THE IMPACT OF GAMIFICATION ON THE CLASS ENGAGEMENT OF GRADE 8 LEARNERS IN SOCIAL SCIENCE: A STUDY OF ITS EFFECTIVENESS

Jessamie B. Gelina

MAEd Student, Graduate School, Eastern Samar State University - Borongan Campus
Masters of Arts in Social Science Teaching

ABSTRACT

This research will determine the effect of gamification in the engagement of Grade 8 learners in social science at Can-avid National High School. Acknowledging the motivational problems with traditional learning, the study build a pedagogical design that incorporates game mechanics of competition, reward and social interaction into social science teaching to compensate for learners' decreasing attention. The research is carried out within a descriptive-correlational design which uses Slovin's formula to arrive at the population size of 101 Grade 8 students in whom further work results are verified by paired samples t-test used to test the difference between engagement scores among classes with and without educational games.

The findings indicate that the level of engagement can significantly be enhanced, as mean scores shift from 71.802 in non-gamified classes to 83.960 in gamified sessions (p <.001). This result supports that gamification fosters motivation and participation, thereby turning the abstract and theoretical concepts such as financial education into engaging ones.

The research finally finds out that gamification can be a practical approach to enhance students' engagement in social science teaching & learning. It suggests that the gamified activities should be integrated into the curriculum, teacher training should be available, different gamification approaches should be used and more research on its long-term effects at all levels of education in different context. These results highlight how gamification can rejuvenate old teaching methods and create a more dynamic learning environment.

KEY WORDS: *Gamification; Engagement; Interest*

INTRODUCTION

Gamification has emerged as a significant pedagogical innovation, integrating game design elements such as points, rewards, competition, and progress indicators into non-game contexts to enhance motivation, participation, and learning interaction. Contemporary learners, particularly digital natives, often struggle to remain engaged in traditional lecture-based instruction, especially in Social Science, where abstract and theoretical content may appear monotonous or detached from learners' interests.

Research indicates that gamification increases motivation and engagement by appealing to intrinsic motivators linked to achievement, competence, and collaboration (Deci & Ryan, 1985; Hamari et al., 2014). In the context of Social Science education, gamification offers opportunities to transform passive learning into more interactive and meaningful experiences.

Despite the growing body of literature on gamification, few studies have investigated its role in enhancing engagement among junior high school learners in Social Science. The persistent lack of interest and limited participation among Grade 8 learners reinforces the need for alternative instructional approaches. This study addresses this gap by evaluating the effectiveness of gamification in enhancing the class engagement of Grade 8 learners in Social Science at Can-avid National High School.

OBJECTIVE

This study aimed to determine the effectiveness of gamification in enhancing class engagement of Grade 8 learners in Social Science. Specifically, it sought to:

1. Describe the demographic profile of Grade 8 learners in terms of age and gender.
2. Assess the level of student engagement in non-gamified Social Science classes.
3. Assess the level of student engagement in gamified Social Science classes.
4. Determine whether a significant difference exists between engagement levels in gamified and non-gamified instruction.
5. Provide recommendations for integrating gamification into Social Science education.

METHODOLOGY

Research Design
This study used descriptive-correlational research design. This kind of research design describes the effectiveness of gamification to the class engagement of grade 8 students in learning social science at Can-avid National High School SY. 2024-2025.

Sampling Design
The sampling technique utilized is probability sampling which random sampling to identify the respondents of the study. This kind of sampling technique made an unbiased selection in the Grade 8 respondents in Can-avid National High School.

In this study, the population of the researcher is the Grade 8 students which is a total of 135. The chosen population are the entire currently enrolled students regardless of sex, age, race, religion and other affiliation. The researcher utilize Slovin's Formula in determining the sample size needed in the study.

$$\text{Slovin's Formula}$$
$$n = N/(1 + Ne2)$$
$$n = 135/1 + 135(0.05)^2$$
$$n = 135/1 + 135(0.0025)$$
$$n = 135/1 + 0.3375$$
$$n = 135/1.3375$$
$$n = 100.94 \approx 101$$

Therefore, 101 respondents are needed to answer the given questionnaire by the researcher to answer the research questions of the study.

Statistical Design
The study used descriptive statistics (mean, standard deviation, standard error, and coefficient of variation) to describe engagement levels using the JAPS statistics program.

A paired samples t-test was used to compare engagement before and after gamification. Statistical significance was tested at $\alpha = 0.05$.

Geographical Area
Can-avid National High School is a DepEd secondary school. The School was established as a secondary school in 2002 that offers grade 7 to 12 education and special program in the arts for the students in Can-avid, Eastern Samar.

At present, the school's senior high program focuses on both academic and vocational track. Its academic tracks offered are General Academic Strand, Accountancy and Business Management, Science, Technology, Engineering and Mathematics, and Humanities and Social Sciences. While its vocational track has a focus on Animal production and Horticulture, Cookery, Housekeeping, and Dressmaking.

Can-avid National High School is located at Barangay 4, Can-avid, Eastern Samar, Can-avid, Philippines. Its coordinates are 12.00273 latitude and 125.4542 longitude.

RESULTS
Demographic Analysis
Age and Gender
The demographic analysis of the study participants focused on two variables: gender and age. The data, presented in Tables 1 and 2, shows an almost equal gender distribution, with 50 male respondents (49.5%) and 51 female respondents (50.5%), totaling 101 participants. This balanced representation of both genders ensures that the findings are not skewed by gender differences. By including both male and female respondents, the study provides a comprehensive view of how gamification impacts participants across gender lines.

Table 2 shows the age distribution of the study participants, divided into two groups: 13-year-olds (24.75%) and 14-year-olds (75.25%). A majority of respondents are 14 years old, reflecting the typical age of Grade 8 students in the Philippines.

This age breakdown is representative of middle school learners, as 14-year-olds are commonly found in this educational stage. The data highlights that most participants fall within the expected age range for Grade 8, ensuring the findings are directly applicable to this group.

Students Engagement
The impact of gamification on teaching social science was assessed by comparing student engagement levels in two instructional settings: one without gamified activities and another incorporating gamified elements. A paired samples t-test and descriptive statistics were used to analyze the data, both of which revealed a significant enhancement in student engagement due to gamification.

The t-test, conducted at a 0.05 significance level, produced a p-value less than 0.01, indicating a statistically significant difference between the two scenarios. This result supports the hypothesis that gamification significantly improves class engagement in social science. The null hypothesis, which posited no difference in engagement levels, was rejected in favor of the alternative hypothesis, affirming the positive effect of gamified teaching strategies.

The effectiveness of gamification in teaching social science was assessed through a paired sample t-test comparing two instructional scenarios: one without gamified activities and the other incorporating gamified elements. The statistical analysis revealed a significant difference between the two scenarios. At a 0.05 level of significance, the p-value was found to be less than 0.01, demonstrating that gamification positively influences student engagement.

As a result, the null hypothesis which posited no significant difference in engagement levels with or without gamification was rejected. Instead, the alternative hypothesis was accepted, affirming that integrating gamification into social science instruction significantly enhances student engagement.

These findings underscore the potential of gamification as an effective pedagogical approach. By incorporating gamified activities, educators can foster higher levels of engagement and interaction among grade 8 learners, making the learning process more dynamic and impactful. The substantial increase in engagement indicates that gamification provides not only an innovative teaching strategy but also a meaningful way to improve student participation and attentiveness in social science classes. This evidence supports the broader adoption of gamified methods in education to boost learner outcomes and engagement.

Descriptives Statistics
The statistical results indicate a marked improvement in student engagement when gamification was incorporated into Social Science instruction. The mean engagement score increased from 71.802 under non-gamified teaching to 83.960 with gamified activities, representing a substantial 12.158-point increase. This rise reflects the strong positive effect of gamification on enhancing learner participation and interest.

Additionally, the standard deviation decreased from 13.214 to 6.932, showing that engagement levels became more consistent among students in the gamified condition. This reduction suggests that gamification not only elevates overall engagement but also minimizes disparities in learner responses. The coefficient of variation likewise dropped significantly from 0.184 to 0.083, indicating greater stability and reliability in engagement outcomes when gamified methods were implemented.

Overall, the findings demonstrate that gamification is both an effective and dependable instructional approach, capable of improving engagement while promoting more uniform participation across learners. These results strongly support the integration of gamified strategies in Social Science classrooms to enhance the learning experience.

Recommendations
Based on the results of this study, the following recommendations are proposed:
1. Integration of Gamification in Curriculum: Schools should consider incorporating gamified teaching strategies into the social science curriculum to enhance student engagement and foster a deeper understanding of the subject.
2. Teacher Training and Support: Educators should receive professional development and training on designing and implementing gamified activities tailored to the unique learning needs and interests of students.
3. Diversified Gamification Techniques: While gamification is effective, it is crucial to use diverse techniques such as storytelling, leaderboards, and interactive tasks to cater to varied learner preferences and maximize its impact specially in teaching social science subject.
4. Regular Assessment and Feedback: Continuous evaluation of gamified strategies is essential to refine and adapt them based on student feedback and observed effectiveness.
5. Further Research: Additional studies should explore the long-term effects of gamification on academic performance and its application in other subject areas and grade levels, as well as its potential to address diverse learning challenges.

By embracing these strategies, educators and policymakers can leverage gamification as a transformative tool to revitalize student engagement and enrich the learning experience in social science and beyond.

CONCLUSION
The findings of this study highlight the significant impact of gamification on enhancing class engagement among Grade 8 learners in social science at Can-avid National High School. The results from the paired samples t-test demonstrate a statistically significant improvement in students' engagement levels when gamified activities were integrated into the learning process, as evidenced by a notable increase in mean scores from 71.802 (without gamified activities) to 83.960 (with gamified activities). This outcome confirms the alternative hypothesis, establishing that gamification has a positive and measurable effect on students' engagement in social science education.

The data also reveal that gamification effectively addresses motivational challenges in traditional teaching methods. The use of game elements such as rewards, competition, and interactivity fosters a dynamic and inclusive learning environment, aligning with the intrinsic motivators of students. These findings underscore the potential of gamification to transform abstract and theoretical subject matter, like social science, into engaging and relatable experiences for learners.

FIGURES AND TABLES

Table 1. Gender Distribution of Respondents

Gender	Frequency	Percent
Male	50	49.505
Female	51	50.495
Total	101	100.000

Table 2. Age Distribution of Respondents

Age	Frequency	Percent
13	25	24.752
14	76	75.248
Total	101	100.000

Table 3. Paired Sample T-test result

Measure 1		Measure 2	t	df	p
Without Gamified Activities	-	With Gamified Activities	-10.818	100	< .001

Note. Student's t-test.

Table 4. Descriptive Statistics for Student Engagement

	N	Mean	SD	SE	Coefficient of variation
Without Gamified Activities	101	71.802	13.214	1.315	0.184
With Gamified Activities	101	83.960	6.932	0.690	0.083

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