

Enrichment of Grade 9 Students' Interest in Cookery learning Through the Use of Educational Game at Payapa National High School

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Abstract

This study examined the enrichment of Grade 9 students' interest in Cookery learning through the use of educational games at Payapa National High School. Specifically, it sought to determine the current level of students' interest in TLE in terms of motivation to learn, participation in class, and enjoyment and engagement in activities; assess the extent to which educational games affect students' motivation to participate, classroom interaction, and learning experience; evaluate the sustainability and effectiveness of educational games in maintaining students' interest in TLE learning; identify the challenges encountered in using educational games; and propose enhancement activities based on the findings. The study was anchored on the view that game-based learning can transform TLE instruction into a more interactive, engaging, and meaningful learning experience.

A quantitative descriptive research design was employed. The respondents consisted of 50 Grade 9 students enrolled in Cookery at Payapa National High School for the academic year 2025–2026. Data were gathered using a researcher-made questionnaire that underwent validation and reliability testing, and were analyzed through frequency, ranking, and weighted mean. Results revealed that students were generally interested in TLE in terms of motivation, participation, and enjoyment. Educational games affected students' interest to a moderate extent in terms of motivation to participate, classroom interaction, and learning experience. Students also agreed that educational games are sustainable and effective in maintaining their interest in TLE learning. However, challenges such as slow internet connectivity, difficult game mechanics, limited knowledge in using educational gadgets, and lack of resources were encountered. To address these concerns, the study proposed enhancement activities such as offline game adaptation, game mechanic redesign, technology training, peer support, and student-led game development.

Keywords: *Educational Games, Game-Based Learning, Student Interest, Cookery Learning, TLE*

1. Introduction

This study focused on enriching Grade 9 students' interest in Technology and Livelihood Education, particularly in Cookery, through the use of educational games at Payapa National High School. In the present educational setting, practical and hands-on learning is essential in helping students develop skills relevant to daily life and future work. Technology and Livelihood Education plays a vital role in this regard because it equips learners with competencies in cooking, sewing, entrepreneurship, and other life skills. However, not all students show equal interest in all areas of TLE, and many tend to become less engaged during theoretical or lecture-based discussions. At Payapa National High School, some students demonstrate enthusiasm during practical activities, but their interest declines during written work and traditional classroom instruction.

The study recognized that educational games may serve as an effective strategy for making TLE lessons more interactive, enjoyable, and meaningful. Game-based learning allows students to actively participate, receive immediate feedback, and apply knowledge in engaging ways. It also offers a safe and motivating environment where students can experiment, solve problems, and develop practical understanding. With this, the researcher aimed to determine how educational games can influence students' motivation, participation, enjoyment, and learning experience in Cookery. Specifically, the study sought to assess students' current level of interest, the extent of the effect of educational games, their sustainability and effectiveness, the challenges encountered in their use, and the enhancement activities that may be proposed based on the findings.

2. Materials and Methods

Research Design

The study employed a quantitative descriptive research design. This approach emphasized objective measurement and numerical analysis of data gathered from the respondents through a structured questionnaire. It was considered appropriate because the study intended to describe the existing level of students' interest in TLE and determine the extent to which educational games affect their motivation, classroom interaction, and learning experience without manipulating variables. The descriptive design enabled the researcher to provide an accurate picture of students' responses as they naturally occurred in the learning environment.

Subjects of the Study

The respondents of the study were 50 Grade 9 students enrolled in Cookery as their field of specialization in Technology and Livelihood Education at Payapa National High School during the academic year 2025–2026. The study used purposive sampling, a non-random technique in which the researcher deliberately selected respondents who possessed the necessary characteristics and experiences relevant to the study. This sampling method was appropriate because the respondents were specifically those students directly involved in Cookery learning and could provide meaningful data regarding the use of educational games in TLE lessons.

Data Gathering Instrument

The primary instrument used in the study was a researcher-made survey questionnaire designed to gather data from the 50 student-respondents. The questionnaire served as the main tool for generating information on the application of educational games in teaching and learning TLE lessons. It was composed of four parts. Part I measured the students' current level of interest in TLE before the use of educational games in terms of motivation to learn, participation in class, and enjoyment and engagement in activities. Part II dealt with the extent to which educational games affect students' interest in TLE in terms of motivation to participate, classroom interaction, and learning experience. Part III focused on the sustainability and effectiveness of educational games in maintaining students' interest and engagement in TLE learning. Part IV covered the challenges encountered by students in the integration of educational games in TLE lessons.

The questionnaire underwent a careful process of construction, validation, administration, and retrieval. In constructing the instrument, the researcher consulted books and related studies and prepared an initial draft, which was first presented to the adviser for comments and suggestions. For validation, the instrument was reviewed by two subject-matter experts and one instrument expert in the field of teaching. Revisions were made based on their recommendations to improve clarity and avoid ambiguity. Reliability was assessed using Cronbach Alpha to determine the internal consistency of the research tool.

Data Gathering Procedure

In gathering the data, the researcher first wrote a formal letter addressed to the Tingloy District Supervisor to request permission to administer the research tool. Upon approval, the researcher prepared the final copies of the questionnaire and distributed them both in online and printed formats. Students with stable internet access were provided with a Google Forms link, while those with limited connectivity received hard copies. The researcher ensured that proper research protocols were followed and that the respondents were informed of the purpose of the study. Confidentiality and anonymity were observed throughout the data collection process, and participation was based on informed consent in compliance with the Data Privacy Act.

After administration, the researcher retrieved the completed hard copies on a scheduled date, while responses submitted through Google Forms were automatically recorded. All responses were systematically tallied and organized for analysis. The scoring of responses followed a four-point Likert scale with corresponding verbal descriptions such as Highly Interested, Interested, Moderately Interested, and Slightly Interested for Part I; Great Extent, Moderate Extent, Slight Extent, and Least Extent for Part II; Strongly Agree, Agree, Disagree, and Strongly Disagree for Part III; and Mostly Encountered, Encountered, Least Encountered, and Not at All for Part IV.

Data Analysis Plan

The data gathered were analyzed using frequency, ranking, and weighted mean. Frequency was used to determine the number of respondents and the distribution of responses. Ranking was applied to identify the relative position of indicators under each construct. Weighted mean was used to determine the students' responses on their level of interest, the

extent of the use of educational games, the sustainability and effectiveness of educational games, and the challenges encountered in learning TLE. These statistical tools allowed the researcher to describe and interpret the responses in a systematic and meaningful manner.

3. Results

Section 1: Students' Level of Interest in TLE

1.1 Motivation to Learn. The results showed that the students were interested in TLE in terms of motivation to learn, with a composite mean of 2.83. The highest-rated indicator was that students work persistently on TLE tasks and respond to challenges instead of giving up, with a weighted mean of 3.21. This was followed by taking initiative to explore TLE topics beyond required work (3.10) and setting personal goals related to TLE (2.86). The lowest-rated indicator was applying TLE concepts to real-world situations and future aspirations, with a weighted mean of 2.50. These findings suggest that students display persistence and curiosity, but they have relatively lower ability to connect TLE concepts to practical life applications.

1.2 Participation in Class. In terms of participation in class, the students were likewise interested, with a composite mean of 2.77. The highest-rated indicator was listening when others are speaking, showing respect and interest, with a weighted mean of 3.20. This was followed by arriving to class on time and prepared with necessary TLE materials (3.11). The lowest-rated indicator was contributing relevant and thoughtful comments during class discussions, which obtained a weighted mean of 2.49 and was interpreted as moderately interested. The results indicate that students show more passive forms of participation than active verbal involvement.

1.3 Enjoyment and Engagement in Activities. For enjoyment and engagement in activities, the students were also interested, with a composite mean of 2.66. The highest-rated indicator was expressing positive emotions during TLE class activities, with a weighted mean of 3.00. Other indicators such as talking about TLE lessons to others (2.67) and maintaining focused attention during lessons (2.65) also fell under interested. The lowest-rated indicator was seeking additional information or resources related to the topic, with a weighted mean of 2.45 and interpreted as moderately interested. This suggests that while students generally enjoy TLE activities, their initiative for deeper independent exploration remains limited.

Section 2: Extent on the Use of Educational Games in TLE

2.1 Motivation to Participate. The use of educational games affected students' motivation to participate to a moderate extent, with a composite mean of 2.69. The highest-rated indicator was increasing motivation levels and interest in TLE lessons, with a weighted mean of 3.10. Other indicators included solving TLE problems (2.54) and getting excited during TLE lessons (3.00). The lowest-rated item was exhibiting teamwork and cooperation among classmates, with a weighted mean of 2.41, interpreted as slight extent. These findings imply that educational games contribute to student motivation and excitement, but are less effective in strengthening collaborative behavior.

2.2 Classroom Interaction. In terms of classroom interaction, educational games were found to affect students' interest to a moderate extent, with a composite mean of 2.51. The highest-rated indicator was talking to each other more about TLE content, with a weighted mean of 2.54. Students also reported having more fun and laughter during TLE class (2.59) and working as a team to win (2.61). However, helping each other understand TLE better had the lowest weighted mean of 2.41, interpreted as slight extent. This suggests that while educational games promote communication and enjoyment, their effect on deeper collaborative learning remains limited.

2.3 Learning Experience. Educational games affected students' learning experience to a moderate extent, with a composite mean of 2.92. The highest-rated indicator was that games make TLE lessons easier to discern, with a weighted mean of 3.32. This was followed by feeling more involved and less bored (3.11) and remembering TLE information better (2.87). The lowest-rated item was learning new TLE skills, with a weighted mean of 2.54. These findings show that educational games enhance accessibility and engagement in learning, though their role in skill development may still be improved.

Section 3: Sustainability and Effectiveness of Educational Games in Learning TLE

The results revealed that students agreed that educational games are sustainable and effective in maintaining their interest and engagement in TLE learning, with a composite mean of 2.62. The highest-rated indicator was that games enable students to look for harder levels or new games related to TLE to continue learning, with a weighted mean of 3.22. Students also agreed that games help them explain TLE concepts to friends or family (2.62) and use TLE skills learned from games to create unique projects (2.54). However, they disagreed that games help them stay interested in TLE when rules change (2.46) or concentrate even when games are challenging or distracting (2.43). This indicates that educational games can initiate continued interest, but sustaining attention and resilience over time remains a challenge.

Section 4: Challenges Encountered in Using Educational Games in TLE Lessons

The challenges encountered in using educational games in TLE lessons were generally encountered, with a composite mean of 2.76. The top challenge identified was that the internet connection functions slowly, with a weighted mean of 3.21. This was followed by the difficulty in understanding instructions and mechanics of the games (3.12) and little knowledge on the use of educational gadgets (3.00). Other challenges included unavailability of educational supplies for games in the classroom (2.53) and insufficient lesson time to use game-based approaches (2.56). The least encountered challenge was the teacher's lack of knowledge, exposure, training, and skills in facilitating game-based learning, which obtained a weighted mean of 2.42. These results indicate that technological access and game design pose greater challenges than teacher preparedness.

Section 5: Proposed Enhancement Activities

Based on the challenges encountered, the researcher proposed several enhancement activities. These included Project OFFLINE, which focuses on adapting existing online educational games for offline use to address unreliable internet connection; GAME CLEAR, which aims to redesign and simplify game mechanics for better understanding; TechUP Program,

which provides technology upskilling for teachers and students; and the Tech Buddy Initiative, which pairs tech-savvy students with peers for assistance in troubleshooting and gadget use. These enhancement activities are intended to make educational games more accessible, understandable, and sustainable in TLE instruction.

4. Discussion

The findings indicate that Grade 9 students are generally interested in TLE, especially in terms of motivation to learn, participation in class, and enjoyment in activities. Educational games were found to affect students' interest to a moderate extent, particularly in increasing motivation, improving classroom interaction, and enriching the learning experience. This suggests that game-based learning can serve as a useful strategy in making TLE lessons more engaging, enjoyable, and accessible to students.

However, the results also show that the effect of educational games is stronger in promoting participation and enjoyment than in developing deeper collaboration, critical thinking, and skill application. Students agreed that educational games are sustainable and effective in maintaining their interest, yet some difficulty remains in sustaining engagement when games become complex or distracting. Moreover, the identified challenges, particularly slow internet connection, difficult game mechanics, limited knowledge of gadgets, and lack of supplies, show that successful implementation of educational games requires appropriate resources, clear design, and support systems. The proposed enhancement activities directly respond to these challenges by improving accessibility, usability, and support for game-based learning in TLE.

5. Conclusion

The study concludes that Grade 9 students are interested in TLE in terms of motivation to learn, participation in class, and enjoyment and engagement in activities. The use of educational games affects their interest in TLE to a moderate extent, particularly in increasing motivation, improving classroom interaction, and enriching learning experience. Students also agreed that educational games are sustainable and effective in maintaining their interest in TLE learning.

Despite these positive findings, challenges such as unreliable internet connectivity, complex game mechanics, limited experience with educational gadgets, and insufficient supplies continue to affect the effective integration of educational games in TLE lessons. To address these concerns, the study proposed enhancement activities such as offline game adaptation, game mechanic redesign, technology training, peer support, and student-led game development. Overall, the study affirms that educational games, when properly supported and implemented, can contribute to more engaging and meaningful Cookery learning experiences for Grade 9 students.

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