



Addressing the Least Learned Competency in Araling Panlipunan 9: Gamified Instructional Materials (GIM's)

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ABSTRACT

This study investigates the effectiveness of Gamified Instructional Materials (GIMs) in addressing the least learned competency in Araling Panlipunan 9 at Butuan City Comprehensive High School. Utilizing a quasi-experimental design, the study involved 130 Grade 9 students during the 2023-2024 school year. Pre-test and post-test results revealed a significant improvement in student performance, moving from low mastery to moving towards mastery. The findings suggest that GIMs enhance student engagement and comprehension, leading to better educational outcomes. The study recommends broader integration of GIMs in the curriculum to improve learning experiences and performance.

Keywords: Gamified Instructional Materials, Least Learned Competency and Araling Panlipunan

1. Introduction

Araling Panlipunan is one of the core subjects in the K–12 curriculum that aims to prepare students to be accountable and contributing members of society. The goal of teaching this subject is to assist students in gaining a basic understanding of historical, geographical, political, and economic themes and issues, according to the K–12 Araling Panlipunan curriculum. The goal of this knowledge is to empower students to grow, study, create, and engage with others in productive ways. The curriculum places more emphasis on comprehension than on learning terminology and concepts by heart (Gonzales & Hermosa, 2023).

Teaching Araling Panlipunan in more engaging ways captivate the interest of the students, gamified instructional materials enhances students ability to comprehend and understand basic concepts of the subject matter. As it enables students to interact with the game-based activities in a fun and engaging way, gamification has become more popular as a teaching strategy for teaching in recent years. Zamorano et. al (2021) emphasized that gamification activates active learning to students that develop their skills and academic performance. Games and simulations provide students the chance to practice their language abilities in a relaxed setting where errors are accepted as a necessary part of learning.

In relation to this, DepEd Order No. 31, s. 2022 was issued that provided guidelines on the development, production, and utilization of instructional materials for the K to 12 Basic Education Program. It also emphasized that instructional materials should be developed using a participatory and collaborative process that involves teachers, subject matter experts, and other stakeholders. Instructional materials support the synergy of the learners to develop their cognitive, affective and psychomotor skills for effective learning to take place.

In addition, the Department of Education provided policy guidelines on the utilization of learning resources under DepEd Order No. 18, s. 2020. In connection to this, the educational technology unit proposed a framework that promote and solidify the digitalization and innovation of the teachers on the teaching and learning process. DepEd emphasize the deepen usage of ICT to transform learning using gamification as one of the models and programs focused in new innovations and development in the educational technology.

The National Achievement Test, administered annually by the Department of Education, revealed that high school students in Araling Panlipunan's performance was 54.22% below the 75% target, indicating difficulties in information processing, evaluating, interpreting, and manipulating facts, indicating a lack of academic achievement (Gonzales & Hermosa, 2023).

Notably, the education sector encourages the teachers to utilize digitalize instructional materials in the teaching-learning process. However, Alegria and Flores (2021) in a study cited that Filipino teachers face the lack of access to technology and infrastructure, making it difficult to use digitalized instructional materials effectively. Similarly, Guevara and Tagudin (2021) emphasized that Filipino teachers lack the necessary knowledge and skills to effectively integrate digitalized instructional materials.

Although it has been noted that the mean percentage score for Araling Panlipunan 9 has been consistently low for the previous three years in Butuan City Comprehensive High School, there is a lack of study on the precise causes that could be causing this trend. Due to the abrupt change in the learning mode

in 2021, it was found that the mean percentage score for Araling Panlipunan 9 was 48.39, which is viewed as not learned. The mean percentage score (MPS) of the Araling Panlipunan 9 students dropped to 49.25 in 2022, according to the data. The mean percentage score of the students in Araling Panlipunan 9 in 2023, during the implementation of complete face-to-face lessons, was 50.45, which is also translated as not mastered. This means that there is a need for reforms in the teaching strategies and methodologies and instructional materials that the teachers need to utilize in order to solve this existing problem.

With the abovementioned deficiencies, the educational system in the Philippines may reinforce sustainable development in the teaching-learning process in order to improve the poor academic performance using gamified instructional material. This study aims to assess the effectiveness of gamified instructional materials in addressing the least learned competency in Araling Panlipunan 9.

1.1 Statement of the Problem

This study aimed to assess the effectiveness of gamified instructional materials to address the least learned competency in Araling Panlipunan 9 in Butuan City Comprehensive High School.

Specifically, it sought to answer the following questions.

1. What is the performance level of the Araling Panlipunan 9 students before and after the implementation of gamified instructional materials?
2. Is there a significant difference between the performance level of the Araling Panlipunan 9 students before and after the implementation of gamified instructional materials?

2. Methodology

2.1 Research Design

This study will utilize the quasi-experimental research design. It is experimental as it will test the effectiveness of the gamified instructional materials (GIM's) to address the least learned competency in Araling Panlipunan 9.

The gamified instructional materials as intervention will be based on the competency that were found to be least learned by the students during the recent three consecutive school years.

2.2 Respondents of the Study

The respondents of the study are the 130 Grade 9 students of Butuan City Comprehensive High School who were enrolled in the school year 2023-2024. They will serve as the primary respondents of the study as they will be tested on the effectiveness of the gamified instructional materials.

2.3 Research Instrument

The study will use a validated 30 items test based on the least learned competency in Araling Panlipunan 9. This test is a multiple-choice type of test that will be used in pre-test and in the post-test.

Table 1. Interpretation on the level of mastery of MPS in the pre-test and post-test

Percentage (%)	Verbal Description	Verbal Interpretation
96-100	Mastered	Competent
86-95	Closely Approximating Mastery	Closely Approximating Competence
66-85	Moving Towards Mastery	Moving Towards Competence
35-65	Average Mastery	Average Competence
15-34	Low Mastery	Low Competence
5-15	Very Low Mastery	Very Low Competence
0-4	Absolutely No Mastery	Absolutely Not Competence

The level of competence of the Grade 10 students in Mathematics will be measured using the mean percentage score by Bernido (2023). Thus, this scoring matrix underscores the basis of the mean percentage score garnered by the Grade 9 students both in the pre-test and post-test. The students' scores were categorized according to the guidelines outlined in Department of Education (DepEd) Order No. 160, which pertains to maximizing the use of the National

Achievement Test (NAT) from 2012. These categories, known as mastery classifications, range from no mastery at all to mastered, with descriptors such as very low, low, average, moving towards mastery, and closely approximating mastery. The Mean Percent Scores (MPS) were calculated by dividing the actual scores of the students on a validated test with 30 items by the total possible score of the test, and then multiplying by one hundred percent.

2.4 Statistical Treatment

The following statistical tools were used in the study and interpretation of the data:

Mean. This will be used to identify the average achievement of Grade 9 students based on their pre-test and post-test.

Paired Sample T-test. This will be used in identifying if there is a significant difference between the pre-test and post-test results of the Grade 9 students.

3. RESULTS AND DISCUSSION

The data collected from the respondents are presented, analyzed, and interpreted in this chapter.

Problem 1. What is the performance level of the Araling Panlipunan 9 students before and after the implementation of gamified instructional materials?

Table 2 presents the scores of student mastery classification garnered in the pre-test before and after the implementation of the gamified instructional materials.

Table 2. Student mastery classification in pre-test and post-test in Araling Panlipunan 9

Student Mastery classification	Pre-Test		Post-Test	
	F	%	F	%
Mastered	0	0	1	3
Closely Approximating Mastery	0	0	4	13
Moving Towards Mastery	0	0	11	37
Average	11	37	14	47
Low	18	60	0	0
Very Low	1	3	0	0
Absolutely No mastery	0	0	0	0
Total	30	100%	30	100%

Legend: 96-100-competent, 86-95-closely approximating competence, 66-85-moving towards competence, 35-65-average competence, 16-34-low competence, 5-15-very low competence, 0-4-absolutely not competence

Table 2 illustrates the shift in student mastery classifications in Araling Panlipunan 9, comparing pre-test and post-test results before and after implementing gamified instructional materials. It is notable evidence that in the pre-test, 60% of the Grade 9 students fall into low mastery classification indicating a rigid intervention on the student's performance. However, it was evident that 3% of the learners fall into very low mastery classification that suggest an intensive intervention enable to improve the performance of the students.

After the implementation of gamified materials, there was a notable improvement on the student's performance, 47% of the Grade 9 students boost their achievement into an average mastery classification indicating a positive result on the implementation of gamified instructional materials. Moreover, 37% classified as moving towards mastery level, 13% classified as closely approximating mastery and 3% classified as mastered. Notably, the "Very Low" and "Absolutely No Mastery" categories were also eradicated, suggesting that the gamified materials were effective in improving student performance and reducing the number of students with minimal mastery. Overall, these results indicate that gamified instructional materials positively impacted student mastery in Araling Panlipunan, 9 facilitating a deeper understanding and more effective learning outcomes.

Table 3. Results on the pre-test and post-test before and after the implementation of GIM's

	N	Mean	Percentage	Description	Interpretation
Pre-Test	30	9.500	32%	Low Mastery	Low Competence
Post-Test	30	20.567	69%	Moving Towards Mastery	Moving Towards Competence

Table 3 presents the results of student performance on the pre-test and post-test before and after the implementation of the Gamified Instructional Materials (GIM's). Initially, the pre-test scores had a mean of 9.500, reflecting a low mastery level with only 32% competency among students. This indicates that students had a limited understanding on the concepts of Araling Panlipunan 9. However, following the introduction and the implementation of the GIM's, the post-test mean score increased substantially to 20.567, corresponding to a 69% competency level. This significant improvement suggests that the GIM's effectively enhanced student learning, moving their performance from "Low Mastery" to "Moving Towards Mastery." The results indicate that the GIM's contributed to a more substantial grasp of the subject matter, demonstrating progress towards greater competence. This enhancement in scores highlights the effectiveness of the GIM's in boosting student understanding and performance in Araling Panlipunan 9.

Problem 2. Is there a significant difference between the performance level of the Araling Panlipunan 9 students before and after the implementation of gamified instructional materials?

Table 4 presents the significance difference of the performance level of the Araling Panlipunan 9 students before and after the implementation of gamified instructional materials.

Table 4. Results on the difference on the pre-test and post-test using the GIM's

	n	Mean	Mean Difference	t- value	P-value	Result	Decision
Pre-Test	30	9.500	11.067	-29.33	.00	Significant	Reject H_0
Post-Test	30	20.567					

Table 4 displays the results of the statistical analysis comparing pre-test and post-test scores using gamified instructional materials. The pre-test mean score was 9.500, while the post-test mean score increased to 20.567, yielding a mean difference of 11.067. The computed t-value of -29.33 and a p-value of 0.00 indicate a statistically significant improvement in student performance. This substantial mean difference and the significant p-value suggest that the gamified instructional materials had a profound impact on student learning outcomes. The result leads to the rejection of the null hypothesis (H_0), affirming that the observed improvement in scores is not due to chance but rather to the effectiveness of the gamified instructional materials. The data demonstrates that gamified instructional materials significantly enhanced students' understanding and performance in Araling Panlipunan 9, validating the positive impact of these instructional materials and intervention.

4. CONCLUSION AND RECOMMENDATION

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

1. The study reveals that gamified instructional materials (GIMs) significantly improved student performance in Araling Panlipunan 9, resulting in a significant shift from low mastery levels to moving towards mastery levels. This highlights the effectiveness of GIMs in enhancing student engagement and comprehension, thereby enhancing educational outcomes.
2. The study reveals a significant improvement in Araling Panlipunan 9 students' performance levels after implementing gamified instructional materials (GIMs). The results reject the null hypothesis, indicating that the improvement is a result of the effective use of GIMs, enhancing learning outcomes.

Taking into consideration to conclusions presented above, the following recommendations are proposed:

Department of Education. They should consider integrating gamified instructional materials into the curriculum more broadly. Providing support and resources for schools to develop and implement these materials can enhance student engagement and learning outcomes across various subjects.

School Principal. They should support and facilitate the adoption of gamified instructional materials in their schools. This includes providing professional development opportunities for teachers to effectively use these materials and ensuring that necessary technological resources are available.

Teachers. They are encouraged to integrate gamified instructional materials into their teaching practices. By doing so, they can make learning more interactive and engaging for students, which can lead to improved understanding and performance.

Students. They should actively participate in the gamified learning activities provided, as these materials are designed to enhance their learning experience.

Future Researchers. They should investigate the long-term effects of gamified instructional materials on student learning and performance.

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