

Game-Based Learning as a Pedagogical Approach to Foster Engagement in Music, Arts, Physical Education and Health Among Public Secondary Schools

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Abstract

Game-Based Learning (GBL) has emerged as an innovative pedagogical approach that enhances student motivation, participation, and learning retention by integrating educational content with interactive and engaging activities. In the context of Music, Arts, Physical Education and Health (MAPEH), game-based learning provides opportunities for experiential and meaningful learning that supports students' holistic development.

This study specifically assessed the extent of utilization of GBL in terms of learning content, instructional activities, and cooperative learning, and determined its level of usefulness in terms of instructional materials, student engagement, and skills retention activities. It also identified the challenges and opportunities encountered by teachers in implementing game-based learning and examined the significant relationship between the extent of utilization and usefulness of the approach.

The study employed a descriptive quantitative research design. The respondents were 178 public secondary school MAPEH teachers selected through stratified random sampling from a total population of 328 teachers in Congressional District I, Division of Batangas. A validated researcher-made questionnaire was used as the main data gathering instrument, supported by an interview guide for qualitative insights. Data were statistically treated using weighted mean, ranking, and Pearson's r correlation coefficient.

Results revealed that the extent of utilization of Game-Based Learning in terms of learning content, instructional activities, and cooperative learning was rated to a great extent. Likewise, the level of usefulness of GBL in terms of instructional materials, student engagement, and skills retention activities was rated very useful. Findings further indicated that Game-Based Learning is an effective pedagogical approach that promotes active participation and enhances learning experiences in MAPEH instruction.

The study concludes that Game-Based Learning is a highly beneficial teaching strategy that strengthens learner engagement and supports meaningful learning outcomes. It is recommended that schools provide continuous training and support to teachers in designing and implementing game-based instructional activities.

Keywords: *game-based learning, MAPEH, pedagogical approach, student engagement, skills retention, instructional activities, cooperative learning*

INTRODUCTION

In today's educational environment, increasing student engagement has become a major concern for educators as learners are expected to develop 21st-century skills through active and meaningful participation. Traditional teaching methods in Music, Arts, Physical Education and Health (MAPEH) are often challenged by students' low motivation, uneven participation, and lack of sustained interest, particularly when lessons are delivered through routine lectures, drills, and conventional classroom activities. As a result, educators are encouraged to explore more interactive and learner-centered approaches that can strengthen student involvement and learning outcomes.

One teaching strategy that continues to gain recognition is Game-Based Learning (GBL). This approach integrates game mechanics such as competition, rewards, challenges, feedback, and collaboration into the learning process. Game-based learning provides an engaging environment that encourages students to participate actively, develop skills, and retain knowledge through experiential activities. This approach is especially applicable in MAPEH because the subject area requires physical participation, creativity, interaction, and performance-based learning.

Globally, studies have supported the effectiveness of game-based learning in improving motivation, engagement, and academic achievement. It creates opportunities for students to learn through active involvement rather than passive reception of information. In the Philippine educational context, the Department of Education supports learner-centered instruction through the K to 12 curriculum, which emphasizes interactive teaching strategies and the development of life skills. Republic Act No. 10533 also strengthens curriculum reforms that promote inclusive and student-centered learning, while Republic Act No. 11695 supports flexible learning approaches that encourage innovative strategies such as digital and game-based learning.

Despite these policies and educational reforms, many public secondary school MAPEH teachers still rely heavily on traditional teaching strategies due to limited training, lack of instructional materials, and challenges in classroom implementation. This creates a gap between educational policy and classroom practice, emphasizing the need for localized studies that examine how teachers implement and evaluate the usefulness of game-based learning approaches in MAPEH instruction.

This study is anchored on Constructivist Learning Theory, Digital Game-Based Learning Theory, and Experiential Learning Theory, which emphasize that learners acquire knowledge effectively through active participation, collaboration, and real-life experiences. In line with these theories, game-based learning is viewed as a purposeful instructional strategy that enhances student engagement, supports skill development, and promotes meaningful learning experiences.

Thus, this study examined the extent of utilization and level of usefulness of Game-Based Learning in fostering engagement in MAPEH among public secondary school teachers in Congressional District I, Division of Batangas. It also identified the challenges and opportunities teachers encounter and served as a basis for proposing game-based activities applicable in MAPEH instruction.

OBJECTIVES OF THE STUDY

This study aimed to determine the effectiveness of Game-Based Learning as a pedagogical approach to foster engagement in Music, Arts, Physical Education and Health (MAPEH) among public secondary schools in Congressional District I, Division of Batangas during School Year 2025–2026.

Specifically, it sought to:

1. Determine the extent of utilization of Game-Based Learning in MAPEH in terms of:
 - 1.1 learning content
 - 1.2 instructional activities
 - 1.3 cooperative learning
2. Determine the level of usefulness of Game-Based Learning in terms of:
 - 2.1 instructional materials
 - 2.2 student engagement
 - 2.3 skills retention activities
3. Determine if there is a significant relationship between the extent of utilization and the level of usefulness of Game-Based Learning approach.
4. Identify the challenges and opportunities faced by teachers in implementing game-based learning in MAPEH.
5. Propose game-based learning activities based on the findings of the study.

METHODOLOGY

Research Design

This study employed a descriptive quantitative research design. The design was appropriate in assessing the extent of utilization and level of usefulness of Game-Based Learning as a pedagogical approach in MAPEH instruction. The study focused on gathering numerical data through a survey questionnaire to describe the current practices and perceptions of public secondary school teachers regarding GBL.

Respondents of the Study

The respondents of the study were public secondary school MAPEH teachers from Congressional District I, Division of Batangas. From a total population of 328 teachers, a sample of 178 respondents was determined using Raosoft Calculator with a 95% confidence level and a 5% margin of error. Stratified random sampling with proportionate allocation was used to ensure that each municipality was properly represented.

Research Instrument

The main instrument used in the study was a validated researcher-made questionnaire. It was developed based on related literature, previous studies, and concepts relevant to game-based learning in education. The questionnaire consisted of three major parts:

1. Items measuring the extent of utilization of Game-Based Learning in terms of learning content, instructional activities, and cooperative learning.
2. Items measuring the level of usefulness of GBL in terms of instructional materials, student engagement, and skills retention activities.
3. Items identifying challenges and opportunities experienced by teachers in implementing GBL.

The instrument underwent expert validation and pilot testing. Reliability testing was conducted using Cronbach's Alpha to ensure consistency and reliability of responses.

Data Gathering Procedure

Prior to the conduct of the study, the researcher secured approval from the Schools Division Office and the school principals of the selected public secondary schools. After obtaining permission, the researcher distributed the questionnaires to the respondents through printed copies and online Google Forms to ensure accessibility. The respondents were provided with clear instructions and were given ample time to complete the survey.

An interview was also conducted among selected teachers to gather additional insights about their experiences, challenges, and suggested game-based activities. Responses were retrieved, checked for completeness, and encoded for statistical analysis.

Ethical Considerations

Ethical standards were strictly observed. Participation in the study was voluntary and informed consent was secured from all respondents. Confidentiality and anonymity of the participants were ensured. The researcher complied with the Data Privacy Act of 2012, and all data collected were used solely for academic purposes.

Statistical Treatment of Data

The following statistical tools were used in analyzing the data:

- **Weighted Mean** to determine the extent of utilization and level of usefulness of Game-Based Learning.
- **Ranking** to identify the most common challenges and opportunities encountered by teachers.
- **Pearson's r correlation coefficient** to determine the significant relationship between the extent of utilization and the level of usefulness of GBL.

RESULTS

This section presents the key descriptive and inferential findings of the study. Tables 1-7 summarize the descriptive and inferential results of the study.

Table 1. Extent of Utilization of Game-Based Learning in MAPEH by Dimension

Dimension	Composite Mean Verbal Interpretation	
Learning Content	3.71	Great Extent
Instructional Activities	3.68	Great Extent
Cooperative Learning	3.71	Great Extent

Table 2. Level of Usefulness of Game-Based Learning Approach by Dimension

Dimension	Composite Mean Verbal Interpretation	
Use of Instructional Materials	3.65	Very Useful
Student Engagement	3.83	Very Useful
Skills Retention Activities	3.71	Very Useful

Table 3. Top Challenges in Implementing Game-Based Learning

Indicator (Challenge)	Weighted Mean Verbal Interpretation	
Weather affects the implementation of outdoor GBL	3.72	Strongly Agree
Time constraints prevent full implementation of GBL	3.66	Strongly Agree
GBL takes more preparation than traditional instruction	3.63	Strongly Agree
Insufficient materials hinder game-based activities	3.54	Strongly Agree
Lack of training affects one's confidence in using GBL	3.52	Strongly Agree

Table 4. Top Opportunities in Implementing Game-Based Learning

Indicator (Opportunity)	Weighted Mean	Verbal Interpretation
Games improve social and emotional development	3.82	Strongly Agree
Students are more engaged with GBL	3.78	Strongly Agree
GBL promotes active learning in MAPEH	3.77	Strongly Agree
GBL encourages innovation in teaching	3.77	Strongly Agree
GBL improves the overall quality of MAPEH instruction	3.74	Strongly Agree

Table 5. Correlation Between Extent of Utilization and Usefulness in terms of Instructional Materials

Extent of Utilization	r-value	p-value	Decision
Learning Content	0.452**	0.000	Significant
Instructional Activities	0.378**	0.000	Significant
Cooperative Learning	0.587**	0.000	Significant

Table 6. Correlation Between Extent of Utilization and Usefulness in terms of Student Engagement

Extent of Utilization	r-value	p-value	Decision
Learning Content	0.499**	0.000	Significant
Instructional Activities	0.266**	0.000	Significant
Cooperative Learning	0.617**	0.000	Significant

Table 7. Correlation Between Extent of Utilization and Usefulness in terms of Skills Retention

Extent of Utilization	r-value	p-value	Decision
Learning Content	0.637**	0.000	Significant
Instructional Activities	0.617**	0.000	Significant
Cooperative Learning	0.564**	0.000	Significant

Descriptive Statistics

Extent of utilization of GBL (by dimension):

- Learning Content: Composite mean = **3.71 (Great Extent)**
- Instructional Activities: Composite mean = **3.68 (Great Extent)**
- Cooperative Learning: Composite mean = **3.71 (Great Extent)**

Level of usefulness of GBL (by dimension):

- Use of Instructional Materials: Composite mean = **3.65 (Very Useful)**
- Student Engagement: Composite mean = **3.83 (Very Useful)**
- Skills Retention Activities: Composite mean = **3.71 (Very Useful)**

Challenges encountered by teachers:

- Overall challenges: Composite mean = **3.44 (Agree)**
- Weather affects outdoor GBL: WM = **3.72**
- Time constraints: WM = **3.66**
- Preparation demands: WM = **3.63**

Opportunities perceived by teachers:

- Overall opportunities: Composite mean = **3.71 (Strongly Agree)**
- Social and emotional development: WM = **3.82**
- Increased student engagement: WM = **3.78**
- Promotes active learning: WM = **3.77**

Inferential Statistics

A **highly significant relationship** was found between the **extent of utilization** and the **level of usefulness** of Game-Based Learning across all variables (all p-values = **0.000**).

Selected relationships include:

- Learning Content vs Use of Instructional Materials: $r = 0.452$
- Cooperative Learning vs Student Engagement: $r = 0.617$
- Learning Content vs Skills Retention: $r = 0.637$
- Instructional Activities vs Skills Retention: $r = 0.617$

These findings indicate that greater utilization of GBL is associated with higher perceived usefulness in terms of instructional effectiveness, engagement, and skills retention.

DISCUSSION

The findings of the study showed that Game-Based Learning is utilized to a great extent among public secondary school MAPEH teachers in Congressional District I, Division of Batangas. Teachers consistently integrated game-based strategies aligned with lesson objectives and curriculum competencies, indicating that GBL has become an important instructional approach in MAPEH. This suggests that teachers recognize the value of interactive learning strategies in improving classroom delivery and creating meaningful learning experiences.

The level of usefulness of GBL was rated very useful in all areas, particularly in student engagement, instructional materials, and skills retention. This indicates that teachers perceive GBL as effective in increasing student motivation, promoting active participation, and enhancing long-term retention of both theoretical concepts and motor skills. These results support the principles of Constructivist and Experiential Learning theories, which emphasize that students learn best through active involvement, collaboration, and hands-on learning experiences.

The correlation analysis further revealed that the extent of utilization of GBL has a highly significant relationship with its level of usefulness. This implies that the more frequently and strategically teachers implement game-based strategies, the more beneficial the approach becomes in enhancing instructional delivery, promoting engagement, and improving skills retention. The strongest relationships were found in cooperative learning, suggesting that teamwork-based games are particularly effective in sustaining motivation and participation among learners.

Despite the positive outcomes, teachers also reported challenges in implementing GBL, particularly weather limitations for outdoor activities, time constraints, and increased preparation requirements. These challenges indicate that while GBL is effective, its implementation may be affected by practical and logistical limitations within public school settings. However, teachers strongly agreed that GBL offers valuable opportunities such as promoting active learning, encouraging innovation, and supporting students' social-emotional development.

Overall, the findings indicate that Game-Based Learning is a highly effective pedagogical approach that enhances MAPEH instruction, but requires strong institutional support, adequate resources, and teacher training for sustainable and consistent implementation.

CONCLUSION

The study concluded that Game-Based Learning is utilized to a great extent in MAPEH instruction among public secondary schools in Congressional District I, Division of Batangas, particularly in learning content, instructional activities, and cooperative learning. Teachers assessed the approach as very useful in improving instructional materials, increasing student engagement, and strengthening skills retention.

A highly significant relationship was found between the extent of utilization and the level of usefulness of Game-Based Learning, indicating that greater utilization results in stronger instructional and learning benefits.

However, teachers encountered challenges such as weather-related limitations, time constraints, insufficient materials, and the additional preparation required in implementing game-based activities. Despite these challenges, teachers strongly recognized that GBL provides opportunities to improve social-emotional development, promote active learning, and enhance the overall quality of MAPEH instruction.

The study recommends that schools strengthen administrative support, provide sufficient instructional resources, and conduct continuous training programs to ensure the effective and sustainable implementation of Game-Based Learning in MAPEH.

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