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Game-Based Learning and its Influence on Grade 11 Students' Engagement in Social Science Classroom

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Abstract **Original Research Article**

The purpose of this study was to evaluate how effective Game-Based Learning (GBL) would be for Grade 11 students studying Introduction to the Philosophy of the Human Person at Saguday National High School. A quasi-experimental pretest — posttest non-equivalent control group design was used in this study; therefore, two groups of students were compared: (1) the experimental group (n = 29) was provided with GBL integrated instruction facilitated by digitally based platforms such as Blooket, Gimkit, Minecraft Education, and Wordwall; and (2) the control group (n = 31) received traditional instruction. Results indicated no statistically significant differences in pretest scores (p = 0.157), thus verifying the two groups were equivalent at baseline. However, results of the posttest indicated statistically significant differences (p = 0.035) between the two groups with the experimental group all receiving higher mean gain scores (14.14) than the control group (8.94). The computed Cohen's d (1.169) indicated GBL had a large-sized effect and demonstrated the early impact GBL makes on students having mastered abstract philosophical concepts. Also, student engagement was evaluated using a modified Survey Instrument on Game-Based Learning Approach (SIGBLA) with findings indicating high levels of engagement in all three areas of knowledge, perception and attitude. Conversely, results of the Pearson correlation indicated there was a weak and non-significant association between student engagement and academic performance (r = 0.347, p = 0.065) indicating GBL can produce learning gains independent of variations in student engagement. Overall, the findings suggest that GBL is an effective instructional approach to increase student engagement and improve academic performance in Social Science education. This study recommends that school districts integrate GBL into their instructional practices, establish adequate ICT infrastructure, and conduct further research related to digital learning variables.

Keywords: game-based learning, philosophy of the human person, student engagement, academic performance, digital gamification.

Introduction

The Social Sciences are critical in helping students understand how people behave, what societies look like, and how to be good citizens. In addition to providing factual knowledge, social science education is a way to develop students' critical literacy about the world in which they live and help them cope with the complexities of a rapidly

changing environment. John Dewey (1938) originally articulated this idea when he stated that education is not only an experience in preparation for life; it is a lifelong continuous process of living. Thus, social science classrooms should be places where students can create their own meanings and grapple with real-world, societal issues.

The pedagogical value of Social Science is that it connects abstract, theoretical ideas to students lived experiences, resulting in deeper understanding by connecting the two, therefore allowing students to apply their knowledge in everyday situations and to use their knowledge in making moral decisions (Benton & Craib, 2023). However, if the pedagogical approaches used to teach the Social Sciences are not meaningful and engaging, then students will become disconnected from the content area, and therefore from their roles as active participants in a democratic society. This concern about the pedagogical approaches used to teach the Social Sciences reinforces the need for innovative teaching methods that provide students with the opportunity to be active agents in their learning rather than passive recipients of information.

Many current learning environments are still structured in a traditional teacher-centered manner, even with the implementation of new strategies to alter this model. Example: Paulo Freire (1970) explains the "banking concept" of education in which students are seen as passive receivers of knowledge/information; therefore, they do not have the opportunity to engage with the material that they are being taught. Technology-based and interactive teaching alternatives can provide students with opportunities to learn content in ways that allow them to engage with each other through game-based learning (GBL), which is a teacher-created approach that combines gaming components into educational experiences to increase motivation and engagement, thereby increasing a student's likelihood of having positive academic outcomes. For example, through the GBL approach, a student is provided opportunities to participate in simulations of the content they are learning (Social Science), use problem-solving activities, and receive real-time feedback about their work. These experiences will help develop the necessary skills for the 21st-century learner, including critical thinking, collaboration, creativity, and digital literacy.

Social Science content is sometimes dense, and it often lacks the capability to maintain student interest when taught in conventional, lecture-based instructional approaches. GBL attempts to fill this void by creating an interactive classroom environment in which students can be active participants in their own learning. Digital-based educational platforms and games provide immediate feedback about their actions, promote students to explore content through their interactions with the game, and allow students to experience the outcomes of their actions—thereby further facilitating their development of conceptual understanding and engagement.

The need for innovative instructional methods in the Philippines is urgent. Many Social Science classrooms continue to suffer from low student engagement and interaction, as well as a lack of feedback mechanisms. The problem is compounded by the lack of similarity between the experiences that students have with digital media outside of class and those that they have with traditional, passive learning experiences in the classroom (Prensky, 2001; Delgado-Algarra, 2022). As digital natives, students respond well to technology-enhanced instructional methods that are participatory and resemble their digital experiences in their daily lives.

Research has proven that game-based learning (GBL) is effective in increasing students' engagement and academic achievement. Hebert and Jenson (2021) found that using sandbox-like GBLs such as Minecraft Education Edition can develop students' 21st-century skills through both structured and unstructured play. Bajaj (2024) outlined how GBL uses technology to create immersive and participatory learning experiences. Alsarayreh (2026) found that learning technologies that promote autonomy and self-efficacy improve students' intrinsics motivation to learn.

While there is substantial empirical evidence indicating GBL is effective in increasing student engagement and improving academic achievement, the majority of GBL studies have focused primarily

on Mathematics and Science. There is little to no empirical research data available on the use of GBL in Senior High Social Science courses in the Philippines. Furthermore, there are no empirical research studies available regarding the impact that specific GBL platforms have on student engagement in courses such as Introduction to the Philosophy of the Human Person.

The current research will investigate the impact of GBL on increasing student engagement and academic achievement for Grade 11 students who are in the Introduction to the Philosophy of the Human Person course at Saguday National High School in the second semester of the 2025-2026 school year. The current study will provide localized and empirical contributions to the research literature on innovative ways of delivering instructional experiences and will inform and support Social Science instructional delivery to provide students with more engaging and meaningful Social Science learning experiences.

Methodology

This quasi-experimental study aimed to assess how well game-based learning (GBL) improved academic performance and student engagement among 11th grade students enrolled in the course Introduction to Philosophy of the Human Person by giving participants pre- and post-tests over two weeks according to a quasi-experimental design using a non-equivalent control group at Saguday National High School within the Schools Division of Quirino in the second semester of the 2025-2026 school year. The study was conducted for two weeks and included one hour of instruction per week. Two purposively chosen intact HUMSS classes comprised the participants: Grade 11 HUMSS 1 (n = 29), serving to support the experimental group, and Grade 11 HUMSS 2 (n = 31), serving to support the control group. Each of the participants was between the ages of 16 and 18 years old. Using Levene's Test ($p = 0.190$), the average age of each group was statistically similar prior to the intervention, as was their variance. The experimental and control groups received the same amount of instructional time in similar learning environments; thus, internal and external validity were ensured.

Three different instruments were used to assess the outcomes of this research: a baseline assessment from the school item bank for homogeneity testing (used to ensure all subjects were equal prior to the start of the study); a researcher-developed 40-item multiple-choice pretest and posttest aligned to the MELCs; and an adapted version of the Survey Instrument on the Game-Based Learning Approach (SIGBLA) for measuring engagement. The academic test (baseline comparison) had an acceptable (high) degree of content validity (overall mean = 3.76) while the adapted SIGBLA had a high reliability (Cronbach's $a = 0.87$). The data collected was divided into three phases: preliminary, intervention, and post-intervention. After the participants had been assigned to the two groups, a pretest was administered to both groups to establish equivalency. At the same time that both groups were taught through lecture-based instruction, the control group received conventional lecture-based instruction, while the experimental group received lecture-game-reflect learning using GBL technology such as Minecraft: Education Edition and digital platforms such as Blooket and Gimkit, and Wordwall, followed by a posttest for both groups, and engagement questionnaire for the experimental group.

Ethical considerations were maintained by obtaining permission from the school's administrative authorities and obtaining informed consent from the guardians/parents of each participant. To maintain confidentiality and anonymity, each group was assigned a coded identifier, and both groups were provided with the entirety of the learning activities that occurred throughout the course of the two-week intervention period to provide fairness to both groups. All data collected were analyzed using either descriptive or inferential statistics at the 0.05 level of significance. Types of inferential statistics included frequency, percentage, mean, standard deviation, independent samples t-test, Levene's Test, Shapiro-Wilk Test, Pearson correlation, and Cohen's d to determine statistical significance for the GBL intervention. Descriptive statistics also provided insight into self-

reported engagement levels of participants in both treatment groups.

Results and Discussions

Table 1. Pretest Performance of the Respondents in Introduction to the Philosophy of the Human Person as Reflected by the Mean Percent Score

Group	N	Mean Percent Score	SD	t-value	p-value	Decision
Experimental Group	29	66.97	6.47	-1.433	0.157	Fail to Reject Ho
Control Group	31	69.42	6.77			

p-value ≤ 0.05 *is significant*

The table presents the pretest performance of the experimental and control groups in Introduction to the Philosophy of the Human Person. The control group (M = 69.42, SD = 6.77) obtained a slightly higher mean percent score than the experimental group (M = 66.97, SD = 6.47). However, the independent samples t-test revealed that this difference is not statistically significant (t = -1.433, p = 0.157), as the computed p-value exceeds the 0.05 level of significance. Consequently, the null hypothesis is not rejected, indicating that there is no significant difference between the two groups in terms of their pretest performance. This result confirms that both groups were comparable in their baseline academic readiness prior to the implementation of the intervention.

Moreover, the relatively low pretest scores (i.e., below 70%) in both groups highlight the abstract and complex nature of Philosophy as a subject, which may pose challenges to students' initial comprehension. Therefore, there is a call for instructional approaches that are more interactive and supportive; therefore, these types of approaches will become part of the Department of Education Digital Rise Program, which establishes ICT-assisted learning as a means of bridging the gap. Establishing this baseline condition to support the use of the Game Based Learning (GBL) approach has strong justification based on the argument of Quinto (2022) that the GBL approach facilitates the transformation of passive learners into active participants within the current context of the Philippine classroom.

Table 2. Posttest Performance of the Respondents in Introduction to the Philosophy of the Human Person as Reflected by the Mean Percent Score

Group	N	Mean	SD	t-value	p-value	Decision
Experimental Group	29	81.10	4.78	2.158	0.035	Reject Ho
Control Group	31	78.35	5.07			

**p-value* ≤ 0.05 *is significant*

The table summarizes the post-test results of the experimental and control groups in the course "Introduction to the Philosophy of the Human Person." The mean scores (M = 81.10, SD = 4.78) of the experimental group were significantly higher than the mean scores (M = 78.35, SD =5.07) of the control group. The results of the independent samples t-test indicated a statistically significant difference between the two groups (t= 2.158, p = 0.035) since the p-value of .035 was less than a significance level of .05; therefore, the null hypothesis was rejected. Therefore, the post-test performance of the two groups after the intervention was statistically significant.

It can be concluded that using GBL as an instructional strategy positively impacted academic performance. The higher mean scores of the experimental group demonstrates that students had a better understanding of, and were more adept at applying, philosophical concepts learned through interactive, game-based instructional strategies, in comparison to those students who were taught philosophical concepts using traditional instructional strategies. Although the control group exhibited improvement, it was at a slower rate than the experimental group. This provides evidence to suggest that traditional instructional methods may not yield as much of an improvement in a student's depth of understanding when learning about content-rich subjects, such as philosophy. Furthermore, the smaller standard deviation for the experimental group suggests that the learners in that group performed closer to one another; therefore, supporting findings that indicate GBL not only results in higher levels of achievement but also results in a more uniform manner of delivering outcomes to learners.

In addition to the findings of this study, Manalo and Atienza (2023) also documented an increase in achievement among senior high school social science students when implementing gamification as an instructional strategy. Their research concluded that the use of gamification reduced cognitive load and improved conceptual mastery. By utilizing interactive game-based learning tools, abstract and complex philosophical concepts become easier to understand and engage in as a result of the substantially reduced cognitive load placed on students, eliminating the instructional fatigue that often results from traditional lecturing. Therefore, students are able to participate more actively in the learning process, positively impacting their retention of material, understanding of material and overall academic performance.

Table 3. Comparison of the Mean Percent Scores of the Respondents in the Pretest and Posttest in Introduction to the Philosophy of the Human Person

Group	N	Mean Gain	SD	t-value	p-value	Decision
Experimental Group	29	14.14	4.61	3.751	< .001	Reject Ho
Control Group	31	8.94	5.99			

**p-value* ≤ 0.05 *is significant*

The table compares the mean gain scores obtained by each group in pre and post-testing of the Introduction to the Philosophy of the Human Person course. The group tested with GBL (M = 14.14, SD =4.61) achieved significantly larger mean gain scores than those on traditional instruction (M = 8.94, SD =

5.99). Therefore, the independent samples t-test indicates that GBL caused a statistically significant improvement in students' performance ($t = 3.751$, $p < .001$). Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected and a statistically significant difference in academic improvement exists between the two groups. This results strongly suggest that GBL enhances learning through significantly greater academic attainment as compared to traditional instructional models. The significant mean improvement of the GBL group indicates that students learned philosophical concepts over a more extended period than those of the control group. While there was also evidence of improvement on the part of the control group, the type of progression that occurred was of much smaller magnitude.

Additionally, this finding supports the conclusion drawn by Tolentino et al. (2024) regarding the impact of gamified learning on sustained attention and interest and, consequently, on optimal encoding and retrieval patterns by the brain. The continued engagement provided by the GBL methods allowed these groups of students to attain similar levels of academic improvement through the attainment of lower levels of variability, as represented by the standard deviation of 4.61, in the GBL group. Thus, GBL provides not only academic achievement but also consistency in academic achievement among students.

Table 4. Effect of the Game-Based Learning on the Respondents' Performance in Introduction to the Philosophy of the Human Person

Group	N	Mean Gain	Mean Difference	t-value	p-value	*Cohen's d*
Experimental Group	29	14.14	5.20	3.751	< .001	1.169
Control Group	31	8.94				

**p-value* ≤ 0.05 *is significant*

Cohen's d: small effect size = around 0.2
medium effect size = around 0.5
large effect size = around 0.8 or higher

The table contains the effect size of the Game-Based Learning (GBL) intervention on students' academic performance in Introduction to the Philosophy of the Human Person. In addition to demonstrating statistical significance, Cohen's d was calculated to assess the practical magnitude of the intervention. The Cohen's d result was 1.169, which is significantly greater than the benchmark of 0.80 for a large effect size, indicating that GBL produced a very strong and substantial impact on GBL students' grasp of philosophical concepts as compared to students taught using traditional lecture methods. The results of this investigation not only show statistically significant differences but also indicate substantial educational significance. Cohen's d has a large value (1.169) and suggests that the GBL group of students had an average score greater than approximately 88% of students in the control group, which represents a significant gain in academic learning. The large difference in academic

performance reported above measures the academic success of the incorporation of game-based learning as being anything other than incremental changes to the way that students engage with philosophy content.

Belleza (2025) reinforced these findings by noting that aligned game-based interventions have the potential to create measurable improvement in student achievement at levels far greater than those typically measured through conventional instructional methods. Similarly, Pondang (2024) stated that technologies that effectively integrate technology with methods of instruction enhance cognitive engagement and performance; thus, the effect size supports the conclusion that the use of Game-Based Learning is not simply an alternative to traditional instructional methodologies; instead, it represents an enhancement for pedagogical practice that serves to facilitate the transition of abstract conceptualizations of content material into meaningful, real-world experiences as they apply to secondary education within the context of the Philippines.

Table 5. Level of Engagement of the Respondents in the Experimental Group after the GBL Intervention in terms of Knowledge

Statements	Mean	SD	Description
1. I just need a very short time to know how the game is functioning.	3.10	.557	Agree
2. These educational games help me to think critically.	3.31	.471	Strongly Agree
3. I feel very capable and effective when playing.	3.14	.351	Agree
4. Solving the given problems is very interesting.	3.45	.506	Strongly Agree
Grand Mean	3.25	.259	Strongly Agree

Legend: *3.25 – 4.00 Strongly Agree*
2.50 – 3.24 Agree
1.75 – 2.49 Disagree
1.00 – 1.74 Strongly Disagree

This table gives an overview of the experimental group's level of cognitive engagement after being exposed to game-based learning (GBL). The overall mean of 3.25 (SD = 0.259) reflects cognitive engagement at a high level, or as Strongly Agree. The indicator receiving the highest mean rating was Solving problems given to me is interesting (M = 3.45, SD = 0.506), and the indicator receiving the next highest mean rating was "The educational games assist me to think critically" (M = 3.31, SD = 0.471), both of which are Strongly Agree ratings. The next two items for the ease of understanding game mechanics (M = 3.10, SD = 0.557) and the ease of understanding my own abilities while playing (M = 3.14, SD = 0.351) received Agree ratings. These lower ratings were still quite positive, but reflect a small difference compared to the other categories listed. These results suggest that GBL was effective in enhancing students' cognitive engagement through increased intellect, interactivity, and interest in their learning, while providing numerous opportunities for them to engage in cognitive processing and application of philosophical principles.

This level of cognitive engagement is consistent with the findings of Gomez et al. (2022), in their discussion of how game-based assessments have become highly developed tools in the pedagogy of interpreting and creating knowledge, enabling

students to engage deeply with the subject matter. The GBL approach has therefore resulted in a change in the classroom environment, whereby the traditional teacher-centric model has changed to one where students will play an active role as investigators, the primary objective of contemporary philosophical inquiry.

Table 6. Level of Engagement of the Respondents in the Experimental Group after the GBL Intervention in terms of Perception

Statements	Mean	SD	Description
1. These games challenge my understanding of the subject.	3.38	.494	Strongly Agree
2. My ability to play the game is well-matched with the game's challenges.	3.24	.435	Agree
3. I find it more interesting to learn through online competitive games.	3.45	.506	Strongly Agree
4. I think learning should have fun as a necessary requirement.	3.45	.506	Strongly Agree
5. I can learn according to my own pace and sequence.	3.17	.468	Agree
6. I enjoyed playing mobile educational games very much.	3.45	.506	Strongly Agree
7. Mobile educational games were fun.	3.38	.494	Strongly Agree
8. Looking for the answer to questions given is an encouraging activity.	3.28	.455	Strongly Agree
Grand Mean	3.35	.201	Strongly Agree

Legend: *3.25 – 4.00 Strongly Agree*
2.50 – 3.24 Agree
1.75 – 2.49 Disagree
1.00 – 1.74 Strongly Disagree

The data shows how engaged the participants of this group were based on their impressions of game-based learning activities. Participants indicated a very high positive response based on the total mean score of 3.35 (SD = 0.201), which indicates an overall strong agreement response. Multiple statements regarding enjoyment of gaming (M = 3.45, SD = 0.506), competitive learning (M = 3.45, SD = 0.506), and the belief that fun should be part of the learning process (M = 3.45, SD = 0.506) were rated strongly agree with on average scores of at least 3.45. When asked how game-based learning settings provide an opportunity to challenge their learning (M = 3.38, SD = 0.494) and how assessment settings are more engaging because of games (M = 3.28, SD = 0.455), the participants responded to these questions with a score greater than 3.0, which is also a strong mean score. In comparison to the previous responses, responses regarding ability matching (M = 3.24, SD = 0.435) and self-paced learning (M = 3.17, SD = 0.468) were still numbered as Agree but showed slightly new perceptions when evaluating those statements.

The overall findings indicate that game-based learning fostered a motivational and engaging environment for students and provided them with an opportunity to develop more positive attitudes toward complex philosophical concepts. The high positive responses for enjoyment, challenge and relevance indicate that GBL provides successful enhancements to student learning experiences. This finding is supported by Keller's ARCS Model of Motivational Design (1987), by having Attention,

Relevance, Confidence and Satisfaction present, encouraging continued motivation and engagement with challenging academic content in a way that enhances the potential for improved learning outcomes, such as those in this study.

Table 7. Level of Engagement of the Respondents in the Experimental Group after the GBL Intervention in terms of Attitude

Statements	Mean	SD	Description
1. I feel competent at the game.	3.24	.577	Agree
2. I believe that game-based learning in Senior High School will be an important teaching tool in years to come.	3.31	.471	Strongly Agree
3. I think digital games can be applied in many learning contexts.	3.34	.484	Strongly Aree
4. I am confident about the benefits of using digital game-based learning in Senior High School.	3.34	.484	Strongly Agree
5. I consider using digital games for education is a productive use of time.	3.28	.455	Strongly Agree
6. I feel excited to perform and achieve high scores in the games.	3.34	.553	Strongly Agree
7. I feel the usage of digital games is highly useful in Senior High School education.	3.21	.412	Agree
Grand Mean	3.30	.283	Strongly Agree

Legend: *3.25 – 4.00* *Strongly Agree*
2.50 – 3.24 *Agree*
1.75 – 2.49 *Disagree*
1.00 – 1.74 *Strongly Disagree*

Students' engagement levels regarding Game-Based Learning (GBL) in relation to attitudes are presented in table format after the completion of the intervention. An overall positive response to GBL was found with an average response rate of 3.30 (SD = 0.283). In addition, the indicators of perceptions of importance of GBL for future teachers (M = 3.31, SD = 0.471), the possibility of using digital games in different learning environments (M = 3.34, SD = 0.484), confidence about it is advantage (M = 3.34, SD = 0.484), and productive use of time (M = 3.28, SD = 0.455) were rated with a High degree of agreement. There was also High agreement on the perceptions of students being likely to score well in two games (M = 3.34, SD = 0.553). Perceived competence (M = 3.24, SD = 0.577) and usefulness for Senior High School students (M = 3.21, SD = 0.412) were both rated with a moderate degree of agreement.

To summarize, students displayed a very favorable attitude towards GBL as an integrated teaching practice. This positive attitude towards GBL highlights that it will have long-term support of technology sustainability, as proposed in Fred Davis's (1989) Technology Acceptance Model (TAM), with the proposed behavioral intention to use a system being directly affected by PU and PEOU. The significant number of responses given to the favorable indicators in this study suggest that the students think that integrating GBL into their academic goals can be beneficial not only to their learning but also to enhancing their intrinsic motivation, as supported by Alsarayreh (2026), who

stated that new digital environments provide students with the opportunity to have more control over their autonomous and competent learning experiences. Furthermore, students' shared beliefs that GBL will be an important pedagogical tool moving forward is a testimony to the positive learning environment that facilitates a high degree of agency within students and supports the cognitive and affective preferences of the contemporary learner.

Table 8. Correlation between Mean Gain Scores in Performance in Introduction to the Philosophy of the Human Person and Level of Engagement of the Experimental Group Respondents after the GBL Intervention

Domain	r-value	p-value	Decision
1. Knowledge	-0.037	.847	Fail to reject Ho
2. Perception	0.364	.052	Fail to reject Ho
3. Attitude	0.304	.109	Fail to reject Ho
Overall	0.347	.065	Fail to reject Ho

Legend: *±0.80 – ±1.00 Very strong correlation*
±0.60 – ±0.79 Strong correlation
±0.40 – ±0.59 Moderate correlation
±0.20 – ±0.39 Weak correlation
±0.00 – ±0.19 Very weak correlation

This table displays the correlation between students' average academic performance gain scores and their engagement level across knowledge, perception, and attitude after Game-Based Learning (GBL) interventions. The results show no statistically significant relationships between student's averaged academic performance and their level of engagement, as all p-values were greater than the $p<0.05$ level of significance (Knowledge: $r = -0.037$; $p = 0.847$; Perception: $r = 0.364$; $p = 0.052$; Attitude: $r = 0.304$; $p=.109$; Overall $r= 0.347$, $p = 0.065$). Perception and overall engagement showed a weak positive correlation, but these correlations were not large enough to produce a significant relationship between student engagement and an increase in academic performance; therefore, the null hypothesis was retained, and concluded that there was no significant correlation between students' engagement and their improvement in academic performance. This finding suggests the possibility that while the Game-Based Learning interventions increased both engagement levels and performance among students, the amount of engagement students reported did not solely contribute to their academic improvement.

This result supports the objectives of ICT-integrated initiatives in education, including the DepEd Digital Rise Program, which aims to provide inclusive, technology-enabled, differentiated instruction based on the varying needs of learners. Additionally, this result supports the finding of Ramirez-Ruiz et al. (2024), who observed that a digital learning environment that promotes and encourages real-time interactions creates a more collective learning environment in comparison to reliance on the degree of an individual learner's digital skills. By minimizing the advantage of digitally skilled learners, the GBL design in this study opened philosophical inquiry to students in the Social Studies classroom that was much more equitable, accessible, and successful than that achieved through traditional methods.

The results from this study indicate GBL (Game-Based Learning) as a very powerful teaching method to improve Grade 11 academic performance and engagement in Introduction to the Philosophy of

the Human Person. The results of the pretest indicated there were no statistically significant differences between experimental and control group students; however, the posttest and mean gain results showed that GBL students had significantly higher scores compared to students who were taught using conventional methods (i.e., traditional lecture) with a large effect size, indicating the difference was substantial and meaningful. Further, GBL students reported a very high level of engagement (increased importance, improved success, and positive attitudes), which showed their increased cognitive involvement, positive learning experiences, and positive attitudes toward using digital learning tools. The results did not find a statistically significant relationship between engagement and academic gains; however, the data indicated that GBL creates an inclusive and supportive learning environment for all students, regardless of individual differences. Therefore, the results of the study support the assertion that the integration of game-based methods into Social Science instruction can be beneficial in improving academic performance, while also creating an interactive and learner-centered classroom.

In light of the findings, it is recommended to weave GBL into your Social Science curriculum in a manner that increases active participation and ultimately leads to increased academic achievement by selecting specific game mechanics to create lessons (i.e., Learning Experiences [LEs]) based on the Most Essential Learning Competencies (MELCs). You can also use Minecraft Education as a platform to support student exploration of concepts while utilizing two tools (e.g., Blooket and Gimkit) to provide ongoing assessment of student progress. School administrators should help with implementing this recommendation by providing training focused on GBL in In-Service Training (INSET) programs, and they should ensure adequate ICT infrastructure (i.e., reliable internet and appropriate digital devices) to support the implementation of GBL. Moreover, further studies are suggested to replicate this study in other subject areas and settings, as well as to investigate the impact of other variables such as digital literacy, quality of instructional design, and collaborative learning. Longitudinal studies could also be conducted to determine if GBL can produce durable learning gains.

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