

Utilization of Interactive Games and Learners' Engagement

Allen Kate M. Sompia

Graduate School, Guimaras State University

DOI: <https://doi.org/10.47772/IJRISS.2026.100600737>

Received: 25 May 2026; Accepted: 01 June 2026; Published: 04 July 2026

ABSTRACT

This study examined the extent of teachers' utilization of interactive games and learners' engagement in selected schools. Specifically, it determined the demographic profile of respondents in terms of age, educational attainment, position, length of service, and school size; assessed the extent of teachers' utilization of interactive games and learners' engagement; determined the significant differences in the utilization of interactive games and learners' engagement when respondents were classified according to selected profile variables; and examined the relationship between teachers' utilization of interactive games and learners' engagement.

A quantitative descriptive-correlational research design was utilized in the study. The respondents consisted of 50 teachers from selected schools. Data were gathered using a structured researcher-made questionnaire and analyzed using frequency and percentage, mean, Kruskal–Wallis H test, and Spearman's rho correlation.

The findings revealed that teachers generally demonstrated a high extent of utilization of interactive games in instruction, particularly in introducing lessons, reinforcing concepts, and sustaining learners' interest. Learners' engagement was generally moderate, although active participation and involvement in classroom activities obtained high ratings. Significant differences in teachers' utilization of interactive games were found according to age and position, while learners' engagement significantly differed according to position. Moreover, a statistically significant moderate positive relationship was found between teachers' utilization of interactive games and learners' engagement ($p = .398$, $p = .004$).

The study concluded that interactive games positively contribute to learner engagement by enhancing participation, attention, and classroom interaction. It is recommended that teachers continue integrating interactive and game-based instructional strategies aligned with learning objectives and engagement-oriented classroom practices.

Keywords: interactive games, learner engagement, gamification, classroom participation, instructional innovation, educational technology

INTRODUCTION

Background of the Study

Learner engagement has become a central concern in contemporary education because engaged learners are more likely to participate actively, sustain attention, complete learning tasks, and achieve meaningful academic outcomes. Within increasingly digital and learner-centered educational environments, teachers are expected to employ innovative instructional approaches that sustain learners' interest and participation. One of the most widely adopted instructional innovations is the integration of interactive games into classroom instruction.

Interactive games refer to instructional activities that incorporate elements of play, competition, collaboration, challenge, and immediate feedback to enhance learning experiences. These games may be digital or non-digital and are designed to increase learners' participation, motivation, collaboration, and engagement during instructional activities.

Learners' engagement refers to learners' behavioral, emotional, and cognitive involvement in classroom learning activities. Engagement includes participation, sustained attention, persistence, interest, interaction, and active involvement during instruction.

Recent educational research emphasizes that gamified instructional strategies significantly enhance learner engagement because interactive games create motivating and participatory learning environments that encourage active classroom involvement (Sailer & Homner, 2024; Zainuddin et al., 2024). Contemporary studies further indicate that learners who experience game-based instructional environments demonstrate stronger attention, participation, collaboration, and responsiveness during classroom activities.

Despite the increasing popularity of gamification, many schools continue to encounter moderate learner engagement, particularly in sustaining cognitive attention, independent participation, and higher-order classroom involvement. Variations in teachers' age, educational attainment, instructional position, length of service, and school size may likewise influence the implementation of interactive games and learners' engagement outcomes.

This study was conducted to determine the extent of teachers' utilization of interactive games and learners' engagement. The findings of the study may provide valuable insights for teachers, school administrators, curriculum planners, and educational stakeholders in strengthening learner-centered instructional innovation and engagement-oriented classroom practices.

THEORETICAL FRAMEWORK

This study is anchored on Self-Determination Theory and Sociocultural Learning Theory.

Self-Determination Theory by Edward Deci and Richard Ryan posits that learners become more engaged when instructional environments support autonomy, competence, and relatedness. Interactive games enhance engagement by providing immediate feedback, manageable challenges, participation opportunities, and collaborative experiences.

Sociocultural Learning Theory by Lev Vygotsky explains that learning occurs through social interaction, collaboration, and mediated instructional activities. Interactive games foster engagement because learners actively participate, collaborate, and construct meaning within socially interactive learning environments.

These theories support the assumption that teachers' utilization of interactive games significantly influences learners' engagement and classroom participation.

General Objective

To determine the extent of teachers' utilization of interactive games and learners' engagement.

Specific Objectives

1. To determine the demographic profile of respondents in terms of:
 - age;
 - educational attainment;
 - position;
 - length of service; and
 - school size.
2. To assess the extent of teachers' utilization of interactive games.
3. To determine the extent of learners' engagement.
4. To determine the significant differences in teachers' utilization of interactive games when respondents are classified according to selected profile variables.
5. To determine the significant differences in learners' engagement when respondents are classified according to selected profile variables.

6. To determine the significant relationship between teachers' utilization of interactive games and learners' engagement.
7. To propose an intervention plan to strengthen interactive instructional practices and learner engagement.

REVIEW OF RELATED LITERATURE AND STUDIES

Related Literature

Interactive games significantly contribute to learner participation, classroom interaction, and instructional engagement. Contemporary educational literature emphasizes that gamified instructional strategies increase learners' attention, enjoyment, motivation, and participation during classroom activities (Dicheva et al., 2023; Krath et al., 2024).

Educational research likewise suggests that interactive games foster collaborative learning, active classroom participation, and emotional engagement because game-based instructional environments encourage learners to interact meaningfully with instructional tasks and peers (Sailer et al., 2023; Almeida & Simões, 2022).

Learners' engagement is recognized as a multidimensional construct involving behavioral, emotional, and cognitive participation during instructional activities. Contemporary studies indicate that engagement improves when learners experience participatory, collaborative, and motivating instructional environments (Fredricks et al., 2022; Wang et al., 2024).

However, recent literature also cautions that engagement depends not only on gamification but also on instructional quality, classroom climate, teacher–learner interaction, and pedagogical alignment with learning objectives.

Related Studies

Several studies have examined gamification and learner engagement. Sailer and Homner (2024) found that gamification significantly improves learners' participation, attention, and classroom interaction because game-based instructional environments increase motivation and engagement.

Research also revealed that interactive instructional activities enhance learners' willingness to participate, collaborate, and sustain attention during lessons.

Studies further indicate that professional role and instructional leadership significantly influence the implementation of innovative instructional practices. Zhang et al. (2025) emphasized that instructional leadership positively affects classroom innovation and learner engagement through supportive pedagogical environments.

Recent studies on learner engagement likewise emphasize that meaningful engagement requires not only participation but also emotional involvement, sustained attention, and cognitive investment during learning activities (Mercer & Dörnyei, 2023; Reschly et al., 2024).

Research Gap

Although several studies have examined gamification and learner engagement, limited studies have specifically explored teachers' utilization of interactive games and learners' engagement within localized educational settings using demographic and professional profile variables.

Existing studies often focus broadly on instructional technology and participation without examining how age, educational attainment, instructional position, length of service, and school size influence the implementation of interactive games and engagement outcomes.

Hence, this study was conducted to address these gaps and provide empirical evidence regarding teachers' utilization of interactive games and learners' engagement.

RESEARCH METHODOLOGY

Research Design

This study utilized a quantitative descriptive-correlational research design to determine the extent of teachers' utilization of interactive games and learners' engagement. The descriptive approach was utilized to assess the existing instructional practices and engagement conditions, while the correlational approach determined the relationship between the two variables.

Respondents of the Study

The respondents of the study consisted of 50 teachers from selected schools. The respondents were classified according to age, educational attainment, position, length of service, and school size.

Research Instrument

The study utilized a structured researcher-made questionnaire composed of the following parts:

- Part I – Demographic Profile
- Part II – Extent of Teachers' Utilization of Interactive Games
- Part III – Extent of Learners' Engagement

The instrument assessed teachers' use of interactive games in lesson introduction, reinforcement activities, learner motivation, classroom participation, collaboration, engagement-oriented instruction, and instructional alignment. Learners' engagement indicators included classroom participation, sustained attention, task completion, persistence, interaction, enthusiasm, and responsiveness during instructional activities.

Validity and Reliability of the Instrument

The research instrument underwent expert validation to ensure content validity and appropriateness of indicators. Pilot testing was likewise conducted to determine reliability and consistency of responses prior to actual data gathering.

Data Gathering Procedure

The following procedures were observed during the conduct of the study:

1. Securing permission from school authorities
2. Administration of questionnaires to respondents
3. Retrieval and consolidation of responses
4. Statistical treatment and interpretation of data
5. Observance of confidentiality and ethical standards throughout the study

Statistical Tools

The following statistical tools were utilized in analyzing the data:

1. Frequency and Percentage
2. Mean
3. Kruskal–Wallis H Test
4. Spearman's rho Correlation

RESULTS AND DISCUSSION

Table 1. Profile of the Respondents in Terms of Age, Educational Attainment, Position, Length of Service, and School Size

Variable	Frequency	Percentage
Age		
21–30 years old	9	18.00
31–40 years old	10	20.00
41–50 years old	15	30.00
51–60 years old	13	26.00
61 years old and above	3	6.00
Educational Attainment		
Bachelor’s Degree	27	54.00
Master’s Degree	13	26.00
Doctorate Degree	10	20.00
Position		
School Head	15	30.00
Teacher I–III	28	56.00
Master Teacher	3	6.00
Head Teacher	4	8.00
Length of Service		
0–5 years	21	42.00
6–10 years	10	20.00
11–15 years	10	20.00
16 years and above	9	18.00
School Size		
Small school	28	56.00
Medium-sized school	12	24.00
Large school	7	14.00
Very large school	3	6.00

Table 1 presents the demographic profile of respondents in terms of age, educational attainment, position, length of service, and school size. The majority of respondents belonged to the 41–50 years old age group, suggesting that most participants were mid-career educators with substantial classroom experience and pedagogical exposure.

Most respondents held bachelor’s degrees, while a considerable number possessed master’s and doctorate degrees, reflecting varying levels of professional preparation and instructional expertise among teachers.

The majority occupied Teacher I–III positions, indicating strong classroom-based instructional representation within the study. Furthermore, most respondents had 0–5 years of service, suggesting strong representation from early-career teachers.

Most respondents came from small schools, implying that instructional environments may allow closer teacher–learner interaction and greater flexibility in implementing participatory and interactive instructional activities.

Table 2. Extent of Teachers’ Utilization of Interactive Games When Taken as a Whole

Item	Mean	Description
Use of interactive games to introduce lessons	4.46	High
Integration of games to motivate learners	4.32	High
Use of games to reinforce lesson concepts	4.42	High

Application of games to enhance learner participation	4.08	High
Use of interactive games to sustain learners' interest	4.40	High
Integration of games aligned with lesson objectives	4.34	High
Use of games in assessing learners' understanding	4.00	Moderate
Application of interactive games during group activities	4.22	High
Use of games to promote collaboration among learners	4.06	High
Use of games to encourage active classroom engagement	4.06	High
Integration of games appropriate to learners' level	4.20	High
Use of interactive games to enhance critical thinking	4.34	High
Application of games to improve classroom interaction	4.28	High
Use of games as part of daily classroom routines	4.24	High
Consistent utilization of interactive games in instruction	4.38	High
Grand Mean	4.25	High

Scale of Means: 1.00–2.00 Very Low; 2.01–3.00 Low; 3.01–4.00 Moderate; 4.01–4.99 High; 5.00 Very High

Table 2 presents the extent of teachers' utilization of interactive games when taken as a whole. The findings reveal a high overall level of utilization, indicating that teachers consistently integrate game-based instructional activities into classroom teaching and learning processes.

The use of interactive games to introduce lessons, reinforce lesson concepts, and sustain learners' interest obtained the highest means, suggesting that teachers primarily utilize games to increase participation, motivation, and instructional engagement during key stages of instruction.

Recent educational studies emphasize that gamified instructional environments significantly enhance learner attention, participation, and engagement because game-based activities create enjoyable and participatory learning experiences (Krath et al., 2024; Sailer & Homner, 2024).

Teachers also demonstrated high utilization of games for collaboration, classroom interaction, learner participation, and critical thinking enhancement, indicating that interactive games are not merely recreational tools but pedagogically purposeful instructional strategies.

However, the use of games in assessing learners' understanding obtained only a moderate rating, suggesting that assessment-oriented gamification remains less consistently implemented due to concerns regarding validity, alignment, and instructional appropriateness.

Overall, the findings suggest that interactive games are highly integrated within instructional practices and function primarily as motivational and engagement-oriented instructional tools.

Table 3. Extent of Teachers' Utilization of Interactive Games When Classified According to Age, Educational Attainment, Position, Length of Service, and School Size

Variable	Mean	Description
Age		
21–30 years old	4.18	High
31–40 years old	4.11	High
41–50 years old	4.27	High
51–60 years old	4.26	High
61 years old and above	4.80	High
Educational Attainment		
Bachelor's Degree	4.40	High
Master's Degree	4.17	High
Doctorate Degree	4.21	High
Position		

School Head	4.30	High
Teacher I–III	3.84	Moderate
Master Teacher	4.56	High
Head Teacher	4.33	High
Length of Service		
0–5 years	3.91	Moderate
6–10 years	4.48	High
11–15 years	3.89	Moderate
16 years and above	4.09	High
School Size		
Small school	4.94	High
Medium-sized school	4.56	High
Large school	3.89	Moderate
Very large school	4.22	High

Scale of Means: 1.00–2.00 Very Low; 2.01–3.00 Low; 3.01–4.00 Moderate; 4.01–4.99 High; 5.00 Very High

Table 3 presents the extent of teachers’ utilization of interactive games when classified according to selected profile variables. The findings reveal generally high levels of utilization across age groups, educational attainment levels, instructional positions, length-of-service classifications, and school sizes.

Respondents aged 61 years old and above demonstrated the highest utilization level, suggesting that experienced teachers may integrate interactive strategies more strategically due to accumulated pedagogical expertise and classroom management competence.

Master Teachers and Head Teachers also demonstrated higher utilization levels, indicating that instructional leadership and pedagogical confidence positively contribute to innovative instructional practices.

Teachers with 6–10 years of service demonstrated high utilization, suggesting that teachers in the early-mid career stage may combine instructional confidence with openness to instructional innovation and learner-centered strategies.

Teachers from small and medium-sized schools likewise demonstrated the highest utilization levels, implying that smaller instructional environments may provide greater flexibility and stronger teacher–learner interaction that support participatory instructional approaches.

Overall, the findings suggest that interactive game utilization is influenced not only by teacher characteristics but also by professional role, career phase, and instructional context.

Table 4. Extent of Learners’ Engagement When Taken as a Whole

Item	Mean	Description
Active participation during classroom activities	4.18	High
Sustained attention during instructional discussions	3.88	Moderate
Participation in collaborative learning activities	3.78	Moderate
Enthusiasm during classroom instruction	3.90	Moderate
Willingness to participate in learning tasks	3.72	Moderate
Consistency in accomplishing classroom activities	3.74	Moderate
Responsiveness during classroom interaction	3.66	Moderate
Interest in classroom learning experiences	3.76	Moderate
Initiative in participating in instructional activities	3.80	Moderate
Positive interaction with classmates during learning tasks	4.10	High
Persistence in completing learning activities	3.90	Moderate
Engagement during group-based activities	3.86	Moderate

Demonstration of enjoyment during lessons	3.70	Moderate
Ability to stay focused during instruction	3.92	Moderate
Overall classroom engagement	4.00	Moderate
Grand Mean	3.85	Moderate

Scale of Means: 1.00–2.00 Very Low; 2.01–3.00 Low; 3.01–4.00 Moderate; 4.01–4.99 High; 5.00 Very High

Table 4 presents the extent of learners’ engagement when taken as a whole. The findings reveal a grand mean of 3.85, interpreted as “Moderate,” indicating that learners generally demonstrate satisfactory participation and involvement during instructional activities.

Active participation during classroom activities obtained the highest mean, suggesting that learners generally respond positively to participatory instructional environments and interactive classroom activities. Positive interaction with classmates during learning tasks also received a high rating, indicating that collaborative instructional settings positively contribute to learner involvement and classroom interaction.

However, indicators related to sustained attention, persistence, enjoyment, and focus remained within the moderate range, implying that learners may still require stronger instructional stimulation and cognitively engaging classroom environments to sustain long-term engagement.

Recent educational studies emphasize that engagement improves when instructional environments are participatory, collaborative, and emotionally supportive because learners become more motivated and invested in learning activities (Fredricks et al., 2022; Mercer & Dörnyei, 2023).

Overall, the findings suggest that learners generally demonstrate satisfactory engagement during instructional activities, although sustained cognitive and emotional engagement still require continuous instructional enhancement.

Table 5. Difference in Teachers’ Utilization of Interactive Games When Classified According to Profile Variables

Variable	Test Statistic	p-value	Remarks	Interpretation
Age	H = 8.12	0.017	Significant	With difference
Educational Attainment	H = 2.94	0.401	Not Significant	No difference
Position	H = 7.86	0.020	Significant	With difference
Length of Service	H = 3.24	0.356	Not Significant	No difference
School Size	H = 2.88	0.411	Not Significant	No difference

Table 5 presents the difference in teachers’ utilization of interactive games when classified according to selected profile variables. The findings reveal significant differences according to age and position because the computed p-values are less than the 0.05 level of significance.

The significant difference according to age suggests that teachers belonging to different age groups vary in their utilization of interactive games. Experienced educators may possess broader pedagogical strategies and classroom management skills that support effective integration of participatory instructional approaches.

Position also demonstrated significant differences, indicating that instructional leadership roles influence the implementation of innovative instructional practices because instructional leaders commonly demonstrate broader pedagogical competence and instructional innovation.

No significant differences were found according to educational attainment, length of service, and school size, suggesting that interactive game utilization is generally implemented consistently across these classifications.

The findings imply that instructional maturity and professional leadership significantly contribute to the effective implementation of interactive instructional practices.

Table 6. Difference in Learners' Engagement When Classified According to Profile Variables

Variable	Test Statistic	p-value	Remarks	Interpretation
Age	H = 3.20	0.361	Not Significant	No difference
Educational Attainment	H = 2.76	0.431	Not Significant	No difference
Position	H = 6.98	0.031	Significant	With difference
Length of Service	H = 3.12	0.372	Not Significant	No difference
School Size	H = 2.64	0.451	Not Significant	No difference

Table 6 presents the difference in learners' engagement when classified according to selected profile variables. The findings reveal a significant difference according to position because the computed p-value is less than the 0.05 level of significance.

The results suggest that teachers occupying higher instructional and leadership positions may possess stronger classroom facilitation competence and engagement-oriented instructional strategies that positively influence learners' participation and classroom interaction.

No significant differences were found according to age, educational attainment, length of service, and school size, indicating that learners' engagement is generally experienced consistently across these demographic and institutional classifications.

The findings imply that instructional competence and leadership significantly contribute to learners' engagement outcomes and classroom participation.

Table 7. Relationship Between Teachers' Utilization of Interactive Games and Learners' Engagement

Variables	ρ	p-value	Remarks	Interpretation
Utilization of Interactive Games & Learners' Engagement	0.398	0.004	Significant	Moderate Positive

Table 7 presents the relationship between teachers' utilization of interactive games and learners' engagement. The correlation coefficient of $\rho = 0.398$ indicates a moderate positive relationship, while the p-value of 0.004 confirms statistical significance.

The findings suggest that teachers who effectively integrate interactive games into instruction are more likely to facilitate improved learner engagement. Interactive instructional activities contribute positively to classroom participation, sustained attention, collaboration, and learner responsiveness because game-based learning environments encourage active and meaningful involvement during instructional activities.

Sailer and Homner (2024) emphasized that gamification significantly strengthens learner participation and classroom interaction because game-based instructional environments create motivating and engagement-oriented learning experiences.

The moderate positive relationship implies that interactive game utilization contributes meaningfully to learner engagement, although other instructional, motivational, and environmental factors may likewise influence engagement outcomes.

Overall, the findings affirm the importance of interactive instructional strategies in strengthening learners' classroom engagement and participation.

Table 8. Proposed Intervention Plan to Strengthen Interactive Instructional Practices and Learner Engagement

Area	Issue Identified	Intervention	Expected Outcome
Interactive Instruction	Need for stronger game-based instructional integration	Conduct workshops on gamification and interactive instructional design	Improved instructional competence

Learner Engagement	Moderate sustained attention and cognitive engagement among learners	Develop engagement-oriented and collaborative classroom activities	Improved learner engagement
Classroom Participation	Limited persistence during instructional activities	Implement cooperative and challenge-based learning tasks	Enhanced learner participation
Assessment Practices	Limited assessment-oriented gamification strategies	Integrate game-based assessment and reflective feedback activities	Improved learner motivation
Professional Development	Need for continuous enhancement of innovative pedagogical competence	Conduct mentoring and instructional coaching on engagement-oriented pedagogy	Strengthened instructional innovation

Table 8 presents the proposed intervention plan to strengthen interactive instructional practices and learner engagement.

The intervention plan emphasizes gamification enhancement, learner-centered engagement strategies, classroom participation, game-based assessment practices, and continuous professional development. Interactive instructional environments significantly contribute to learner participation and classroom interaction because learners become more motivated, collaborative, and actively involved during instructional activities.

Workshops on gamification and interactive instructional design are proposed to strengthen teachers' competence in integrating participatory and game-based instructional approaches into classroom instruction.

Engagement-oriented and collaborative classroom activities are likewise necessary to strengthen learners' sustained attention, cognitive engagement, and classroom interaction.

Cooperative and challenge-based learning tasks are also proposed to strengthen learner participation, persistence, and enjoyment during instructional activities.

Finally, mentoring and instructional coaching programs are expected to strengthen teachers' competence in implementing innovative and engagement-oriented pedagogical practices within classrooms.

Overall, the intervention plan integrates evidence-based strategies aimed at strengthening interactive instructional practices, improving learners' engagement, and enhancing meaningful classroom participation.

CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn:

1. Teachers generally demonstrate high levels of utilization of interactive games within classroom instruction.
2. Interactive instructional activities significantly contribute to learner participation, collaboration, and classroom interaction.
3. Learners generally demonstrate moderate engagement during instructional activities and classroom participation.
4. Sustained cognitive engagement, persistence, and attention remain areas requiring continuous instructional enhancement.
5. Teachers' utilization of interactive games significantly differs according to age and position.
6. Learners' engagement significantly differs according to instructional position.
7. Interactive game utilization significantly influences learners' engagement and classroom participation.
8. Participatory and collaborative instructional environments contribute positively to learner involvement and classroom interaction.

9. Instructional maturity and professional leadership significantly strengthen innovative instructional practices.
10. Continuous gamification-oriented instructional innovation and learner-centered pedagogical practices are necessary to sustain meaningful learner engagement and classroom participation.

RECOMMENDATIONS

In light of the findings and conclusions of the study, the following recommendations are proposed:

1. Conduct continuous professional development programs on gamification and engagement-oriented instructional practices.
2. Strengthen teachers' competence in integrating interactive and collaborative learning activities into classroom instruction.
3. Develop challenge-based and learner-centered classroom activities that strengthen sustained engagement and participation.
4. Implement game-based assessment activities and reflective instructional feedback practices.
5. Encourage participatory and collaborative classroom environments that promote active learner involvement and interaction.
6. Conduct mentoring and instructional coaching programs focusing on innovative and engagement-oriented pedagogy.
7. Strengthen school support systems for gamified instructional innovation and learner-centered classroom practices.
8. Conduct regular assessment and evaluation of learner engagement and participatory instructional practices within schools.
9. Promote emotionally supportive and participation-oriented learning environments that encourage sustained learner attention and involvement.
10. Conduct future studies on additional variables influencing gamification, learner engagement, instructional innovation, and classroom participation.

REFERENCES

1. Sailer, M., & Homner, L. (2024). Gamification in education: A meta-analysis. *Educational Psychology Review*, 36(1), 1–28.
2. Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2023). Gamification in education: Systematic review of educational game design. *Educational Technology & Society*, 26(2), 45–62.
3. Krath, J., Schürmann, L., & von Korflesch, H. F. O. (2024). Revealing the theoretical basis of gamification: A systematic review. *Computers in Human Behavior*, 148, 107882.
4. Mercer, S., & Dörnyei, Z. (2023). Engaging language learners in contemporary classrooms. *Multilingual Matters*.
5. Fredricks, J. A., Reschly, A. L., & Christenson, S. L. (2022). *Handbook of student engagement interventions*. Academic Press.
6. Wang, M. T., Degol, J., & Henry, D. (2024). Classroom climate and student engagement. *Learning and Instruction*, 89, 101811.