International Journal of Instruction
e-ISSN: 1308-1470 ● www.e-iji.net

July 2023 ● Vol.16, No.3
p-ISSN: 1694-609X
pp. 677-690

Article submission code: 20220715044629

Received: 15/07/2022
Revision: 26/01/2023

Accepted: 20/02/2023
OnlineFirst: 04/05/2023

Integration of Game-Based Learning Approach as an Innovative Teaching Tool in Improving Students' Academic Performance in English

Semuel R. Olayvar
International Student Advisors of Japan (ISA), Tokyo, Japan, *semuelolayvar@gmail.com*

The primary aim of this study was to determine the effects of the integration of game-based learning on students' academic performance in English. The respondents to the study were university students in Okinawa Prefecture, Japan. To assess the integration of game-based learning approach, the researcher used the game-based learning (GBL) approach questionnaire by Pires et al (2015) while a documentary analysis was conducted to gather data on students' academic performance in English. Data were processed using mean procedures and multiple correlation and regression analysis. The regression analysis results revealed that the three (3) variables of integration of the game-based learning approach affect students' academic performance in English to varying degrees, as evidenced by B coefficients of 0.561 (ludic characteristics), 1.198 (training learning component), and 0.629 (player profile). This suggests that for every unit improvement in the integration of the game-based learning strategy indicated, students' academic performance in English might improve by 0.561, 1.198, or 0.629. A closer examination of the acquired beta coefficients revealed that, of the three (3) variables of the game-based learning approach integration, the 'training learning component' had the highest influence (beta = 1.198) on the students' academic performance in English.

Keywords: game-based learning approach, students' academic performance, learning performance, ludic characteristics

INTRODUCTION

Using games as a learning strategy when teaching English can benefit both the teaching and learning processes of the students. Game-based learning enhances instruction by increasing student activity and engagement (Detweiler, 2022). It encourages students to cooperate, communicate, engage, and work in groups. Strategic games help the brain work better. Gaming offers a dynamic approach that can motivate learners to gain abilities and form emotional attachments to learning and subject matter.

Sung (2013) devised an educational setting that integrated collaborative game-based learning. The environment made use of a grid-based Mindtool to facilitate information sharing and organization among students while they were playing games. The research revealed that the integration of Mindtools within a cooperative academic game yielded

Citation: Olayvar, S. R. (2023). Integration of game-based learning approach as an innovative teaching tool in improving students' academic performance in English. *International Journal of Instruction*, *16*(3), 677-690. https://doi.org/10.29333/iji.2023.16336a

favorable outcomes for students' academic disposition, motivation, performance, and self-efficacy. The integration of a knowledge organizing and sharing feature into the collaborative gaming environment was identified as the cause of this outcome.

Meanwhile, Kuang-Chen et al. claimed that numerous studies have shown that digital game-based learning (DGBL) can promote learning effects. As a result, the study used the Interactive Game-Based Learning System (IGLS) as an ancillary tool to improve users' learning motivation and academic performance in junior high history classes. Following a four-week experiment with eleven students, the paired sample t-test analysis had a significant impact on the experimental group. 05, and one-way ANCOVA revealed the number of days per week where the learning impact was stronger. Furthermore, questionnaires revealed that IGLS not only attracted over 90% of students' participation but also energized their learning will.

Another study (Kalloo, 2013) reported the outcomes of the proposed experiential learning employing game-based teaching content. The instructional material was a mobile device application that allowed students to study university library teaching. During the experiential learning, the students completed several quizzes from the educational material. Experiential information was added to the quizzes, such as actually discovering an academic magazine or renting a classroom room. A comparative experiment was utilized in this study to assess the effectiveness of experiential learning. The experimental group utilized the educational material, whereas the control group utilized a different educational material, e-learning (non-experiential), whose contents were nearly identical to those of experiential learning. Several evaluation factors, including pre- and post-test scores, delayed-test scores, and learning motivation scores based on the IMMS of the ARCS model, were considered in the comparative experiment. The results of the experiment demonstrated that experiential learning is superior for a number of these metrics. In addition, this study analyzed learner operation data for the educational material as well as learner behavior data during learning in the experimental group. The results of the analysis revealed three types of learning behaviors and indicated that an instructor must employ an appropriate instructional design for each type in order to achieve superior learning effectiveness.

Although research has shown positive outcomes caused by game-based learning approaches in students' learning in general, this paper is novel because no one has yet published any research about the integration of game-based learning approaches in teaching English. Moreover, given that the Japanese educational system prioritizes values over academic competition, the incorporation of a game-based learning approach is relevant for Japanese college students in terms of the enhancement of their self-efficacy, motivation, and academic performance in English, not only on written communication but more importantly on verbal communication, which they need most in this era of globalization and internationalization.

The main objective of this study is to determine the effects of the integration of a game-based learning approach as an innovative teaching tool on students' academic performance in English. Specifically, this study aims to assess the integration of the game-based learning approach as an innovative teaching tool in terms of ludic

characteristics, training component, and profile of the players; to assess the level of students' academic performance in English; and lastly, to determine the effects of the integration of the game-based learning approach on students' academic performance in English.

Literature Review

The proliferation of digital games among students has prompted extensive discussion and research on their effects, as evidenced by the works of Chen (2017), Kalloo (2019), and Ak (2017). Digital games have the potential to facilitate active, comprehensive, and extensive learning when utilized in educational settings. The pedagogical effectiveness of lectures can be limited; however, the integration of locally-based digital games with course material can enhance the learning experience by providing an immersive environment. The objective of the study was to investigate the effects of digital game-based instruction on the academic performance and motivation of students. The results of the study were categorized into three distinct groups: (1) The implementation of game-based learning has the potential to impact an individual's motivation to learn; (2) The implementation of game-based learning is likely to have a significant effect on academic performance; (3) The presence of learning motivation is strongly correlated with positive effects on both learning outcomes and achievement; (4) The presence of learning motivation has a significantly positive effect on both learning outcomes and academic achievement.

Furthermore, while teachers are struggling to find ways to motivate students to participate in reading comprehension activities and while technology-enhanced learning approaches are becoming more prevalent in the classroom, researchers are still experimenting with them to determine their benefits and implications, according to Barata (2014) and Caton (2014). Among such technology-enhanced learning approaches, they identify augmented reality and game-based learning, both of which have been shown to be beneficial in educational environments; however, few studies have observed them being used simultaneously. In this study, they employed a design-based research technique with the help of teachers to construct an augmented reality game. They then put it to the test in a real classroom and assessed it quantitatively and qualitatively. While the game's results in reading comprehension are comparable to more traditional approaches, children are more motivated and interested in the activity, and the activity is enriched because it promotes problem solving, exploration, and socialization behaviors. The present study has identified gaps in the existing literature concerning the impact of digital game-based learning on students' academic achievement. These gaps have been identified based on the research conducted by Chang (2018), Ching-Huei (2018), and Chis (2018).

Game-based learning has emerged as a promising approach for improving learning outcomes in the domain of energy education in recent times. The reason for this phenomenon can be attributed to the ability of digital games to enhance energy literacy and induce changes in behavior, as demonstrated by the research conducted by Yang (2017), Chis (2018), and Fengfeng (2016). However, it is imperative to acknowledge that not all students are capable of benefiting from such aid. A study was necessary to

examine the influence of human factors on the reactions of students to digital games, with the aim of enhancing the learning process. The current study aims to address the aforementioned issue by developing a digital educational game and examining the impact of locus of control on behavioral intention and learning performance in the domain of energy knowledge within the framework of game-based learning. The results of the study suggest that individuals who demonstrate an internal locus of control (ILC) have better performance in their energy knowledge as compared to those who exhibit an external locus of control (ELC) after participating in the game. Furthermore, the proposed game exhibits the capacity to alleviate the discrepancies in the behavioral inclinations of both independent and experiential learners. According to Barata and Hwang's (2014) findings, the utilization of the game resulted in a noteworthy improvement in the behavioral intention of ELC learners, specifically in their external behavioral intention towards persuasion, legal action, and political action. The current study's findings are analyzed to enhance understanding of the loci of control in behavioral intention and energy knowledge in the context of digital gaming.

Research Questions

The major concern of the study was to determine the effects of integration of game-based learning approach as an innovative teaching tool on students' academic performance in English.

Specifically, this study sought to answer the following questions:

1. How may the integration of the game-based learning approach as an innovative teaching tool be assessed in terms of:
   1.1. ludic characteristics;
   1.2. training learning component; and,
   1.3. profile of the players?
2. What is the degree of proficiency exhibited by students in their English academic performance?
3. Does the integration of game-based learning approach exert significant effects on students' academic performance in English?

METHOD

The research employed the descriptive-correlational approach, which is focused on providing a depiction of the independent and dependent variables. A correlational research design is a method of data collection that aims to establish the presence and magnitude of a relationship between two or more variables. Specifically, this study aimed to determine if the game-based learning approach as an innovative teaching tool significantly affected students' academic performance in English or not.

The respondents to the study were students from Okinawa Prefecture during the school year 2020–2021. Specifically, the respondents of the study were from the Department of Science and Technology, taking up a Bachelor of Science major in Accounting Information System and a Bachelor of Arts in Business Administration, aged 19–22. Guided by Slovin's formula, the researcher got a total of 399 college students as the sample size of the study from the total population of 15,367.

The researcher employed the questionnaire method and documentary analysis to collect the requisite data for this study. The game-based learning approach questionnaire by Pires et al. (2015) was used to determine the level of integration of the game-based learning approach as an innovative teaching tool. The questionnaire is composed of 62 items that aim to measure the game-based learning approach in terms of lucidity, training component, and profile of the players. This is highly reliable, as evidenced by 0.88–96 Cronbach's alpha. Meanwhile, the document used in documentary analysis is the E-Class Record of the instructions.

To analyze and interpret the data gathered, the researcher used the mean procedures for the descriptive part, and multiple correlation and regression analyses were also utilized to determine the effects of the independent variable on the dependent variable.

The following ethical considerations were put into place for this research undertaking: (1) the dignity and well-being of learners will be protected. They will not be harmed in any form or placed in an uncomfortable position; (2) the researcher will obtain from the parents and learners informed consent that includes essential information. They will also be informed that participating in the study is voluntary, ensuring no coercion or deception in participation; (3) the research data will remain confidential throughout the study; and (4) the researcher will obtain the student's permission to write their real names on the survey to navigate their records at the said school more conveniently. They will also be informed that their names will not appear in the final output.

FINDINGS AND DISCUSSION

The results were presented based on the sequence and order of the questions raised:

Problem 1: How may the integration of the game-based learning approach as an innovative teaching tool be described in terms of ludic characteristics, the training component, and the profile of the players?

The integration of the game-based learning approach was assessed in terms of ludic characteristics, training component, and profile of the players.

It may be gleaned from Table 1 that the integration of a game-based learning approach in terms of ludic characteristics was observed to a great extent, as shown by the average score of 3.24. This integration was displayed in the following behaviors and perceptions of the students: rules were reinvented during the game (3.12), they followed the rules of the game completely (3.13), they wanted to win the game (3.28), wanted to leave the game (3.12), wanted to win the game, but also wanted to leave it (3.34), had fun while playing the game (3.33), turned off what was going on around them while playing (3.39), felt more in the game than in the real world (3.12), felt encouraged to learn from the game (3.13), there was something interesting in the game that captured their attention (3.28), was hoping for the game to end soon (3.12), the game left them feeling tense (3.34), the game design caught their attention (3.43), liked the game (3.39), and the game made them feel anxious (3.12).

Moreover, the game kept them motivated to continue playing (3.13), the challenges of the game made them feel demotivated from the start (3.28), the game offers new

challenges at an appropriate pace (3.12), found the game too long (3.35), would play this game again (3.40), was bored from the beginning (3.19), their performance improved over the course of the game (3.34), the rules are easy to understand (3.33), the rules are more complicated than I'd like them to be (3.39), the content is difficult to understand (3.12), quickly understood the objectives of the game (3.13), the content is clear (3.28), the questions are difficult to answer (3.12), the subject on the cards caught their attention (3.12), and had a hard time concentrating on the text on the cards (3.12).

Table 1
Integration of game-based learning approach in terms of ludic characteristics

Indicators	Mean	Interpretation
1. The regulations were modified during the course of the game.	3.12	To a great extent
2. We strictly adhered to the game's rules.	3.13	To a great extent
3. I wanted to win the game.	3.28	To a great extent
4. I wanted to leave the game.	3.12	To a great extent
5. I wanted to leave the game as much as I wanted to win.	3.34	To a great extent
6. The game was enjoyable for me to play.	3.33	To a great extent
7. While playing, I tuned off everything around me.	3.39	To a great extent
8. I felt more immersed in the game than in real world.	3.12	To a great extent
9. The game inspired me to learn new things.	3.13	To a great extent
10. There was something intriguing about the game that drew my attention to it.	3.28	To a great extent
11. I hoped the game would be over soon.	3.12	To a great extent
12. I was tense after the game.	3.34	To a great extent
13. I was interested in the game's design.	3.43	To a great extent
14. I liked the game.	3.39	To a great extent
15. The game made me nervous.	3.12	To a great extent
16. The game encouraged me to continue playing.	3.13	To a great extent
17. I was immediately unmotivated by the game's difficulties.	3.28	To a great extent
18. The game introduces new challenges at a right pace.	3.12	To a great extent
19. I found the game to be too lengthy.	3.35	To a great extent
20. I would definitely play this game again.	3.40	To a great extent
21. I was bored from the start.	3.19	To a great extent
22. My performance increased during the game.	3.34	To a great extent
23. The guidelines are easy to understand.	3.33	To a great extent
24. The guidelines are more complicated than I would prefer.	3.39	To a great extent
25. The content of the playing cards is difficult to comprehend.	3.12	To a great extent
26. I understood the game's objectives without difficulty.	3.13	To a great extent
27. The information on the cards is clear.	3.28	To a great extent
28. The questions on the cards are tough to answer.	3.12	To a great extent
29. The theme of the cards caught my attention.	3.12	To a great extent
30. I found it difficult to focus on the text on the cards.	3.12	To a great extent
Average	3.24	To a great extent

The results suggest that the games that are being incorporated by college educators are not merely rudimentary games. Regarding the attributes of the game, students are able to concentrate their attention, derive enjoyment from the activity, and experience a sense of challenge.

The proliferation of digital games as a means of student engagement has prompted extensive discussion and research by scholars such as Chen (2017), Kalloo (2019), and Ak (2017) regarding their effects. The role of digital games has evolved beyond mere entertainment and can now be leveraged to facilitate active and comprehensive learning among students when integrated into instructional practices.

A closer look at Table 2 would reveal that the integration of the game-based learning approach in terms of the training component was performed to a great extent, as shown by the mean percentage score of 3.26. It was manifested through the ability of the game to help the students' learning (3.12), the fact that the content is irrelevant to their interests (3.13), that after the game they can understand the content better (3.28), that they actively interacted with other players during the game (3.12), that they associated the game's content with other things (3.34), that the game inhibited their participation in the group (3.43), that the game was indifferent to their learning on this subject (3.39), and that the difficulty of the cards compromised their learning (3.33).

Additionally, the game was able to make students reflect on the challenges they face in life (3.39), some characteristics of the game annoyed them (3.12), the game motivated them to study (3.13), they were relaxed during the game (3.28), the game did not make them feel any emotion (3.12), and they experienced a combination of both relaxation and tension during the gameplay (3.12), the individual perceived themselves as lacking the ability to respond to the inquiries (3.13), and they experienced a feeling of fulfillment as a result of the accomplishments attained within the game. (3.28), learned amazing things from the game (3.12), felt frustrated during the game (3.34), remembered to help other players during the game (3.43), only helped one person during the game (3.39), forgot to help other players during the game (3.39), and made agreements with certain players to prevent others from winning the game (3.28).

Table 2
Integration of game-based learning approach in terms of training learning component

Indicators	Mean	Interpretation
31. The game assisted me in learning.	3.12	To a great extent
32. The content of the game is irrelevant to my interests.	3.13	To a great extent
33. I comprehend the content better now that I've played the game.	3.28	To a great extent
34. I interacted with other participants throughout the game.	3.12	To a great extent
35. I associated the game's content with other things.	3.34	To a great extent
36. The game limited my ability to participate in the group.	3.43	To a great extent
37. The game didn't help me learn anything about this subject.	3.39	To a great extent
38. The cards' difficulty hampered my learning.	3.33	To a great extent
39. Throughout the game, I pondered on the difficulties we face in life.	3.39	To a great extent
40. Some aspects of the game irritated me.	3.12	To a great extent
41. The game inspired me to study.	3.13	To a great extent
42. I was at ease during the game.	3.28	To a great extent
43. The game did not evoke any emotion in me.	3.12	To a great extent
44. During the game, I felt a mix of calm and tension.	3.12	To a great extent
45. I considered myself incapable because I did not know how to answer the questions.	3.13	To a great extent
46. The game's achievement gave me a sense of fulfillment.	3.28	To a great extent
47. I learned so much from the game.	3.12	To a great extent
48. During the game, I experienced frustration. .	3.34	To a great extent
49. Throughout the game, I kept in mind to assist other players.	3.43	To a great extent
50. During the game, I only assisted one player.	3.39	To a great extent
51. I neglected to assist other players throughout the game.	3.39	To a great extent
52. I formed agreements with some of the other players to keep others from winning the game.	3.28	To a great extent
Average	3.26	To a great extent

Findings imply that the participation of the students was very evident in the conduct of game-based integration. Students were also taught to help other people through collaboration and camaraderie. In terms of training and learning, results state that they

are trained to be more active in class while learning the value of teamwork in the midst of the game.

The utilization of game-based learning in energy education has been progressively implemented as an effective learning instrument due to the potential of digital games to enhance energy literacy and stimulate modifications in behavior (Yang, 2017; Chis, 2018; Fengfeng, 2016).

It is evident in Table 3 that the integration of the game-based learning approach in terms of the profile of the players got a 3.26 mean percentage score, which means that such integration was exercised to a great extent by the teachers. Specifically, students were able to have a habit of self-study by reading and summarizing (3.12), learn best through group discussion (3.13), realize that they learn better when they make associations to the practice (3.28), learn better when they express their creativity (3.12), believe that attending classes is indifferent to their learning (3.34), learn when they are interested in the subject (3.43), like board games (3.39), board games remind them of their childhood (3.28), they are impatient with games in general (3.12), and prefer video games than board games (3.40).

Table 3
Integration of the game-based learning approach in terms of profile of the players

Indicators	Mean	Interpretation
53. I have a habit of self-study, by reading and summarizing.	3.12	To a great extent
54. Group discussions are the most effective way for me to learn.	3.13	To a great extent
55. I've realized that making connections to the practices helps me learn better.	3.28	To a great extent
56. When I use my creativity, I learn more.	3.12	To a great extent
57. Attending classes has no effect on my learning.	3.34	To a great extent
58. I learn when I'm interested in the subject.	3.43	To a great extent
59. I like board games .	3.39	To a great extent
60. I think of my childhood when I play board games.	3.28	To a great extent
61. I'm impatient with games in general	3.12	To a great extent
62. I'd rather play a video game than a board game.	3.40	To a great extent
Average	3.26	To a great extent

Based on the characteristics of the students in Okinawa Prefecture, one could argue that they exhibit a relaxed demeanor. The individuals exhibit an understanding of the significance that recreational activities and game-based learning can have in their academic pursuits. Engaging in novel learning experiences and involvement in extracurricular pursuits are essential components for academic success among students. The significance of being attentive to the educational value that can be derived from engaging in playing games cannot be overstated.

Sung (2013) conducted a study wherein a collaborative game-based learning environment was created through the integration of a grid-based Mindtool. The purpose of this tool was to aid students in sharing and organizing their acquired knowledge during the game-playing process. The study revealed that the incorporation of Mindtool technology into a collaborative educational game resulted in positive outcomes for students. Specifically, the game fostered favorable learning attitudes and motivation, as well as enhanced learning achievement and self-efficacy. These benefits were attributed

to the inclusion of a knowledge organizing and sharing feature within the collaborative gaming environment.

Problem 2: What is the level of students' academic performance in English?

In recent times, educational methodologies have incorporated game-based learning strategies to enhance student involvement and motivation in the learning process. Game technology, such as serious and simulation games, has been used as a new generation of training and educational tools, enhancing students' learning and academic performance. An important aspect of the evaluation of those methods is that it focuses particularly on cognitive learning outcomes, ignoring the significance of other processes, including emotional aspects in game environments, that also contribute significantly to learning, performance, and motivation.

Table 4 shows the frequency distribution of the academic performance of the students in English. One hundred sixty-one (161) students got an "outstanding" performance rating, with 40.5% percent among respondents. One hundred seventy-two (172) students, however, got a "very satisfactory" performance rating with a 43.0% percentage. Fifty-three (53) students received a "satisfactory" rating with 13.3%. Thirteen (13) students were "fairly satisfactory" with 3.3% percent, and no students got "did not meet expectation," which is the lowest performance rating.

Table 4
Academic performance in English

Indicators	Frequency	Percentage
Outstanding (90 – 100)	161	40.5
Very Satisfactory (85 – 89)	172	43.0
Satisfactory (80 – 84)	53	13.3
Fairly Satisfactory (75 – 79)	13	3.3
Did not meet expectation (74 below)	0	0.0
Total	399	100.0

Findings showed that most of the students had very satisfactory and outstanding performances. Meanwhile, only 17% got the lower performance, which is satisfactory and fairly satisfactory. This means that students are performing excellently.

Hung et al. (2015) posited that the incorporation of games as a novel pedagogical tool or approach in education has emerged as a means to enhance the academic achievement of educators. The authors further noted that technological advancements have facilitated the ongoing evolution of instructional techniques and learning modalities. The effectiveness of tablet PCs (TPCs) in classroom instruction has been demonstrated in terms of their ability to engage and motivate students, as well as enhance their willingness to participate in learning activities. The results of a pilot study indicate that challenging games were more effective than matching games in enhancing students' motivation and experience, self-efficacy for technology, self-efficacy for English, attitudes towards the TPC game, and satisfaction with the learning approach. The results indicated that the participants in the experimental cohort exhibited superior flow experiences, learning performance, and satisfaction.

Problem 3: Does the integration of game-based learning approach exert significant effects on students' academic performance in English

In this study, it was hypothesized that the integration of a game-based learning approach as an innovative teaching tool does not significantly affect students' academic performance in English. In order to assess the impact of incorporating a game-based learning methodology on the academic achievement of students in the subject of English, the collected data underwent a series of multiple correlation and regression analyses. The findings of this study are presented in Table 5.

Table 5
Regression analysis of game-based learning approach on students' academic performance in English

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	2.159	4.519		0.478	0.637
Ludic characteristics	0.561	0.503	0.76	1.116	0.027
Training learning component	1.198	1.568	0.293	0.764	0.040
Profile of the players	0.629	0.671	0.366	0.937	0.035
R-squared = .214					
R=.901					
F-value = .955					
p-value = .000					
alpha = 0.05					

Results of the regression analysis revealed that the three (3) variables of integration of the game-based learning approach affect the students' academic performance in English to varying degrees, as shown by the obtained B coefficients of 0.561 (ludic characteristics), 1.198 (training learning component), and 0.629 (profile of the players). This means that for every unit improvement in the integration of the game-based learning approach mentioned, it could generate a 0.561, 1.198, and 0.629 increase in students' academic performance in English.

With a closer look at the obtained beta coefficients, one could infer that of the three (3) variables of the integration of the game-based learning approach, it was the 'training learning component' that exerted the greatest influence (beta = 1.198) on the students' academic performance in English.

In addition, R has the capability to represent numerous correlation coefficients among various variables as a forecaster of the dependent variable. The R value of.901 denotes predictive capability, whereas the R2 value represents the coefficient of determination or the degree of proximity of the data points to the regression line in the context of statistical analysis, particularly in multiple regression. The coefficient of determination of 0.214 suggests that 21.4% of the variance in the integration of game-based learning can be attributed to fluctuations in the academic achievement of students in English.

The analysis of variance yielded a computed F ratio of.955, which was accompanied by a probability value of.000. The null hypothesis is rejected based on the statistical significance level of 0.05, as the calculated p value is lower than the predetermined

threshold. It may be safely concluded that the implementation of a game-based learning methodology resulted in notable cumulative impacts on the scholastic achievements of students in the subject of English.

Teachers are challenged to further utilize the game-based learning approach in their classes. Doing this would enliven the interest of the students despite the monotony of the impact of the covid-19 pandemic on the educational system (Yang, 2018). They are challenged to sustain students' progress by maintaining very satisfactory ratings through progress monitoring and encouraging them towards a higher level of success. Numerous studies (Wang, 2016; Chen, 2017; Hung, 2019) have shown that the integration of a game-based learning approach had significant combined effects on students' English learning, demonstrating that it is indeed beneficial in terms of improving students' performance. In this view, teachers are challenged to dig deeper into the value of the integration of a game-based learning approach as a relevant teaching strategy in 21st-century education. The *Sulong Edukalidad* of the Department of Education entails the strengthening of the abilities of teachers to deliver quality education and to ensure that no student shall be left behind, especially in this time of pandemic. Part of being *Handang Isip, Handa Bukas,* is to embrace the opportunity to really implement a game-based learning approach on various alternative learning delivery modalities.

CONCLUSION

The researcher therefore concludes that: first, the integration of the game-based learning approach was performed 'to a great extent," indicative of the fact that the game-based learning approach can boost students' interest in learning; second, the students' academic performance in English was also described as "very satisfactory," as evidenced by 43% among the respondents; and third, the three (3) variables of the integration of the game-based learning approach significantly affect students' academic performance in English.

Based on the findings and conclusions of the study, the researcher hereby recommends the following: First, teachers may integrate a game-based learning approach. Doing this would ease the burden of students in the monotony of online classes; secondly, teachers may provide students more avenues and opportunities in order to express and showcase their talents and skills as individuals; considering their uniqueness may be of good help in identifying their strengths and weaknesses so that an appropriate game-based learning approach may be given to them and eventually increase their learning performance in English; Third, webinar sessions on game-based learning approaches may be conducted in pursuit of learning how games could be able to help students attain better learning outcomes in English.

Future researchers may explore these variables: values-based leadership of college instructors as related to game-based approaches as innovative tools in teaching English, and collaborative skills among students.

REFERENCES

Ak, O. (2017). Comparing 2D and 3D Game-Based Learning Environments in Terms of Learning Gains and Student Perception. *British Journal of Educational Technology*, 129-144.

Barata, G. (2014). Identifying Student Types in a Gamified Learning Experience. *International Journal of Game-Based Learning*, 19-36.

Barata, G. (2014). Identifying Student Types in a Gamified Learning Experience. *International Journal of Game-Based Learning*, 21-40.

Bottino, R.M., et. al. (2014). Serious Gaming at School: Reflections on Students' Performance, Engagement, and Motivation. *International Journal of Game-Based Leaning*, 21-36.

Caton, H. (2014). Rewards and Penalties: A Gamification Approach for Increasing Attendance and Engagement in an Undergraduate Computing Module. *International Journal of Game-Based Learning*, 1-12.

Chang, S. (2018). Development of an Effective Educational Computer Game Based on a Mission Syschronization-Based Peer-Assistatance Approach. *Interactive Learning Environments*, 1053-1073.

Chen, Y. (2017). Empirical Study on the Effect of Digital Game-Based Instruction on Students' Learning Motivation and Achievement. *EURASIA Journal of Mathematics, Science, and Technology*, 3177-3187.

Ching-Huei, C. (2018). The effects of peer competition-based science learning game on secondary students' performance, achievement goals, and perceived ability. *Interactive Learning Environments*, 235-244.

Chis, A. (2018). Investigating Flipped Classroom and Problem-based Learning in a Programming Module for Computing Conversion Course. *Journal of Educational Technology and Society*, 232-247.

Chis, A. (2018). Investigating Flipped Classroom and Problem-based Learning in a Programming Module for Computing Conversion Course. *Journal of Educational Technology and Society*, 232-247.

Detweiler, E. (2022). Developing and teaching games-focused English courses: A technological and curricular walkthrough. Teaching Games and Game Studies in the Literature Classroom. https://doi.org/10.5040/9781350269743.ch-1

Fengfeng Ke, T. A. (2016). Effects of an augmented reality-based educational game on students' learning achievements and attitudes in real-world observations. *Interactive Learning Environments*, 1895-1906.

Hali, A. U., Zhang, B., Al-Qadri, A. H., & Aslam, S.(2021). Acollaborative teacher training approach in different cultures in the era of technology. *International Journal of Instruction, 14(*4), 21-32. https://doi.org/10.29333/iji.2021.1442a

Hwang, G-J. (2014). Improving learning achievements, motivations and problem-solving skills through a peer assessment-based games development approach. *Educational Technology Research and Development*, 129-145.

Hung, C.H. et. al. (2019). Effects of flipped classrooms integrated with the MOOCs and game-based learning on the learning motivation and outcomes of students from different backgrounds. *Interactive Learning Environments*, 1028-1046.

Hung, C-H. et. al. (2015). The benefits of a challenge: Student Motivation and Flow Experience in tablet-PC-game-based Learning. *International Learning Environments*, 172-190.

Hwang, G. et. al. (2016). Effects of an Augmented Reality-Based Educational Game on Students' Learning Achievements and Attitudes in real-world observations. *Interactive Learning Environments*, 1895-1906.

Juniardi, Y., Herlina, L., Lubis, A. H.,Irmawanty,&Pahamzah, J. (2020). Computer-vs. Mobile-Assisted Learning to Promote EFL Students' Speaking Skills: A Preliminary Classroom-Based Research. *International Journal of Instruction, 13*(3), 417-432. https://doi.org/10.29333/iji.2020.13329a

Kalloo, R. (2019). An Emploratory Study of Game-Based Approaches in Primary English and Science Classrooms in Trinidad and Tobago. *Journal of Education and Development in the Caribbean*, 21-72.

Kalloo, R. (2019). An Emploratory Study of Game-Based Approaches in Primary Mathematics and Science Classrooms in Trinidad and Tobago. *Journal of Education and Development in the Caribbean*, 21-72.

Lin, K-C. et.al. (2012). The Effects of Online Interactive Games on High School Students' Achievement and Motivation in History Learning. *International Journal of Distance Education*, 96-105.

Lukosch, H., et.al. (2017). Gender and Cultural Differences in Game-Based Learning Experiences. *Electronic Journal of e-Learning*, 310-319.

Sung, H-Y. (2018). Facilitating deep strategy behaviors and positive learning performances in science inquiry activities with a 3D experiential gaming approach. *International Learning Environments*, 1053-1073.

Sung, H. (2013). A Collaborative Game-Based Learning Approach to Improving Students' Learning Performance in Science Courses. *Computers and Education*, 43-51.

Sung, H-Y. & Hwang, G. J. (2018). A Collaborative Game-Based Learning Approach to Improving Students' Learning Performance in Science Courses. *Computers and Education*. 43-51.

Trybus, J. (2015). "Game-Based Learning: What it is, Why it Works, and Where it's Going." *New Media Institute*. Accessed April 6. http://www.newmedia.org /game-based-learning--what-it-is-why-it -works-and-where-its-going.html.

Yang, J. (2017). Effects of locus of control on behavioral intention and learning performance of energy knowledge in game-based learning. *Environmental Education Research*, 886-899.

Oguz Ak, B. K. (2017). Comparing 2D and 3D Game-Based Learning Environments in Terms of Learning Gains and Student Perceptions. *British Journal of Educational Technology*, 129-144.

Pagowsky, Nicole. (2013). "Taking a Trek with SCVNGR: Developing Asynchronous, Mobile Orientations and Instruction for Campus." *ACRL TechConnect Blog*, May 13. http://acrl.ala.org/techconnect /?p=3342.

Phu Vu, S. F. (2017). An Exploratory Multiple Case Study about Using Game-Based Learning in STEM Classrooms. *International Journal of Research in Education and Science*, 582-588.

Wang, J-H. et. al. (2016). An Investigation of a Joyful Peer Response System: High Ability vs. Low Ability. *International Journal of Human-Computer Interaction*, 431-444.

Wirjawan, J. VD., Pratama, D., Pratidhina, E., Wijaya, A., Untung, B., & Herwinarso. (2020). Development of Smartphone App as Media to Learn Impulse-Momentum Topics for High School Students. *International Journal of Instruction, 13*(3), 17-30. https://doi.org/10.29333/iji.2020.1332a

Yang, J.C. et. al. (2018). Effects of anxiety level on learning performance and gaming performance in digital game-based learning. *Journal of Computer Assisted Learning*, 324-334.