

CREBOTIC APPLICATION TO LEARNERS' MOTIVATION AND PERFORMANCE

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ABSTRACT

The purpose of this research was to find out if ninth-grade students at San Antonio de Padua College found success with Araling Panlipunan using Creobotic Integration. The study's overarching objective is to determine how the Creobotic learning platform affects students' motivation, self-esteem, self-efficacy, and sense of direction. Additionally, the study will determine if there is a statistically significant improvement in students' mean performance between the pre-and post-tests. The research also attempts to evaluate if there is a significant link between the learners' evaluations of Creobotic's features and their motivation, as well as their post-test performance.

Testing of other hypotheses revealed that the results support the rejection of the null hypothesis that there is no change between pre-and post-test mean scores. Students' high levels of self-esteem and motivation were linked to their academic success and classroom engagement. The results suggest that teachers should work to create an environment where pupils feel safe and inspired to achieve. This study demonstrates that Creobotic applications may improve student performance and motivation, but further research is needed to find the best effective instructional practices for utilizing this technology. Teachers are encouraged to look at how Creobotic apps and other technology could boost student outcomes and to create teaching practices that make the most of these tools, among other suggestions

Keywords:

Creotec, CreoApp, motivation, augmented reality, self-efficiency, goal-oriented, slf-

INTRODUCTION

When it comes to learning, students now have more control over what, when, and where they study because to technological advancements. By putting students in charge of their own education and preparing them for the digital world of the future, technology is a key component in the movement toward personalized learning. Inspiring children to become problem-solvers, critical thinkers, collaborators, and creators is what technology and access to resources beyond the classroom walls are all about. In schools where technology is effectively used in the classroom, pupils gain an interest in education that will last a lifetime (Intel, n.d.).

Educators always work to tailor lessons to each individual student. Access to real-time student data, longitudinal information, material, applications, and more is only the beginning of how technology can help kids excel. New learning and teaching methods may be implemented with the assistance of technology in the form of blended learning environments and the use of digital tools for formative and summative evaluations.

This study focused on determining the effectiveness of Creobotic Integration for Araling Panlipunan in Grade 9 students of San Antonio de Padua College. The respondents of the study were heterogeneous sections of grade 9 students in section Prudence, the section was composed of thirty-four (34) students. These also include grade 9 students in section Chastity, the section was composed of thirty-nine (38) students. A total of 72 grade 9 students enrolled in the school year 2022-2023 at San Antonio de Padua College in Pila, Laguna. This study uses the descriptive design to determine the effectiveness of Creotec Technology Integration in teaching Araling Panlipunan to

Grade 9 students. A forty-item (40) Pre-test and Post-test were conducted in these sections to know if there is a significant difference in the results. And a survey about the effect of Creobotic on their motivations.

REVIEW OF RELATED LITERATURE

Numerous studies have been conducted to investigate the factors that contribute to student motivation. These factors include students' individual characteristics, such as self-efficacy and goal orientation, as well as the social and environmental factors that surround students, such as teacher support and classroom climate. Some of the factors that have been investigated. The ability of teachers to cultivate a supportive and interesting learning environment that encourages student autonomy, mastery, and relevance is one of the most important factors in determining the degree to which students are motivated to learn (Deci & Ryan, 2012).

The article by Dicheva et al., (2015) offers a comprehensive analysis of the use of gamification in education and outlines both the possible advantages and disadvantages of employing this strategy. The writers reach the conclusion that gamification has the potential to boost student motivation, engagement, and learning outcomes. Nevertheless, the authors note that the efficacy of gamification is dependent on the design, context, and execution of the activity. While Groh et. al., (2017) investigate the effect that gamification has on the academic performance and engagement of college students in a traditional classroom environment. According to the research, gamification can boost student motivation, engagement, and happiness while also improving learning outcomes and retention rates.

In their article, Landers et al. (2017) investigate how psychological theory might be applied to the use of gamification in educational settings and professional development. Based on the concepts of motivation, cognition, and emotion, the authors present criteria for building successful gamification interventions that boost learner and organizational results. These guidelines are intended to be followed when designing effective gamification interventions. Considering this, McInerney and Smyth (2018) also explores the use of gamification as a method for learning computer programming among undergraduate students. The findings indicate that gamification has the potential to boost student motivation, engagement, and learning outcomes. This is particularly true when the game features relate to the learning objectives and the students have influence over their learning experience.

In their study, Przybylski et al. (2010) suggest a motivational model of video game engagement that has the potential to guide the design of gamification interventions used in education. The concept considers three fundamental psychological requirements that serve as the driving force behind an individual's intrinsic motivation and engagement. These needs are autonomy, competence, and relatedness. According to the authors, for gamification to be successful, it needs to meet these demands and cultivate a sense of fun, challenge, and social connection.

This literature suggests that gamification can be an effective way to increase student motivation, engagement, and learning outcomes, especially when the design is based on psychological theory and fits with the learning goals. The studies also show how important context and how gamification is used in figuring out how well it works. Overall, the research supports the idea that gamification could be helpful in education, but it also calls for more research and evaluation to better understand how and why it works.

METHODOLOGY

The purpose of this study is to learn about the experiences of teachers, parents, and students in using Croebotic technology. Qualitative research studies enable investigators to investigate a phenomenon from the perspective of an individual's own experiences in a variety of scenarios and circumstances. It was decided to conduct this study using a qualitative methodology so that appropriate responses could be sought to get insights into parents, students, and teachers' real-life experiences in experiencing Creobotic technology in learning Araling Panlipunan.

The one-group pretest-posttest design is a type of pre-experimental research design that was initially proposed by Campbell and Stanley and has since gained widespread usage. Measurements are taken of the same group of participants before and after they undergo an intervention using this design. After the intervention has been carried out, subsequent measurements of the same behaviors or characteristics are taken to determine whether there have been significant shifts. It is difficult to determine whether the observed changes are the result of the intervention or of other factors because the design has some limitations, such as the absence of a control group. This makes it difficult to determine whether the observed changes are due to the intervention or to other factors. Because of this, it is essential to interpret the findings with extreme caution and to investigate various alternative designs that are capable of compensating for these limitations.

Students in different sections in Grade 9, a class from Prudence, with a total of thirty-four (34) students in this class. Also, children in grade 9 are enrolled in section Chastity, which has a total enrollment of thirty-eight (38) pupils. In San Antonio de Padua College in Pila, Laguna, there was a total enrollment of 72 students in grade 9 for the 2022-2023 academic year. This research makes use of the descriptive design to investigate the efficacy of the Creotec Technology Integration in the classroom instruction of Araling Panlipunan for students in Grade 9. To determine whether there is a significant difference in the outcomes, a forty-item (40) Pre-test and Post-test were carried out in this section. And a poll concerning the impact that Creobotic has had on their inclinations.

Purposive sampling is a sampling technique in which a researcher relies on her judgment when choosing members of the population to participate in the study. This type of sampling can be very useful in situations when you need to reach a targeted sample quickly, and where sampling for proportionality is not the main concern.

Purpose sampling is a non-probability sampling method in which researchers pick participants based on specified criteria pertinent to the study topic or hypothesis. When the population of interest is small or difficult to access, and when researchers must carefully pick people who match specified criteria, this sampling method is frequently employed. Purposeful sampling can assist guarantee that the sample is representative of the target population and can boost the study's validity (Palinkas et. al., 2015).

The first steps in the research process are to define a research issue and then to perform a literature study to gain an understanding of the context. The research topic serves as the basis for the formulation of research questions, objectives, and hypotheses by the researcher.

The methods for defining a research topic are creating a survey instrument, calculating sample size, conducting a pilot test, distributing, and collecting responses, analyzing, and interpreting findings, and suggesting directions for further study are all covered in depth. Surveys should contain both closed- and open-ended questions, research questions should be well-defined, and sample sizes should be calculated considering the effect size and the required degree of statistical power. Consider the study's research question and hypothesis, the implications of the findings, and its limitations when interpreting the results. In this study, the survey is about the effect of Creobotics in students' performance and motivation.

The most important details in this text are the steps taken to define a research question, develop measurement instruments, conduct a pretest questionnaire, implement an intervention, conduct a posttest questionnaire, analyze the data, interpret the results, draw conclusions, and recommend future research. The research question should be based on prior knowledge or theory, the measurement instruments should be valid and reliable, and the same measurement instrument should be used for both the pretest and posttest. The sample size should be determined based on the effect size and the desired level of statistical power. The intervention should be implemented in a consistent manner across all participants to ensure the reliability of the results.

A design consisting of a pre-test and a post-test may be utilized as a research instrument to investigate the impact that Creobotics has on the academic performance of students. The pretest-posttest design is a typical study approach that is used to examine the efficacy of educational interventions like Creobotics, as stated by Kothiyal, Agrawal, Yadav, and Pant (2013). Creobotics is one example of an educational intervention. To evaluate the effectiveness of this strategy, it is proposed to provide tests to a sample of students both before and after they receive the intervention.

Self-report measures: To determine the students' levels of motivation, it is possible to ask them to complete self-report measures, such as a questionnaire or a diary. The self-report measures may include questions on the individuals' levels of reported pleasure of the activities, levels of interest in the activities, levels of perceived competence, and overall levels of motivation.

These research tools may be used in a variety of ways to provide a full analysis of the impact that Creobotics have on the motivation of pupils. Cavas, & Yilmaz (2009) mention that it is possible to do statistical analyses on the data obtained from these instruments to ascertain whether or not there are discernible shifts in the degree of motivation shown by students both before and subsequent to the implementation of the intervention.

The research prepared questionnaire forms. This research will use the Likert Scale type as a parameter. To determine the effects Creobotic Application on learner's motivation and Performance, the study used the following scale composed of five categories:

- 5 – Strongly Agree
- 4 – Agree
- 3 – Moderately Agree
- 2 – Disagree
- 1 – Strongly disagree

For the Level of Performance in the pre-test and post-test, the researcher will use this Range of Verbal Interpretation:

- 25-30 Outstanding
- 19-24 Very Satisfactory
- 13-18 Satisfactory
- 7-12 Fairly Satisfactory
- 0-6 Did not Meet Expectations

After the questionnaire was retrieved, coded, and tallied, statistical tools shall be applied followed by the analysis and interpretation of data.

To determine the effects of Creobotic application on learners' motivation and performance in pre-test and post-test, a statistical treatment using a t-test. The t-test is a statistical test used to determine if there is a significant difference between the means of two groups. It can be used to analyze the difference between the mean scores of the pre-test and post-test of the control and experimental groups.

RESULT AND DISCUSSION

Table 1. Perception level of the Creobotic in terms Gamified Approach

STATEMENTS	MEAN	SD	REMARKS
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Makes learning Araling Panlipunan more enjoyable for me.	4.61	0.47	Strongly Agree
Motivates me to participate more actively in learning Araling Panlipunan.	3.99	0.95	Agree
Helps me to remember Araling Panlipunan concepts more effectively.	3.94	0.86	Agree
Makes positively impacts my motivation to learn Araling Panlipunan.	4.00	0.85	Agree
Will be recommended to other students learning Araling Panlipunan.	4.31	0.78	Strongly Agree
Weighted Mean	4.17		
SD	0.74		
Verbal Interpretation	High		

From the statement in the table. Students *strongly agree* that the approach in Creobotic makes learning in Araling Pnlipunan more enjoyable (M=4.61, SD=47) Gamified approach in Creobotics can be recommended in other students (M=4.31, SD=0.78). On the other hand, students agree that the gamified approach helps them to remember concepts in Araling Panlipunan more effectively (M=3.94, SD=0.86). The weighted mean of 4.17 indicates that the perception level of the student in Creobotic in terms of gamified approach is *high*.

Based on the findings, it can be concluded that respondents have a favorable opinion of Creobotic when it is presented in a gamified manner. With a consensus that the gamified approach is successful in increasing their engagement and motivation for learning. The low standard deviation of 0.74 also implies that there is a high degree of consensus among respondents evaluating the efficiency of Creobotic's gamified approach.

Table 2. Perception level of the Creobotic in terms Creo App

STATEMENTS	MEAN	SD	REMARKS
<i>Makes learning Araling Panlipunan more engaging for me.</i>	4.15	0.87	Agree
<i>Helps me to better understand Araling Panlipunan concepts</i>	4.11	0.93	Agree
<i>Makes learning Araling Panlipunan more fun for me.</i>	4.11	0.82	Agree
<i>Makes positively impacts my motivation to learn Araling Panlipunan.</i>	4.04	0.87	Agree
<i>Will be recommended to other students learning Araling Panlipunan.</i>	4.11	0.90	Agree
Weighted Mean	4.11		
SD	0.88		
Verbal Interpretation	High		

From the statement in the table. Students *agree* that the approach in Creobotic makes learning in Araling Pnlipunan more enjoyable (M=4.51, SD=87) CreoApp in Creobotics can be recommended in other students (M=4.11, SD=0.93). On the other hand, students agree that the CreoApp helps them to remember concepts in Araling Panlipunan more effectively (M=4.04, SD=0.87).

The weighted mean of 4.11 indicates that the perception level of the student in Creobotic in terms of CreoApp is *high*.

According to the data, respondents had a favorable opinion of Creobotic when it is provided through the CreoApp. The standard deviation of 0.88 indicates that there is considerable variation in how respondents perceive Creobotic through the CreoApp, but the general trend is favorable. Overall, the results imply that both the gamified approach and the Creo App are favorably viewed by respondents and may be helpful methods for boosting the learning experience provided by Creobotic

Table 3. Perception level of the Creobotic in terms Augmented Reality

STATEMENTS	MEAN	SD	REMARKS
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Increased your motivation to learn Araling Panlipunan.	4.06	0.91	Agree
Made it easier for you to remember the concepts you've learned in Araling Panlipunan.	3.92	0.78	Agree
Improved your overall academic performance in Araling Panlipunan.	4.01	0.80	Agree
Made Araling Panlipunan more relevant to your everyday life.	3.80	0.94	Agree
Made me prefer this to learn about Araling Panlipunan compared to traditional teaching methods.	3.89	1.02	Agree
Weighted Mean	3.94		
SD	0.89		
Verbal Interpretation	High		

From the statement in the table. Students *agree* that the approach in Creobotic makes learning in Araling Pnlipunan more enjoyable (M=4.06, SD=91) Augmented Reality in Creobotics can be recommended in other students (M=4.01, SD=0.80. On the other hand, students agree that the Augmented reality helps them to remember concepts in Araling Panlipunan more effectively (M=3.80, SD=0.94).

The weighted mean of 3.94 indicates that the perception level of the student in Creobotic in terms of Augmented reality is *high*.

Nevertheless, the standard deviation of 0.89 implies that perceptions of Creobotic through Augmented Reality vary among respondents, with some respondents having a less favorable opinion than others. However, the overall trend is favorable, showing that the usage of Augmented Reality in Creobotic has the potential to raise student motivation and engagement, which may lead to improved learning outcomes. Overall, the findings imply that Augmented Reality can be a useful tool for enriching the Creobotic learning experience, but some respondents may require further help or training to fully grasp the advantages of this technology.

Table 4. Perception level of the Creobotic in terms Infographics

STATEMENTS	MEAN	SD	REMARKS
<i>Increased my motivation to learn about Araling Panlipunan.</i>	3.92	0.86	Agree
Is an effective way to learn about Araling Panlipunan.	4.00	0.74	Agree
Increased my motivation to learn about Araling Panlipunan.	3.85	0.89	Agree
Makes me remember concepts easier compared to traditional teaching methods	3.89	0.95	Agree
Made me prefer this to learn about has Improved your grades in Araling Panlipunan	3.82	1.02	Agree
Weighted Mean		3.89	
SD		0.90	
Verbal Interpretation		High	

From the statement in the table. Students *agree* that the approach in Creobotic makes learning in Araling Pnlipunan more enjoyable (M=4.06, SD=91) Infographics in Creobotics can be recommended in other students (M=3.92, SD=0.86. On the other hand, students agree that the infographics helps them to remember concepts in Araling Panlipunan more effectively (M=3.82, SD=1.02).

The weighted mean of 3.89 indicates that the perception level of the student in Creobotic in terms of infographics is *high*.

Nonetheless, the standard deviation of 0.90 indicates that there is some variation in respondents' perceptions of Creobotic via infographics, with some respondents having a less favorable opinion than others. Nonetheless, the overall trend is favorable, showing that the usage of infographics in Creobotic

has the potential to raise learner motivation and engagement, which may lead to improved learning outcomes. In general, the findings imply that infographics may be a useful tool for boosting the Creobotic learning experience, but some respondents may require further help or training to fully grasp the benefits of this technology.

Table 5. Status of Learner Motivation in terms of Self Esteem

STATEMENTS	MEAN	SD	REMARKS
Helped me feel more comfortable and confident in participating in classroom discussions and activities related to Araling Panlipunan.	4.11	0.79	Agree
Makes me feel more confident in my ability to apply Araling Panlipunan concepts to real-life situations after using CreoApp.	3.92	0.89	Agree
Has helped me recognize and appreciate my own strengths and abilities in learning Araling Panlipunan.	4.04	0.85	Agree
CreoApp has improved my overall confidence in my ability to learn and understand Araling Panlipunan concepts.	3.87	0.96	Agree
Make me feel that using CreoApp has improved my self-esteem and confidence in my ability to learn and succeed in Araling Panlipunan.	3.97	0.90	Agree
Weighted Mean	3.98		
SD	0.88		
Verbal Interpretation	High		

From the statement in the table. Students agree that the approach in Creobotic makes learning in Araling Pnlipunan more enjoyable ($M=4.11$, $SD=79$) Augmented Reality in Creobotics can be recommended in other students ($M=4.04$, $SD=0.85$). On the other hand, students agree that the Creobotic helps them to build their self-esteem in learning Araling Panlipunan more effectively ($M=3.87$, $SD=0.96$).

The weighted mean of 3.98 indicates that the Status of Learner Motivation in terms of Self Esteem is high. Strong self-esteem has been associated with higher academic success and engagement. Hence, it is essential for educators to foster a good learning environment that fosters and boosts students' self-esteem, which can eventually result in enhanced academic achievement and well-being.

Table 6. Status of Learner Motivation in terms of Self Efficiency

STATEMENTS	MEAN	SD	REMARKS
Has helped me feel more confident in my ability to understand and retain information in Araling Panlipunan.	4.06	0.76	Agree
Has positively impacted my overall academic performance in Araling Panlipunan.	3.96	0.87	Agree
Has increased my motivation to learn about Araling Panlipunan.	3.96	0.92	Agree
Has made me feel more self-sufficient in my learning of Araling Panlipunan.	3.87	0.88	Agree

Has improved my motivation and self-efficacy in learning Araling Panlipunan.	4.01	0.89	Agree
Weighted Mean	3.97		
SD	0.86		
Verbal Interpretation	High		

From the statement in the table. Students *agree* that Creobotic helps to boost their self Efficiency and makes learning in Araling Pnlipunan more enjoyable (M=4.06, SD=76) learner motivation in terms of self-efficiency can be recommended in other students (M=9.96, SD=0.92. On the other hand, students agree that the Creobotic helps them to build their self-efficiency in learning Araling Panlipunan more effectively (M=3.87, SD=0.88).

The weighted mean of 3.97 indicates that the Status of Learner Motivation in terms of Self-efficiency is *high*. This shows that the learners have a high conviction in their ability to effectively complete activities and attain their goals, which might help to their drive to study and achieve academic success. One study that looked at the relationship between self-efficacy and motivation found that a student's self-efficacy beliefs can affect how well they do in school and how motivated they are to learn.

Table 7. Status of Learner Motivation in terms of Goal-Oriented

STATEMENTS	MEAN	SD	REMARKS
Has increased my motivation to achieve my learning goals in Araling Panlipunan.	4.06	0.76	Agree
Has helped me stay focused and accountable in achieving my learning goals in Araling Panlipunan	3.96	0.87	Agree
Has helped me feel more in control of my own learning and progress in Araling Panlipunan.	3.96	0.92	Agree
Has helped me break down larger goals into smaller, more manageable steps in learning Araling Panlipunan.	3.87	0.88	Agree
Has improved my motivation and ability to set and achieve goals in learning Araling Panlipunan.	4.01	0.89	Agree
Weighted Mean	3.97		
SD	0.86		
Verbal Interpretation	High		

From the statement in the table. Students *agree* that Creobotic helps to boost their goal oriented and makes learning in Araling Pnlipunan more enjoyable (M=4.06, SD=76) learner motivation in terms of self-efficiency can be recommended in other students (M=9.96, SD=0.92. On the other hand, students agree that the Creobotic helps them to build their self-efficiency in learning Araling Panlipunan more effectively (M=3.96, SD=0.87).

The weighted mean of 3.97 indicates that the Status of Learner Motivation in terms of goal-oriented is *high*. This indicates that the students are focused on accomplishing their academic objectives and have a clear idea of what they wish to achieve. There is a correlation between goal-oriented motivation and increased academic accomplishment and engagement, as well as enhanced perseverance and performance. Several studies in the past few years have looked into the link between having goals and being motivated, especially when it comes to how well you do in school. For example, Wolski, Richardson, and Gillespie (2021) did a study to find out how goal orientation affected how well students did in school and how motivated they were to learn. The results showed that students whose goals were more focused on mastery did better in school and were more motivated to learn than those whose goals were more focused on performance.

Table 8. Mean Performance of the Learner in terms of Pre-Test

Grade	Frequency	Percentage	Descriptive Equivalent
25 - 30	9	12.50	Outstanding
19 - 24	12	16.67	Very Satisfactory
13 - 18	37	48.61	Satisfactory
6 - 12	15	20.83	Fairly Satisfactory
0 - 5	1	1.39	Did not meet Expectation
Total	72	100	
Weighted Mean			16.44
SD			5.83
Verbal Interpretation			Low Mastery

Out of total number of seventy-two respondents “13 to 18” received the highest frequency of thirty-seven (37) or 48.61% of the total population with descriptive equivalent of Satisfactory. The scores “6 to 12” received the frequency of 15 or 20.83% of the total population with descriptive equivalent of Fairly Satisfactory. While the scores “0 to 5” received the lowest frequency of 1 or 1.39% of the total population with descriptive equivalent of Did not meet the expectation.

With a (Weighted Mean = 16.44, SD = 5.83) it shows that the Mean Performance of the Learner in terms of Pre-Test has a descriptive equivalent of Did not meet the expectation and verbally interpreted as Low Mastery. The results indicated that the mean performance of the learners on the pre-test was poor, with a weighted mean of 16.44 and a standard deviation of 5. This suggests that prior to the intervention, the learners did not reach the desired level of performance and had a limited understanding of the subject area. This might be due to several causes, including a lack of prior knowledge, inadequate preparation, or the difficulty of the exam items. Yet, this gives a chance for educators to identify areas for improvement and implement focused interventions to improve the performance of the learners. By addressing the unique learning requirements of each student, instructors may assist them in achieving higher academic results and enhancing their overall topic knowledge.

Table 9. Mean Performance of the Learner in terms of Post-Test

Grade	Frequency	Percentage	Descriptive Equivalent
25 - 30	9	12.50	Outstanding
19 - 24	27	37.50	Very Satisfactory
13 - 18	27	37.50	Satisfactory
6 - 12	9	12.50	Fairly Satisfactory
0 - 5	0	0.00	Did not meet Expectation
Total	72	100	
Weighted Mean			18.68
SD			4.89
Verbal Interpretation			Satisfactory

Out of total number of seventy-two respondents “19 to 24” and “13 to 18” received the highest frequency of 27 or 37.50% of the total population with descriptive equivalent of *Very Satisfactory* and *Satisfactory*. While the scores “25 to 30” and “6 to 12” received the lowest frequency of 9 or 12.50% of the total population with descriptive equivalent of *Outstanding and Fairly Satisfactory*.

With a (*Weighted Mean = 18.68, SD = 4.89*) it shows that the Mean Performance of the Learner in terms of Post-Test has a descriptive equivalent of *Fairly Satisfactory*.

In other words, the students have mastered the material to an average degree, yet there is opportunity for growth in the final exam. It should be noted, however, that the context and criteria established for the post-test will determine how the score is interpreted. As an illustration, a score of 18.68 may not be deemed enough if the standards for the post-test were exceptionally rigorous.

Table 10. Relationship in the Mean Performance of the Learner in terms of Pre-test and Post-test

Perception of the Crebotic	Performance	r value	Degree of Correlation	Analysis
Gamified Approach	Pre-Test	0.5707	Moderate Relationship	Significant
	Post-Test	0.2036	Weak Relationship	Not Significant
Creo App	Pre-Test	0.7595	Strong Relationship	Significant
	Post-Test	0.3730	Weak Relationship	Significant
Augment Reality	Pre-Test	0.8705	Very Strong Relationship	Significant
	Post-Test	0.2980	Weak Relationship	Significant
Info Graphics	Pre-Test	0.8512	Very Strong Relationship	Significant
	Post-Test	0.3958	Weak Relationship	Significant
	Scale		Strength	
	0.80 – 1.00		Very Strong	
	0.60 – 0.79		Strong	
	0.40 – 0.59		Moderate	
	0.20 – 0.39		Weak	
	0.00 – 0.19		Very Weak	

There is a moderate association between the pre-test and post-test mean performance for the Gamified Approach, as seen by the table. In the meanwhile, there is a strong interaction between the Creo App and both Augmented Reality and Info Graphics.

In addition, there is a substantial correlation between the mean pre-test and post-test performance for all learning techniques. Nonetheless, there is a slight correlation between post-test mean performance and student perceptions of the Crebotic and Gamified Method.

The table demonstrates that Augmented Reality and Info Graphics have a good correlation with the mean performance of learners on the pre-test and post-test, demonstrating that both strategies are beneficial at enhancing learner performance. In contrast, the association between Crebotic and Gamified Approach and post-test mean performance is weaker, suggesting that these techniques may require more modification to increase their efficacy.

Table 11. Significant Effect on the Perception of the Learner on the Features of Crebotic and Learner’s Motivation

Perception of the Crebotic	Learner’s Motivation	Beta Coefficient	t-stat	Analysis
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Gamified Approach	Self-Esteem	0.1193	5.7730	Significant
	Self-Efficacy	0.6886	5.7730	Significant
	Goal-Oriented	0.6512	5.003	Significant
Creo App	Self-Esteem	0.7815	9.6991	Significant
	Self-Efficacy	0.7815	9.6991	Significant
	Goal-Oriented	0.8174	9.6964	Significant
Augment Reality	Self-Esteem	0.8690	13.9147	Significant
	Self-Efficacy	0.9014	14.6909	Significant
	Goal-Oriented	0.8769	11.4539	Significant
Info Graphics	Self-Esteem	0.8358	13.7314	Significant
	Self-Efficacy	0.8507	13.4716	Significant
	Goal-Oriented	0.8065	10.0688	Significant

**significant at .05 level of significance*

The Gamified Approach, Creo App, Augment Reality, and Infographics of Creobotic was observed to have significant effect to the Perception of the Learner on the Features of Creobotic and Learner's Motivation. Furthermore, majority of the p-values obtained were less than the significance alpha 0.05, hence there is a significance.

Table 12. Significant Effect on the Perception of the Learner on the Features of Creobotic and Learner's Performance in the Post-Test

Perception of the Creobotic	Performance	Beta Coefficient	t-stat	Analysis
Gamified Approach	Post-test	-0.0362	-1.7277	Not Significant
Creo App	Post-test	-0.0567	-3.3394	Significant
Augment Reality	Post-test	-0.0455	-2.5927	Significant
Infographics	Post-test	-0.0584	-3.5710	Significant

**significant at .05 level of significance*

The Creo App, Augment Reality and Infographics of Creobotic was observed to have significant effect to the Perception of the Learner on the Features of Creobotic and Learner's Performance in the post-test. Furthermore, majority of the p-values obtained were less than the significance alpha 0.05, hence there is a significance.

CONCLUSION

In conclusion, the study has shown that the use of the Creobotic approach in teaching Araling Panlipunan can positively impact students' perception, motivation, and performance. The incorporation of gamification, CreoApp, Augmented Reality, and infographics in Creobotic was perceived positively by the students, with a high level of effectiveness in helping them remember concepts in Araling Panlipunan more effectively. The study also found that the Creobotic approach helped boost students' self-efficiency and self-esteem, which are essential in achieving academic success. The post-test results showed an improvement in the students' performance, indicating that the approach is effective in enhancing their learning. The study also found a significant association between the Creobotic approach and students' perception, motivation.

RECOMMENDATIONS

1. While teaching Araling Panlipunan, it is strongly suggested that educators take into consideration

use the Creobotic method. For instructors to improve their knowledge and capabilities, it is essential that they participate in training that focuses on the Creobotic method. By doing so, teachers will be able to successfully incorporate the Creobotic method in their teaching practices, therefore providing their students with a learning environment that is both more interesting and more effective.

2. The school may explore using the Creobotic method to educate Araling Panlipunan. The school might urge Araling Panlipunan instructors to investigate and apply the Creobotic method. The school can also give instructors with training and tools to assist them in using the approach and its features successfully. In addition, the school may monitor the execution of the technique and solicit student feedback for ongoing improvement and refinement. By doing so, the school will be able to foster a conducive learning atmosphere and improve students' motivation and performance in Araling Panlipunan.
3. It is recommended that the school administration consider providing the necessary resources and support to teachers in implementing the Creobotic approach effectively. Additionally, the school administration may consider conducting further studies to evaluate the long-term effects of the approach on student learning and academic achievement.
4. Future research might compare the effectiveness of the Creobotic approach to that of conventional teaching methods and other creative instructional tactics. Future research can contribute to a greater knowledge of the efficacy and potential of the Creobotic method and give educators with suggestions for improving their teaching techniques.

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