GAME-BASED ONLINE PLATFORM: LEARNING TOOL IN ENHANCING PERFORMANCE IN ENGLISH 10

Ruth Judane R. Velasquez, L.P.T

ruthjudane.velasquez@deped.gov.ph

Public School Teacher, Pedro Guevara Memorial National High School, Santa Cruz 4009 Laguna, Philippines

Abstract

The study's primary aim was to determine the effects of using a game-based online platform as an assessment tool in increasing the academic performance in English of Grade 10 Science Class students in Pedro Guevara Memorial National High School.

One hundred nineteen (119) students were used as respondents in this study. They belong to three (3) different sections of the Special Science Class at Pedro Guevara Memorial National High School in Sta. Cruz, Laguna. Forty (40) came from Grade 10- Belardo, thirty-nine (39) came from Grade 10- Velasquez and another Forty (40) came from Grade 10- Campos were used to test the effectiveness of game-based online platforms in increasing the academic performance of students under Online Distance Learning at Pedro Guevara Memorial National High School.

Based on the data presented and interpreted in Chapter 4, the overall statistical data revealed that (1) The Level of Game-based Online Platforms in terms of Students' Engagement, Students Interaction and Evaluation is remarkable as Highly Acceptable; (2) The result pretest stage was verbally interpreted as Good, while during the post-test stage, it was verbally interpreted as Very Good; (3) For the difference between the pretest and posttest, it showed an analysis of Significant. This means that using Game-based Online Platforms helped the learners to increase their performance in English 10.

The following were conclusions derived from the data and results of the study presented, analyzed, and interpreted: (1) The use of Game-based Online Platforms increases the level of Students' Engagement, Students' Interaction and Evaluation; (2) The learners showed improvement in their academic performance in English when using Game-based Online Platforms; (3) Game-based Online Platforms was an effective tool in teaching English 10.

There may be a lot of changes when it comes to teaching in this New Normal Set up of Education specifically in English. Based on the conclusions above, it is recommended that: For students' better academic performance, Game-based Online Platforms can be used as an alternative tool in delivering quality learning on Online Distance Learning (ODL). Teachers and administrators may adopt this kind of platform to enhance the level of student's academic performance, not only in English subject but in other learning areas.

Keywords: Online Classes; English; Technology; Game-Based

1. Main text

Introduction

Normal face-to-face interaction between teachers and students has been suspended due to the COVID-19 pandemic. This pandemic has opened doors to different modalities just to continue learning. Online Distance Learning as an urgent response to ensure continuity of education here in the country. Moreover, because of this, many strategies and teaching techniques are now used to increase the level of mastery and academic performance of learners and one of these strategies and techniques is the use of the

game-based online platform in increasing the performance of learners and the motivation. The Philippines as of this moment adapted to the new normal form of education and continuous innovations and researches of educators and the active involvement of other stakeholders are the driving force for its success (Dangle & Sumaoang, 2020).

Furthermore, because of this scenario that the world faces now, the Department of Education (DepEd) formulated a strategic plan that will continue its vision and mission- to deliver quality education among Filipino learners through different learning modalities- The Online Distance Learning (ODL). For these to happen, technology is very important nowadays. Technology, according to Chen (2017) is being increasingly integrated as a part of teaching given enhancing students' engagement and motivation and using different online game-based learning platforms, students can be motivated to participate, engage, and learn despite the normal face-to-face now is not available. Houghton (2013) discusses educational games as the utilization of games to support teaching and learning. Games are useful instructional and support tool to complement traditional teaching styles to improve the learning experience in the different set of classroom of the learners while also teaching other skills such as following rules, adaptation, problem-solving, interaction, critical thinking skills, creativity, teamwork, and good character.

Learning should not feel dull, it must not be boring, It should not merely imply rote memorization, in which students learn and comprehend things through repetition or cramming. Teachers may use the enthusiasm and imaginative thinking that comes with using technology in the classroom to help students perform better.

This research study is a preliminary attempt to identify and describe Game-based Online Platform as a learning tool in enhancing performance in English 10. As students under the Online Distance Learning are still adjusting to the new normal because they were locked in their houses, they've become hooked on online games and got engaged in them.

The internet has offered many possibilities and opened doors to make learning more fun and interesting. Kahoot, Quizizz, Quizlet, and Padlet are the known helpful platforms used in gamified learning. As such is the main interest of students nowadays and they're very much engaged with such activities, why not make learning fun.

Theoretical Framework

To provide anchor and support for the present investigation, the following theories are presented:

This research is intended to determine the effectiveness of game-based online platform in the academic performance of Grade 10 students in English based on the theories of Jean Piaget (Cognitive Theory) and Constructivism Theory.

According to Jean Piaget's Theory of Cognitive Growth, children progress through four (4) stages of mental development. His thesis is concerned with not only how children gain information, but also with the nature of intelligence.(1) Sensorimotor stage: birth to two years, (2) preoperational stage: ages two to seven, (3) concrete operational stage: ages seven to eleven, and (4) formal operational stage: ages twelve and up, according to Piaget. Children, according to Piaget, actively engage in the learning process by acting as mini-scientists performing experiments, making observations, and learning about the world. Children constantly add new knowledge, expand on current knowledge, and change previously held concepts to fit new information as they interact with the world around them (Lucas, M et.al., 2013).

Another theory is the Constructivism Theory. Constructivist learning is the foundation of game-based learning. Constructivism advocates providing students with the tools they need to create their own methods for solving problems. This implies that students collaborate with their surroundings in order to solve the challenge that has been presented to them (GameLearn, 2021).

In relation to the above theories, game-based online learning strengthens students' active participation, develop critical thinking, and exercise their mental ability as well as their sensorimotor skills

because of the time allotted for each question given. It also allows the students to actively participate in online classes. Like what Jean Piaget's theory of cognitive development implies, game- based online platform can develop learners sensorimotor skills, and explore how these game-based online platforms helps them to understand each lesson.

These theories were utilized in this study through different variables used. The given variables were used to facilitate Game-Based Online Platform in Increasing Students Academic Performance in English 10 in Times of Pandemic.

Statement of the Problem

The primary aim of the study was to determine the effects of using game-based online platform as an assessment tool in increasing the academic performance in English of Grade 10 Science Class students in Pedro Guevara Memorial National High School.

Specifically, it sought to answer the following questions:

What are the effects of Game-Based Online Platforms in the performance of the students in terms of:

1.1 students' engagement;

1.2 interaction; and

1.3 evaluation?

What are the means scores of the students in terms of:

2.1 pre-test; and

2.2 post-test?

Is there a significant difference between the pre-test and post-test mean scores of the students in using Game-Based Online Platform in English 10?

Research Methodology

The descriptive design was used to determine the effectiveness of using game-based online learning platform in increasing the academic performance of Grade 10 students in English at Pedro Guevara Memorial National High School, Sta. Cruz District. In this study there will be three (3) sections selected to be the respondents of this study.

According to Alceso (2011), descriptive research design is the most widely used research design as indicated by the theses, dissertations, and research reports of institutions. It includes studies that purport to present facts concerning the nature and status of anything. This means that descriptive research gives meaning to the quality and standing of facts that are going on.

One hundred Nineteen randomly selected grade 10 students were used as respondents in this study. They were coming from special science class composed of three (3) sections already grouped/ sectioned before the study was conducted. Forty (40) came from Grade 10- Belardo, thirty-nine (39) came from Grade 10- Velasquez and another Thirty-nine from Grade 10- Campos within Pedro Guevara Memorial National High School categorized as one of the mega schools in the District of Sta. Cruz, Schools Division Office of Laguna.

The manner of selecting the respondents was randomized based on the total number of students who are currently enrolled in special science classes and foreign language classes for the school year 2021-2022. These sections were composed of heterozygous type of learners. The sections chosen used in this study were the special science class, which is composed of One hundred Nineteen learners which is very closed to 127total respondents from the result of slovin's formula. During the study, lessons to be discussed were based on the most essential learning competencies (MELC)provided by the Department of Education (DepEd).

Random sampling technique was used in this study. Sections under special science class were chosen as participants in this study. They were students who needed most of the intervention in English class.

A random sampling according to The Economic Times (2021) is a part of the sampling technique in which each sample has an equal probability of being chosen. A sample chosen randomly is meant to be an unbiased representation of the total population. If for some reasons, the sample does not represent the population, the variation is called a sampling error.

The researcher furnished the individual who is an expert in instructional supervision, and the statistician the copies of the research instrument for validation.

The researcher amended the study instrument once it had been validated, considering the recommendations, suggestions, and changes received from the instructional supervision experts and the statistician. The revised version of the research instrument was submitted again to the three (3) validators to determine if improvements were correctly made, for its finalization and approval of the instrument may already be used for data collection through test questions and formative assessment scores.

A pilot testing of the instrument was conducted to a group of thirty- two (32) persons who were not officially part of the group of respondents. The purpose of the pilot test was to establish the reliability of the research instrument by computing the coefficient of reliability of the instrument using Cronbach's alpha. It wished to have at least eighty percent (80%) reliability before the actual floating of the instrument to the real respondents of the study, or as might be required by the thesis adviser. The result of the reliability test indicated which items in the pre-test questionnaire were needed to be revised or to be improved.

The researcher then proceeded to the school principal to furnish a copy of the approved letter to conduct the test assigned by the dean of the graduate school noted by the thesis adviser for examination and approval of the school head. With the consent of the school head, the proponent distributed the test questionnaires among the respondents. It intended to administer the test questionnaire form to the respondents. After the test questions were completed and the target number of respondents had been reached, the researcher summarized the data gathered in Microsoft excel by tallying the data as required by the statistician for statistical analysis.

The main sources of collecting the data in this study were the scores of the students in the given pre-test and post-test.

The pre-test and post-test questionnaires were validated by the English Head Teacher and two (2) Master Teachers, all were from Pedro Guevara memorial national High School in Sta. Cruz District, Schools Division of Laguna. This gave an advantage within the limited time allotted for the completion of the study.

The research instrument underwent two (2) types of validation, the face validation, and the content validation. For face validation of research instrument, a research-made questionnaire was submitted the English Head Teacher and Master Teachers critic who checked the overall format of the test questions to make sure that they would earn good impressions from the respondents and that they would not be confusing to the respondents and not lose their interest in answering seriously the test questions.

The responses were tabulated as basis for statistical treatment of the data, which were done to determine the effectiveness of game-based online platform in increasing the academic performance of Grade 10 students. The data gathered were analyzed and interpreted using statistical tools in the study. Slovin's Formula, mean, standard deviation, mean difference, and paired t-test were used to determine the effectiveness of game-based online platform in increasing the academic performance of Grade 10 students.

Results and Discussion

1. Level of Students' Engagement Using Game-Based Online

Platforms Table 1. presents the level of Game-*based Online Platforms in terms of Students' Engagement.*

Statements	Mean	SD	Verbal Interpretation
1. Students engage meaningfully during class discussion.	4.30		
	0.74	Strongly Agree	
2. Students can express their ideas inside the classroom.	4.71	0.66	Strongly Agree
3. Students sustain inquiry about the lesson.			
4. Students focus on the directions and tasks completion to meet the learning outcomes.	4.55	0.79	Strongly Agree
5. Students demonstrate interest in the class discussion.	4.28	0.83	Strongly Agree
Overall	4.44	0.82	Strongly Agree
Statements	Mean	SD	Verbal Interpretation
1. Students engage meaningfully during class discussion.			

Legend:

4.21 – 5.00	Strongly Agree	4.21 – 5.00	Strongly Agree	
3.41 – 4.20	Agree	3.41 – 4.20	Agree	
2.61 – 3.40	Moderately Agree	2.61 – 3.40	Moderately Agree	
1.81 – 2.60	Disagree	1.81 – 2.60	Disagree	
1.00 – 1.80	Strongly Disagree	1.00 – 1.80	Strongly Disagree	

In the table above, the game- based online platform in terms of students' engagement appeared to be at a Very High level obtaining the (OM= 4.44, Sd= 0.82). These further means that respondent strongly agree that students engage meaningfully during class discussion with (M= 4.30, Sd= 0.74). The used of online game-based platform students can express ideas in the classroom (M= 4.71, Sd= 66). Students focused on the direction and task completion to meet learning outcomes (M= 4.55, Sd= 0.79). The interest in the class discussion was demonstrated also by the students (M= 4.28, Sd=0.83). This imply that the use of game based online platform makes the students to engage in discussion and completion of the task.

According to Education Reform (2016), student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they must learn and progress in their education.

Table 2. Level of Students' Interaction Using Game-Based Online Platforms

This table presents the level of Game-based Online Platforms in terms of Students' Interaction.

Statements	Mean	SD	Verbal Interpretation
1. Students participate actively during class discussion.	4.18	0.94	Agree
2. Students share thoughts and ideas about the lesson.	4.61	0.65	Strongly Agree
3. Students reflect about the lesson.	4.56	0.85	Strongly Agree
4. Students can interact with his/her peers in a friendly manner.	4.16	1.06	Agree
5. Students interact with the teacher with respect.	4.43	0.90	Strongly Agree
Overall	**4.39**	**0.91**	**Strongly Agree**

Legend:
4.21 – 5.00   Strongly Agree
3.41 – 4.20   Agree

2.61 – 3.40   Moderately Agree
1.81 – 2.60   Disagree
1.00 – 1.80   Strongly Disagree

In the table above, the game- based online platform in terms of students' interaction appeared to be at a Very High level obtaining the (OM= 4.39, Sd= 0.91). This further means that respondent strongly agree that students participate actively during class discussion with (M= 4.18, Sd= 0.94). The used of online game-based platform students share thoughts and ideas about the lesson (M= 4.61, Sd= 0.65). Students reflect about the lesson (M= 4.56, Sd= 0.85). Students can interact with his/her peers in a friendly manner (M= 4.16; Sd= 1.06). Students interact with the teacher with respect (M=4.43; Sd=0.90). This only indicates that the use of game-based online platforms makes the students to interact in the class discussion and completion of their performance tasks.

According to Sun et.al., (2022), during the COVID-19 pandemic, online education has become an important approach to learning in the information era and an important research topic in the field of educational technology as well as that- of education in general. Teacher- student interaction in online education is an important factor affecting students' learning performance.

Table 3. Level of Students' Evaluation Using Game-Based Online Platforms

This table presents the level of Game-based Online Platforms in terms of Students' Evaluation.

Statements	Mean	SD	Verbal Interpretation
1. I learn the topic easily through game-based online platform.	4.36	0.83	Strongly Agree
2. I understand the lesson easily by using the game-based online platform.	4.39	0.83	Strongly Agree
3. It was enjoyable to learn using game-based online platform.	4.41	0.84	Strongly Agree
4. Every meeting, I feel excited to do tasks using game-based online platform.	4.58	0.76	Strongly Agree
5. By using a game-based online platform, I got a higher score in every activity or task the teacher prepared for the day.	4.40	0.91	Strongly Agree
Overall	**4.43**	**0.84**	**Strongly Agree**

Legend:
4.21 – 5.00   Strongly Agree
3.41 – 4.20   Agree
2.61 – 3.40   Moderately Agree
1.81 – 2.60   Disagree
1.00 – 1.80   Strongly Disagree

In the above table, it shows the result of using game-based online platforms in terms of evaluation to appear at a Very High level obtaining (M= 4.34; Sd= 0.84). This further means that respondents strongly agree that they learn the topic easily through game-based online platform (M=4.36; Sd= 0.83). The respondents also strongly agree that they understand the lesson easily by using the game-based online platform (M= 4.39; Sd= 0.83). They also strongly agree that it was enjoyable for them to learn using game-based online platform (M= 4.41; Sd= 0.84). The respondents also strongly agree that they feel excited to do tasks using game-based online platform (M= 4.58; Sd= 0.76). And it is also strongly agree for students that by using game-based online platform, I got a higher score in every activity or task the teacher prepared for the day (M= 4.40; Sd= 0.91).

Table 4. Mean Score of the Students in the Pre-test and Post-Test

Table 4 presents the difference between pre-test and post-test mean scores of students using game-based online platforms in increasing performance in English 10. The data were statistically treated using mean and standard deviation. The pretest was paired to the post test scores of students using game-based online platforms.

	BELARDO			CAMPOS			VEASQUEZ		
	Mean	SD	V.I.	Mean	SD	V.I.	Mean	SD	V.I.
Pre-test	39.1	2.92	Good	34.54	6.1	Very Good	33.53	7.9	Good
Post-test	47.98	2.9	Very Good	44.51	5.94	Good	44.63	4.15	Very Good

Legend:
40.01 – 50.00   Very Good (VG)
30.01 – 40.00   Good (G)
20.01 – 30.00   Average (A)
10.01 – 20.00   Below Average (BA)
0.00 – 10.00   Poor (P)

Table 4 revealed the student's mean score in terms of pre-test and post-test. It can be seen that the three groups of respondents attain a Good performance with the (M= 39.1, Sd=2.92) for section Belardo, (M= 34.54, Sd=6.1) for section Campos and (M= 33.53, Sd=7.9) for section Velasquez. Among the three groups of respondents, the section Belardo got the higher mean. This means that most of the students have pre-existing knowledge about the content of the topic. On the other hand, the post-test result revealed the Very Good performance of the students. The (M= 47.98, Sd= 2.92) for section Belardo, (M= 44.51, Sd=5.94) for section Campos and (M=44.63, Sd= 4.15) for section Velasquez. Among the three-section the section Belardo got the highest mean. This imply that majority of the respondent appreciate the use of game-based online platform as a learning tool in English as the result of the improvement of their performance in the post test.

Corresponding to this, Danielson (2017) states that the summative evaluation flags the finish of a showing scene as a method of revealing the understudies' accomplishment in the instructing-learning procedure will exclusively depend on understudy cooperation during study hall conversation.

Table 5. Significant Difference between the Pre-test and Post-test Mean Score of the Students in Using Game-Based Online Platform

Groups	Mean		Mean Difference	t-value	p-value	Analysis
	Pre	Post				
Belardo	39.1	47.98	8.88	-13.661	0.000	Significant
Campos	34.54	44.51	9.97	-6.491	0.000	Significant
Velasquez	33.87	44.85	10.97	-8.259	0.000	Significant

Table 5 present the significant difference between the pre-test and post-test mean score of the respondents. The data were statistically treated using the paired t-test. The pre-test was paired to the posttest scores of students using Game-Based Online Platforms.

Belardo has the t-value of -13.666 was greater value and supported with p-value of 0.0000, Velasquez on the other hand has a t-value of -8.259 was greater value and supported with p-value of 0.0000 and Campos has the t-value of -6.491 was greater value and supported with p-value 0.0000. It could be inferred that there was an increase in the performance and the analysis was Significant.

Based on the data, it was shown that there was a significant difference between pre-test and post-test mean scores of students using Game-Based Online Platforms at 0.05 level of significance. It showed that the null hypothesis stating that "There is no significant difference between the pretest and posttest mean scores of the students using Game-Based Online Platforms" was rejected, it can be inferred that there is a "significant" difference between them.

Hort (2013) Pre-test/post-test comparisons allow assessment of a pedagogical or technological intervention/training by determining differences in

learning outcomes that occur between two points in time – before and after the

training. The comparisons will assess changes in knowledge, skills, and attitudes as a direct result of the training. This is a common evaluative tool in training and education as its implementation is simple and its analysis does not require advanced statistical analysis.

Summary of Findings

When Game-based Online Platforms were used in the teaching-learning process of Online Distance Learning Students of Pedro Guevara National High School, they were remarkable viewpoints when it came to the level of acceptability of the learning materials. Based on the data presented and interpreted in Chapter 4, the overall statistical data revealed that (1) The Level of Game-based Online Platforms in terms of Students' Engagement, Students' Interaction and Evaluation is remarkable as Highly Acceptable; (2) The result pretest stage was verbally interpreted as Good, while during the post-test stage, it was verbally interpreted as Very Good; (3) For the difference between the pretest and posttest, it showed an analysis of Significant. This means that using Game-based Online Platforms helped the learners to increase the performance in English 10.

Conclusions

The following were conclusions derived from the data and results of the study presented, analyzed, and interpreted: (1) The use of Game-based Online Platforms increase the level of Students' Engagement, Students' Interaction and Evaluation; (2) The learners showed improvement in their academic performance in English when using Game-based Online Platforms; (3) Game-based Online Platforms was an effective tool in teaching English 10; and (4) It also came out that the null hypothesis was rejected because based on the results from the pre-test and posttest, Game-Based Online Platform was an effective tool in increasing performance in English 10.

Recommendations

There may be a lot of changes when it comes to teaching in this New Normal Set up of Education specifically in English. Based on the conclusions above, it is recommended that:

1. For students' better academic performance, Game-based Online Platforms can be used as an alternative tool in delivering quality learning on Online Distance Learning (ODL).
2. Teachers may adopt this kind of platform to increase the level of students' academic performance, not only in English subject but in the other learning areas.

3. For the School Administrators, they can encourage other teachers to use Game-based Online Platforms to increase the academic performance of their learners.
4. School Administrators may also conduct Learning Action Cell (LAC) Sessions on how teachers may use this kind of platform in delivering quality education despite of distance from learners.
5. For the Future Researchers, this study may help to improve the quality of the delivery of instruction this time of pandemic.

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