and how confident they feel that they will be able to carry out the behavior (perceived behavioral control). Consequently, teachers who want to implement gamification in their teaching methods should consider a few things. Their stance on gamification is also important, i.e., if they like or dislike it. Also, social pressure from friends and associates may work to either promote or discourage its use. Teachers also need to believe in their ability to implement gamified learning successfully. These are factors that determine whether or not they adopt gamification approaches in their teaching." The bottom line -- these are decisions that directly affect how students learn and achieve in school.

Scope and Delimitations of the Study

This study sought to examine the extent of gamification's influence on learning artifacts and how it can impact the pedagogical proficiency of District IX teachers in the Division of Valencia City, Bukidnon, in terms of effectiveness, methodology, and technological pedagogical content knowledge. The focus of focus of which is to study the impacts that prominent game mechanics, such as points, badges, levels, plot, and quests, have on learning achievement. It also focused on learning experiences across the cognitive, affective, and

psychomotor domains; furthermore, the mediating variables of the appropriation process will be investigated in relation to gamification and learning success.

Significance of the Study

The study is being conducted because the researcher is of the opinion that the study would benefit and add significance to the following people:

To the Learners, this would provide a learner driven method that would improve the enjoyment of learning, its interactivity and relevance. Working with the gamified materials can arouse their interest, enhance motivation, and encourage engagement. With the growing number of digital natives among students, disengagement issues, lack of interest in traditional teaching techniques and lack of attention can be mitigated by adding play, challenge and immediate feedback.

To the teachers, this research will provide a useful guideline in adopting gamification as a new tool. The outcomes assist teachers to engage in reflective and innovative practices in professional development, which allows enriched and interactive and efficient learning experience among students and leads to educational improvement due to catalyzing teacher development, curriculum development, and better student achievement.

For School Administrators, the findings can be applied to improve academic performance and reduce absenteeism and dropout rates by incorporating gamification into a broader plan. Administrators can use the study's results to guide policy choices, encourage the use of technology in classrooms, and allocate funds for infrastructure support and professional development programs, thereby improving teaching quality and educational experiences that promote active learning and foster sustainable academic success in a technology-rich educational landscape.

Future Researchers, this will promote to the expanding body of work on technology-enhanced learning in the local educational setting, thereby encouraging forthcoming studies to examine the role of educators in mediating technology-enhanced learning innovations and employ diverse methodologies and intervention studies to validate and expand upon the mechanisms proposed. The study may also stimulate longitudinal or comparative studies on the extended effects of gamification in the classroom.

Research Methodology

Research Design

The researcher utilized a descriptive-correlational research design and a questionnaire checklist to gather information on the level of influence of gamification elements on learning outcomes by the teachers in the Division of Valencia City in the Division of Bukidnon, specifically in the District IX schools. The study also analyzed the correlations between mediating gamification and other factors, including the efficacy of the teacher, instructional, and technological pedagogical content knowledge (TPACK) to obtain insight into the effect of gamification on learning outcomes.

Respondents of the Study

The study respondents comprised of the teachers in the sampled integrated and elementary schools in the Division of Valencia City, Bukidnon of the School Year 2025 2026, that is, Lumbo Integrated School, Liloan Integrated School, Sinalayan Integrated School, Cabanuangan Integrated School, Cabanbanagan Elementary School, and Malingon Elementary School. The sample size of the 113 high school and elementary teachers in publics is a strategic choice because this sample will be adequate to get a holistic picture of different perspectives and experiences of teachers in the district so that the overall analysis of the common teaching practices and challenges is achieved.

Instruments

The researcher has used self-assessment questionnaire that was given to participants.

Part 1 discussed the implementation of gamification elements: points, badges, levels, narratives, and quests by teachers as modified by Cabrera, Sosa, and Hernandez-Dzib (2022).

Part 2 discussed the mediating variables of teachers, including self-efficacy, instructional practices and technological pedagogical content knowledge (TPACK), based on Orgut et al. (2024) and Fisher et al. (2014).

Part 3 was devoted to the outcomes of gamification implementation in terms of knowledge, skills, and attitudes among students that was adapted to Orgut et al. (2024).

Data Gathering Procedure

The researcher ensured that all participants were treated in a way that respected their privacy and dignity and that they were taken care of by putting their interests first. A comprehensive letter was given to the participants to explain the objectives of the study and the roles that the

participants were expected to take. Before the data collection process, they signed an informed consent form.

The researcher also obtained the approval of the Dean of School of Graduate and Professional Studies and then the Schools Division Superintendent. School principals and heads were then contacted to allow permission. The respondents were sent a formal request of cooperation asking them to fill in the questionnaire.

Statistical analysis was performed on the responses and an interpretation made. The participants signed the consent form that stated that they would participate and would give truthful information and that they will respond truthfully to the items.

Data Analysis

Data collected in District IX schools among the teachers were analyzed using a variety of statistical methods. The descriptive statistics provided a full profile of the variables and outlined the data well. In particular, in order to assess the levels of gamification integration among teachers, learning outcomes of gamification, and mediating variables, the mean score of each variable was computed - a representative measure of the whole sample.

To assess teachers' integration of gamification in terms of points, badges, levels, narratives, and quests, the mean scores and standard deviation were applied.

To evaluate teachers' mediating factors in terms of self-efficacy, instructional practices, and technological, pedagogical, and content knowledge, means and standard deviations were employed.

To measure learning outcomes in the integration of gamification, the mean and standard deviation were utilized for cognitive, psychomotor, and affective domains.

To examine the relationship between gamification level, teachers' mediating factors and learning outcomes, Pearson's r was used.

RESULTS AND DISCUSSION

Findings indicated that teachers exhibited a high to very high level of gamification use across the five elements: points, badges, levels, narratives, and quests. Among them, points-based gamification emerged as the most frequent and consistently used strategy, reflecting teachers'

high reliance on reward systems, progress monitoring, and mastery-oriented reinforcement for motivating learners.

Table 2 presents the level of gamification of gg teachers, measured in terms of points. The indicators in the table are evaluated using a weighted mean and a standard deviation that reflect various aspects of point use.

Table 2. ***Level of The Use of Gamification Among Teachers in Terms Of Points.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Interpretation**
I use a reward system (prizes, points, awards, etc.) to motivate my learners to do the activities.	4.38	0.72	Very High Level
I develop a points system that allows students to monitor their own progress during the course.	4.27	0.77	Very High Level
I have a clear and simple rubric that explains how learners receive points.	4.37	0.67	Very High Level
I award points primarily for demonstrating mastery of academic concepts.	4.22	0.75	Very High Level
My point system motivates all learners by rewarding effort and incremental improvement.	4.32	0.74	Very High Level
Total	4.31	0.73	Very High Level

The results presented in Table 2 show that the overall level of use of gamification strategies among teachers is high to very high across the five dimensions: points, badges, levels, narratives, and quests. The consistently high mean scores indicate that gamification is actively integrated into classroom practices to support learner motivation, engagement, and progression.

Table 3 reveals the level of application of gamification by teachers according to badge measure. It presents five different indicators which have been analyzed in terms of standard deviation, weighted mean and qualitative interpretation. The general mean of these indicators is given at the bottom of the table.

Table 3 ***Level of Use of Gamification Among Teachers in Terms of Badges.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I award badges or emblems to encourage students to study or perform actions in	3.86	0.90	High Level

class.			
I use badges to recognize non-academic competencies aligned with classroom values.	3.69	0.90	High Level
I use a badge system to allow learners to track progress toward earning a complex badge.	3.69	0.95	High Level
I clearly communicate the title, requirements, and value of each badge.	3.75	0.96	High Level
My badge system provides opportunities for all learners to achieve recognition.	3.77	0.94	High Level
Total	3.75	0.93	High Level

Table 3 shows that teachers use badges as a gamification element at a High Level, with means ranging from 3.69 to 3.86, an overall mean of 3.75, and a standard deviation of 0.93. This indicates that teachers generally agree they use badges in their teaching, though less intensively than points-based gamification.

Table 4 shows the extent of gamification use among teachers, as it is divided into five indicators. In both cases, the weighted average, standard deviation and qualitative description is presented in the table, with an overall average at the bottom of the table.

Table 4. ***Level of the Use of Gamification Among Teachers in Terms of Levels.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I use a system of levels where students move up by completing activities.	3.89	0.82	High Level
I use a ranking system to generate competition among students.	3.84	0.90	High Level
I clearly communicate requirements and rewards for advancing to the next level.	3.91	0.80	High Level
Levels ensure continuous progress even for slower learners.	4.01	0.80	High Level
Advancing levels unlocks more complex learning content or activities.	3.87	0.88	High Level
Total	3.90	0.84	High Level

Table 4 shows that teachers use levels as a gamification element at a "High Level", with mean scores ranging from 3.84 to 4.01 and a standard deviation of 0.84. It means that educators tend to believe that they can successfully implement levels in the classroom and promote development and motivation even more than badges or point-based systems.

Table 5 indicates the implementation levels of gamification among teachers and provides a breakdown of five specific factors in terms of their mean scores, standard deviations as well as descriptive interpretation and this is finally followed by an overall mean.

Table 5. ***Level of The Use of Gamification Among Teachers in Terms of Narratives.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I use narratives or stories to increase student attention.	4.00	0.89	High Level
Narratives include challenges resolved by applying targeted skills.	3.93	0.83	High Level
I use storytelling techniques to maintain learner interest.	3.81	0.84	High Level
Narratives allow learners to make choices affecting learning paths.	3.90	0.86	High Level
Narratives justify learning tasks as steps toward solving a mystery.	3.86	0.87	High Level
Total	3.90	0.86	High Level

Table 5 shows that teachers use narratives as a gamification element at a High Level, a mean ranging from 3.81 to 4.00 with a standard deviation of 0.86. This shows that teachers mostly concur that they incorporate narratives in their teaching to increase the levels of immersion and relevance, comparable to the levels-based strategies.

Table 6 provides the descriptive statistics of the use of gamification by teachers based on quest. It identifies the weighted average, standard deviation and qualitative explanation of five particular indicators, and the overall average is presented at the bottom.

Table 6. Level of The Use of Gamification Among Teachers in Terms of Quests.

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I use challenges to encourage learner autonomy and self-regulation.	3.92	0.79	High Level
Quests are designed with varying difficulty levels.	3.94	0.85	High Level
I design quests to accommodate different learners' needs and abilities.	3.86	0.85	High Level
Completing quests results in announced rewards (points, badges, access).	3.90	0.80	High Level
Quest completion unlocks new resources or optional challenges.	3.91	0.76	High Level
Total	3.91	0.81	High Level

Limits	Qualitative Interpretation
4.21 – 5.00	Very High Level
3.41 – 4.20	High Level
2.61 – 3.40	Moderate Level
1.81 – 2.60	Low Level
1.00 – 1.80	Very Low Level

According to the data of Table 6, the quests as a gamification strategy are often implemented by educators, as the means ranging from 3.86 to 3.94 with a standard deviation of 0.81 are high. This leads to an implication that there is a high degree of agreement between teachers in terms of integrating quest-based components effectively to promote progress and independence by students, a bit more than the use of levels or narratives.

Table 6 shows that teachers use quests as a gamification element at a high Level, with mean scores ranging from 3.86 to 3.94 and a standard deviation of 0.81. This indicates that teachers generally agree they integrate quests into their teaching practices effectively, fostering autonomy and progression to a slightly greater extent than narratives or levels. Quests encourage independence, diversity, and learning with a goal in mind. These findings indicate that narrative-based and challenge-based gamification strategies are appreciated because they make the learning process interesting and meaningful, which agrees with the self-determination theory.

Table 7 presents the degrees of the mediating factors of teachers concerning self-efficacy. It describes eleven indicators - their weighted means, their standard deviation and what they allude to - and at the bottom of the table is the overall mean score.

Table 7. ***Level of Teachers Mediating Factors in Terms of Self-Efficacy.***

Indicators	Weighted Mean	Std. Deviation	Qualitative Interpretation
I can determine new acquisitions aligned with students' needs when designing gamification.	4.05	0.79	High Level
I can benefit from different design models while developing gamification.	4.03	0.76	High Level
I can use gamification elements in accordance with curriculum learning outcomes.	3.96	0.85	High Level
I can test the usefulness of designed gamifications using appropriate criteria.	4.04	0.79	High Level
I can select appropriate game elements when designing gamification.	4.02	0.82	High Level

I know the tools that can be used to design gamification.	3.98	0.89	High Level
I can choose appropriate tools to design gamification.	4.04	0.72	High Level
I can use at least one tool to design gamification.	3.98	0.71	High Level
I can turn an enhanced script into a gamification.	3.83	0.82	High Level
I can design gamification.	3.77	0.94	High Level
Total	3.98	0.80	High Level

Overall, results reveal a high level of mediating factors among all three dimensions, as evidenced by mean scores consistently above 3.70. This indicates that teachers possess strong confidence, positive instructional beliefs, and adequate technological competencies necessary for implementing gamification in the teaching - learning process.

Table 8 shows the levels of teachers' mediating factors in instructional practices. The table includes 10 indicators with weighted means, standard deviations, and qualitative interpretations are provided for each metric, with the collective average shown at the end.

Table 8. ***Level of Teachers Mediating Factors in Terms Of Instructional Practices.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
Gamification enhances instructional efficiency by reducing instructional time.	4.04	0.71	High Level
Technology encourages me to learn and grow through new opportunities.	4.16	0.76	High Level
Gamification increases motivation for learning.	4.20	0.77	High Level
Using games is a more effective strategy than classroom lectures.	4.23	0.79	Very High Level
Competitiveness between classmates increases with gamification.	4.13	0.71	High Level
I look forward to using games because they increase interest and collaboration.	4.19	0.72	High Level
Gamification works well in all classrooms and makes learning fun and effective.	4.24	0.71	Very High Level
Games are a way to play in the classroom.	4.24	0.74	Very High Level
Games effectively increase learning through engagement and motivation.	4.20	0.66	High Level
Games support positive student behavior and self-regulation.	4.21	0.76	Very High Level
Total	4.18	0.73	High Level

Regarding instructional practices, the findings indicate a strong positive perception of gamification as a teaching strategy. Concerning instruction practices, the results show that gamification is a teaching method whose perception strongly is positive. Educators are unanimous about the fact that gamification increases motivation, interest, teamwork, and teaching effectiveness.

Table 9 shows the levels of teachers' mediating factors in instructional, technological, pedagogical, and content knowledge. The table includes 10 indicators, weighted means, standard deviations, and qualitative interpretations for all indicators are presented, with the overall mean provided in the final row.

Table 9. ***Level of Teachers' Mediating Factors In Terms Of Technological Pedagogical Content Knowledge (TPACK).***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I can use technology to determine reasons for student learning difficulties.	4.28	0.69	Very High Level
I can use technology to remove students' learning difficulties.	4.20	0.72	High Level
I can use technology to help students build new knowledge.	4.28	0.70	Very High Level
I can decide which technologies positively affect teaching and learning.	4.20	0.72	High Level
I can provide leadership to colleagues in integrating content, pedagogy, and technology.	3.97	0.88	High Level
I am aware of relationships among content, pedagogy, and technology.	4.18	0.75	High Level
I can use technology effectively to meet pedagogical needs in teaching topics.	4.12	0.77	High Level
I can use technology to determine reasons for student learning difficulties.	4.28	0.69	Very High Level
Total	4.19	0.74	High Level

The results for technological pedagogical content knowledge (TPACK) also reflect a high level of competence among teachers. Teachers agreed that they can use technology to identify and address learning difficulties, build new knowledge, and select appropriate technologies that support pedagogy and content.

Table 10 is an analysis of cognitive learning outcomes, which includes eight indicators. The standard deviation, weighted mean and a qualitative interpretation is presented in the table. Lastly, total weighted average of all items is provided at the bottom.

Table 10. ***Level of Learning Outcomes in Terms Of Cognitive Domain.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
Gamification allows me to easily explain educational topics to students.	4.18	0.68	High Level
I can improve students' decision-making skills through gamification.	4.09	0.74	High Level
I can improve students' problem-solving skills through gamification.	4.04	0.72	High Level
I can develop students' scientific thinking skills through gamification.	4.04	0.66	High Level
I can improve students' focusing skills through gamification.	4.12	0.67	High Level
I can improve students' reasoning skills with gamification.	4.04	0.69	High Level
I can improve students' communication skills.	4.10	0.64	High Level
With gamification, I can help students discover knowledge themselves.	4.15	0.67	High Level
Total	4.10	0.60	High Level

The results reveal the level of learning outcomes in the cognitive domain is high. These findings suggest that gamification frequently enhances higher-order thinking skills, comprehension, and learner autonomy. The standard deviations are quite low, which means that most of the respondents share the same opinion as to the cognitive benefits of gamified instruction.

Table 11 demonstrates the psychomotor learning outcomes with five major indicators. The table shows the weighted mean, standard deviation and qualitative interpretation of the indicator and the general mean of all indicators is shown at the bottom.

Table 11. ***Level of Learning Outcomes in Terms of Psychomotor Domain.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I can develop students' gross motor skills through gamification.	4.11	0.72	High Level
I can develop students' fine motor skills through gamification.	4.13	0.74	High Level

I can increase students' sense of balance through gamification.	4.03	0.75	High Level
I can increase the reaction speed of students with gamification.	4.03	0.75	High Level
I can increase the attention span of students with gamification.	4.06	0.76	High Level
Total	4.07	0.68	High Level

Table 11 depicts that the general degree of learning outcomes in the psychomotor area is high, a weighted mean of 4.07 with a standard deviation of 0.68. The results indicate that the mean scores are always high, which means that teachers are quite convinced that gamification is a powerful contributor of physical and motor skills and development of coordination, velocity, and sustained attention due to interesting activities. In spite of the fact the psychomotor domain has the least mean point among the three domains, it represents a high positive perception.

The affective domain was measured using 10 indicators as highlighted in Table 12. The data would comprise the weighted mean, the standard deviation and the qualitative interpretation of each and final, a total, aggregate mean.

Table 12. ***Level of Learning Outcomes in Terms of Affective Domain.***

Indicators	**Weighted Mean**	**Std. Deviation**	**Qualitative Interpretation**
I can develop students' empathy skills through gamification.	4.10	0.68	High Level
I can reduce students' anxiety with gamification.	4.12	0.73	High Level
I can increase students' self-confidence through gamification.	4.10	0.74	High Level
I can improve students' social skills through gamification.	4.11	0.75	High Level
With gamification, I can improve students' ability to cope with stress situations.	4.13	0.70	High Level
I can attract students' attention to the lesson with gamification.	4.13	0.74	High Level
I can encourage students to participate in the lesson through gamification.	4.15	0.73	High Level
With gamification, I can ensure that students maintain their interest in the lesson.	4.15	0.71	High Level
With gamification, I can enable the use of teaching strategies suitable for students' motivation profiles.	4.13	0.67	High Level

With gamification, I can increase students' intrinsic motivation for the lesson.	4.14	0.7	High Level
Total	4.13	0.63	High Level

Table 12 revealed that the general level of learning outcomes with regard to affective domain is high with a weighted mean of 4.13 with a standard deviation of 0.63. The mean scores are high and steady, which indicates that teachers believe that gamification is an effective tool of emotional and motivational development that helps stimulate engagement, confidence, and social-emotional capabilities. These findings indicate that gamification works especially well in engagement, intrinsic motivation, and positive emotional reactions to learning.

Table 13 shows the relationships among gamification, learning outcomes, and teachers' mediating factors.

Table 13. ***Correlation Between Level of Gamification, Teachers' Mediating Factors, and Learning Outcomes.***

Variables	**r-value**	**Sig. (2-tailed)**	**Interpretation**	**Decision on Ho**
Gamification and Learning Outcomes	.765	.000	Strong Positive, Significant	Reject Ho
Teachers' Mediating Factors and Learning Outcomes	.764	.000	Strong Positive, Significant	Reject Ho

The findings revealed a positive significant relationship between the level of gamification and learning, with r-value of .765 and a p-value of .000. Because the calculated p-value is less than the 0.01 critical value, the correlation is significant at 1% level. The r-value of .765 indicates a strong positive correlation, suggesting that greater gamification is associated with a stronger learning effect. This implies that the inclusion of gamified elements in teaching can positively impact students' achievement.

CONCLUSION AND RECOMMENDATIONS

Teachers extensively apply gamification as one of the effective strategies to enhance classroom engagement and participation, and its adoption is high with the use of such elements as points, badges, narratives, and quests indicating its rising popularity in the contemporary practice. The mediating variables of teachers such as high self-efficacy, positive instructional practices, and good Technological Pedagogical Content Knowledge

(TPACK) are important factors in successful implementation as they facilitate them to meet the goal of the curriculum and the performance of the learners.

As a learner-centered constructivist technique, gamification promotes higher-order learning and problem-solving; it also promotes academic success and gains a significant improvement in cognitive and total learning achievements. Nevertheless, it does not have an equal positive impact across the fields; the absence of meaningful relationships in the areas of affect and some implementation variables implies the need to expose oneself (longer) or engage more (more intensively) or combine strategies. The fact that the null hypothesis is rejected partially highlights that the effectiveness of gamification depends on domain and design, and planned pedagogy is necessary to ensure that the advantages are maximized, but the disadvantages are minimized, particularly in the context of psychomotor learning.

The application of gamification should be continued and improved by teachers with the emphasis on such quality aspects as clear rules, purposeful challenges, feedback, and goal alignment to improve cognitive and other results. They are encouraged to develop competencies to combine badges, narratives, and quests in equal measures to ensure that they do not over-use points. The administrators and leaders at schools need to provide professional development in gamification design, pedagogical alignment, as well as domain-specific applications, especially their combination with psychomotor and affective activities. Gamification should be congruent with experiential activities in psychomotor-heavy courses to mitigate risks of too much digital or reward focus in the future. Finally, longitudinal and experimental studies of long-term affective and psychomotor outcomes, as well as contextual factors in educational environments, should be undertaken by researchers in the future.

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