The Impact of Gamified Instruction on Filipino Language Acquisition in Grade 10

.

**ABSTRACT**

|  |
| --- |
| The challenge of maintaining student engagement is especially evident among high school learners, who often face various distractions and competing interests. This study aimed to investigate the effectiveness of gamified instruction in enhancing the academic performance of Grade 10 students in Filipino. Specifically, it examined the impact of gamification on students’ performance and identified challenges encountered during its implementation, providing insights into its pedagogical value in language instruction.  A mixed-methods research design was utilized, combining both quantitative and qualitative approaches. Quantitative data were collected through pretests and posttests and analyzed using a paired sample t-test. Results revealed a statistically significant improvement in the academic performance of students after the implementation of gamified instruction. Prior to the intervention, most students struggled to meet the expected proficiency level. However, post-intervention results showed that all students achieved performance levels ranging from satisfactory to excellent.  Qualitative data gathered through student reflections and feedback revealed that gamified instruction increased motivation, participation, and interest in learning Filipino. Students reported that the use of game elements made the lessons more engaging and relatable, leading to a more interactive and enjoyable learning experience.  Based on the results, gamified instruction proved to be an effective teaching strategy that promotes student engagement and enhances learning outcomes. It offers a promising approach for making Filipino classes more dynamic, especially for learners who may otherwise find traditional methods less stimulating. |

*Keywords: Gamified Instruction, academic performance, Grade 10 students,* *distractions and competing interests*

1. **INTRODUCTION**

In today's educational landscape, student engagement is increasingly recognized as a crucial factor in academic success. Engagement, characterized by active participation, enthusiasm, and involvement in learning activities, has been shown to correlate positively with better academic outcomes and overall satisfaction in learning (Neerupa et al.,. Al 2024). However, traditional teaching methods often struggle to capture students' attention, particularly in subjects like Filipino, where content may feel abstract or less relevant to students' daily experiences (Almacen and Labitad 2024).

The challenge of keeping students engaged is even more pronounced among high school learners, who are often exposed to a variety of distractions and competing interests (Nadeem & Farag, 2023). Therefore, exploring innovative teaching approaches to sustain and boost engagement in Filipino language classes is essential (Magno et al 2024). One promising approach to enhancing student engagement is the integration of gamified instruction. Gamification refers to the application of game-design elements in non-game contexts, such as education (Smiderle et al, 2020). By incorporating elements like points, badges, challenges, and leaderboards, gamified instruction can make learning more interactive and enjoyable for students (Wulan et al. 2024). In a gamified classroom, students are encouraged to take an active role in their learning, compete in healthy ways, and collaborate with their peers (Hellín et al. 2023). These elements not only motivate students to participate but also help create a more dynamic and responsive learning environment. Research shows that gamification can significantly enhance student engagement by fostering a sense of achievement and purpose, which is often lacking in more traditional teaching methods (Qudsi & Adzmi et al. 2024).

One promising approach to enhancing student engagement is the integration of gamified instruction. Gamification refers to the application of game-design elements in non-game contexts, such as education (Smiderle et al., 2020). This idea is supported by foundational works on gamification theory, particularly by Deterding et al. (2011), who define gamification as the use of game design elements in non-game settings to promote engagement and motivation. By incorporating elements like points, badges, challenges, and leaderboards, gamified instruction can make learning more interactive and enjoyable for students (Wulan et al., 2024). In a gamified classroom, students are encouraged to take an active role in their learning, compete in healthy ways, and collaborate with their peers (Hellín et al., 2023). These elements not only motivate students to participate but also help create a more dynamic and responsive learning environment. Research shows that gamification can significantly enhance student engagement by fostering a sense of achievement and purpose, which is often lacking in more traditional teaching methods (Qudsi & Adzmi et al., 2024).

Another innovation that holds potential in enhancing student engagement is the use of multimedia presentations. Multimedia instruction involves the use of text, audio, video, graphics, and animations to deliver educational content (Abdulrahaman et al. 2020). This multisensory approach caters to different learning styles, ensuring that auditory, visual, and kinesthetic learners are equally addressed. By making lessons more visually and aurally stimulating, multimedia presentations can help clarify complex concepts, make abstract topics more tangible, and maintain students' attention for longer periods (Specialist 2020). In particular, multimedia resources can enhance the teaching of Filipinos, as they offer opportunities to bring cultural content to life through real-world examples, historical footage, and interactive storytelling (Specialist 2020).

The combination of gamified instruction and multimedia presentations offers a powerful strategy for improving student engagement, particularly for Grade 10 students at Mayor Bartolome Serut National Agricultural and Trade High School. The Filipino curriculum at this level often involves complex themes, such as historical texts, critical analysis, and in-depth exploration of Filipino culture and language (Mayer 2021). These topics, while important, can sometimes feel distant to students, making it difficult for them to relate or stay engaged (Walther & Whitty 2020). By gamifying lessons and using multimedia resources, teachers can make these subjects more relevant, relatable, and engaging for students, thus bridging the gap between content and learner experience (López-Belmonte et al., Subiyantoro et al.).

Furthermore, the digital generation of students is accustomed to consuming information in fast, visually engaging formats, often through social media, video games, and streaming platforms (Moscoso et al. 2020). Traditional lecture-based methods may not appeal to their learning preferences, leading to disengagement and a lack of motivation. Incorporating technology through gamified instruction and multimedia presentations aligns with students' natural inclinations and the digital skills they are already developing outside the classroom (Zainuddin et al. 2020). This approach not only enhances engagement but also prepares students for the increasingly technology-driven world in which they will eventually work and live. The significance of this study lies in addressing the persistent challenge of student disengagement in Filipino classes, a subject that is foundational to understanding national identity and heritage (Mariano et al. 2023). At Mayor Bartolome Serut National Agricultural and Trade High School, teachers have observed that students often show a lack of enthusiasm for Filipino classes compared to other subjects. This issue, if left unaddressed, could lead to a broader disconnect between students and the Filipino language, culture, and history (Malahito & Quimbo 2020). By investigating the effectiveness of gamified instruction and multimedia presentations, this study seeks to provide evidence-based strategies that can revitalize interest in Filipino and help students develop a deeper appreciation for the subject.

Moreover, the study also aligns with the Department of Education’s (DepEd) push for innovation in teaching practices (Lin 2022). As the national curriculum evolves to incorporate 21st-century skills, such as critical thinking, creativity, collaboration, and communication, teachers are encouraged to adopt more student-centered and technology-enhanced instructional strategies. This study not only aims to contribute to the ongoing conversation about educational reform but also seeks to offer practical solutions that can be implemented in Filipino classrooms nationwide, particularly in rural or under-resourced areas like Mayor Bartolome Serut National Agricultural and Trade High School.

In conducting this study, it is essential to examine both the short-term and long-term impacts of these teaching innovations. While it is expected that gamified instruction and multimedia presentations will have immediate effects on student engagement, their influence on deeper learning outcomes, such as critical thinking, comprehension, and retention of Filipino language concepts, will also be explored. The study will assess whether these methods foster not only engagement but also lasting academic improvement and a stronger connection to the Filipino language and culture (Ghai & Tandon, 2022). Ultimately, the findings of this study have the potential to inform educational policy and curriculum development, particularly in subjects like Filipino that are integral to national identity (Alpizar & Wong 2020). If successful, the use of gamified instruction and multimedia presentations could serve as a model for other schools and subject areas facing similar challenges with student engagement. The study aims to demonstrate that by meeting students where they are—using familiar, engaging, and technologically driven methods—educators can unlock their full potential, both academically and personally.

This study, therefore, represents a significant step towards modernizing teaching methods and ensuring that students remain engaged and motivated in their learning journeys. By focusing on the specific context of Filipino classes at Mayor Bartolome Serut National Agricultural and Trade High School, the research offers a localized solution to a widespread issue, with the potential to make a lasting impact on both students and educators across the country.

**2. statement of the problem**

Generally this study seeks to investigate the effectiveness of gamified instruction in enhancing the academic performance of Grade 10 students in Filipino. By exploring its impact on students' performance and identifying challenges in its implementation, the research aims to provide insights into its pedagogical value in language instruction. Specifically, the study seeks to answer the following questions:

1. What are the mean scores of Grade-10 students in Filipino before the implementation of gamified instruction?
2. What are the mean scores of Grade-10 students in Filipino after the implementation of gamified instruction?
3. Is there a significant difference between the pre-test and post-test scores of the students after the implementation of gamified instruction?
4. What challenges were encountered in the implementation of gamified instruction in the Grade 10 Filipino class?

**3.** **METHODOLOGY**

**3.1. Research Design**

This utilized a mixed-methods research design, combining both quantitative and qualitative approaches to examine the effectiveness of gamified instruction in enhancing the academic performance of Grade 10 students in Filipino. The quantitative component will employ a one-group pretest-posttest design, in which students’ academic performance will be assessed before and after the implementation of gamified instruction. The qualitative component will involve focus group discussions and interviews with selected students and the teacher to explore the challenges encountered during the implementation of gamified instruction.

**3.2. Locale of the Study**

The study was conducted at Mayor Bartolome Serut National Agricultural and Trade High School in Madatag, Kabugao, Apayao. As a public secondary school with a strong focus on agriculture and trade, it serves a diverse Grade 10 student population and is equipped with facilities that support both conventional and innovative instructional strategies—making it an ideal site to implement and evaluate gamified instruction in Filipino.

**3.3. Participants of the Study**

The participants of this study were 30 Grade 10 students enrolled in a Filipino class at Mayor Bartolome Serut National Agricultural and Trade High School. These students, typically aged 15 to 16 years, represent adolescents at a crucial stage in their academic development. The study aimed to evaluate the effectiveness of gamified instruction in enhancing their academic performance in Filipino.

**3.4. Sampling Technique**

This study employed total enumeration sampling**,** wherein all Grade 10 students at Mayor Bartolome Serut National Agricultural and Trade High School will be included as participants. This approach ensures comprehensive representation of the target population and enhances the accuracy, reliability, and generalizability of the research findings.

**3.5. Research Instrument**

A self-made 10-item pre-test and post-test questionnaire was developed by the researcher to assess the academic performance of Grade 10 students in Filipino before and after the implementation of gamified instruction. The pre-test measured students' baseline knowledge and skills, while the post-test evaluated their progress following the intervention.

To ensure content validity, the initial draft of the instrument was reviewed by a licensed psychometrician, who provided feedback to eliminate flaws and improve item alignment with the study objectives. After revisions, the final version was pilot tested on a group of five students from the target population.

Reliability was measured using Cronbach’s alpha, the researcher gathers 10 respondents from the group and computed through SPSS. The resulting coefficient was approximately 0.737, indicating an acceptable level of internal consistency for the instrument.

**3.6. Research Procedure**

This study followed a systematic procedure to ensure the collection of reliable and valid data. The researcher first sought approval from the school administration and relevant authorities to conduct the study at Mayor Bartolome Serut National Agricultural and Trade High School. After approval was granted, the data collection schedule was aligned with the school’s academic calendar.

Before the intervention was implemented, a briefing was conducted to inform the Grade 10 students about the purpose of the study, the importance of their participation, and the confidentiality of their responses. To establish baseline data, the researcher initially used traditional teaching methods in Filipino, followed by a teacher-made pre-assessment to measure the students' academic performance.

After the baseline data were gathered, gamified instruction integrated with multimedia presentations was introduced in teaching Filipino. Upon completion of the instructional period, a post-assessment using the same teacher-made tool was administered to evaluate the students’ academic improvement.

The results from the pre- and post-assessments were compared to determine the effectiveness of gamified instruction in enhancing the academic performance of Grade 10 students in Filipino.

To identify the challenges in using gamified instruction in Grade 10 Filipino classes, a thematic analysis was conducted. Data were gathered through group discussions and teacher interviews. These were transcribed and read multiple times to understand the content. Common ideas were identified and grouped into themes. The main challenges identified were limited access to technology, varying levels of student engagement, and insufficient time to complete lessons. These themes were validated with peers to ensure accuracy and reliability.

**3.7. Statistical Analysis**

The data analysis plan for this study focuses on evaluating the effectiveness of gamified instruction in enhancing the academic performance of Grade 10 students in Filipino without a control group.

Descriptive statistics (frequency count, percentage, mean and standard deviation) will be used to determine if there is a statistically significant difference between the pre-test and post-test scores.

Table 1. These are the basis for performance scale of pretest and posttest scores.

| **SCORE** | **PERCENTAGE RANGE** | **DESCRIPTIVE SCALE** |
| --- | --- | --- |
| 19-20 | 95% – 100% | Excellent |
| 17-18 | 85% – 94% | Very Good |
| 15-16 | 75% – 84% | Good |
| 13-14 | 65% – 74% | Fair |
| 0-12 | Below 65% | Poor |

Paired samples t-test were used to determine if there is a statistically significant difference between the pre-test and post-test scores and assess whether students show improvement after the intervention. To ensure that the assumptions for the paired samples t-test were met, a normality test was conducted on the difference scores between the pre-test and post-test results. The Shapiro-Wilk test was used given the sample size of 30 students. The results showed that the data were approximately normally distributed (p > 0.05), supporting the use of a parametric test. This confirmed that the paired samples t-test was appropriate for analyzing the significance of the observed difference in students’ academic performance before and after the implementation of gamified instruction.

**4. results and discussion**

This section compares the academic performance of 30 Grade 10 Filipino students before and after using gamified instruction. A teacher-made test was given after both traditional and gamified teaching. Data was analyzed using descriptive statistics and a paired t-test. Each research question is answered with a table and brief interpretation. Challenges during gamified lessons are presented through student feedback.

**Table 2. Pre-Implementation Academic Performance in Filipino 10**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scores**  **(20 items)** | **Percentage Range** | **Number of Students** | **Interpretation** |
| 19-20 | 95% – 100% | 0 | Excellent |
| 17-18 | 85% – 94% | 1 | Very Good |
| 15-16 | 75% – 84% | 3 | Good |
| 13-14 | 65% – 74% | 6 | Fair |
| 0-12 | Below 65% | 20 | Poor |
| **Mean Score = 12.17**  **Mean Score Percentage = 60.83%**  **Standard Deviation = 2.23** | | | **Poor** |

The pre-implementation results show that the majority of Grade 10 students at Mayor Bartolome Serut National Agricultural and Trade High School showed in Table 1 that majority of Grade 10 students scored below the expected proficiency level in Filipino, with 20 students performing poorly, six rated as fair, and only four students achieving good to very good performance. The mean score of 12.17 out of 20, translating to a mean percentage of 60.83%, along with a standard deviation of 2.23, indicates overall low performance with minimal variability in scores. This suggests that the current instructional methods may not be effectively engaging students or supporting their learning needs. The implication is that integrating gamified instruction could offer a promising approach to increase motivation, foster engagement, and ultimately enhance academic performance in Filipino.

These results align with the study by Neerupa et al., which examined the impact of gamification on student engagement and academic performance. Their findings indicated that traditional instructional strategies often fail to capture students’ interest and motivation, leading to low academic achievement. Similarly, the poor pretest scores observed in this study highlight the ineffectiveness of conventional methods in teaching Filipino, reinforcing the need for innovative approaches like gamified instruction to improve student engagement and outcomes (Neerupa et al., 2024).

**Table 3. Post-Implementation Academic Performance in Filipino 10**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scores**  **(20 items)** | **Percentage Range** | **Number of Students** | **Interpretation** |
| 19-20 | 95% – 100% | 8 | Excellent |
| 17-18 | 85% – 94% | 11 | Very Good |
| 15-16 | 75% – 84% | 11 | Good |
| 13-14 | 65% – 74% | 0 | Fair |
| 0-12 | Below 65% | 0 | Poor |
| **Mean Score = 17.10**  **Mean Percentage = 85.50%**  **Standard Deviation = 1.63** | | | **Very Good** |

The post-implementation results show in Table 2 that the use of gamified instruction significantly enhanced the academic performance of Grade 10 students in Filipino at Mayor Bartolome Serut National Agricultural and Trade High School. Out of the total participants, 8 students achieved scores within the excellent range, 11 were rated very good, and another 11 were classified as good, with no students falling under the fair or poor categories. The class attained a mean score of 17.10 out of 20, equivalent to a mean percentage of 85.50 percent, with a standard deviation of 1.63, indicating a generally consistent performance. These findings imply that gamified instruction effectively engages learners, promotes mastery of Filipino concepts, and fosters a more inclusive and motivating learning environment.

These results align with the study by Hellín and colleagues, which emphasized that implementing a gamified learning environment significantly enhances student motivation, engagement, and academic outcomes. Their findings revealed that learners exposed to gamification exhibited heightened interest and active participation, ultimately leading to improved performance—mirroring the gains observed among Grade 10 students at Mayor Bartolome Serut National Agricultural and Trade High School. This supports the conclusion that gamified instruction fosters a more effective and dynamic educational experience, particularly in language learning contexts such as Filipino (Hellín et al. 2023).

**Table 4. Comparative Analysis of Pre-Test and Post-Test Scores**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Mean** | **SD** | **t-value** | **p-value** | **Specification** |
| Pre-test Scores | 12.17 | 2.23 | -11.10 | <0.001 | Highly Significant |
| Post-test Scores | 17.10 | 1.63 |

As shown in Table 4, a substantial increase in the mean scores of Grade-10 students in Filipino from 12.17 in the pre-test to 17.10 in the post-test, with a t-value of -11.10 and a p-value less than 0.001, indicating that the improvement is highly significant. This suggests that the use of gamified instruction positively influences students’ academic performance. The findings imply that incorporating game-based strategies into Filipino lessons can be an effective approach to boost learner engagement, motivation, and achievement in secondary education.

These results align with the findings of Neerupa R, et.al. who explored the impact of gamification on student engagement and academic performance. Their 2024 study revealed that gamified learning environments significantly enhanced learners’ motivation, attention, and academic achievement across various subjects (1). This supports the current study’s conclusion that incorporating game-based strategies in Filipino instruction can enhance academic outcomes by promoting a more interactive and enjoyable learning experience.

**4.1. THEMATIC ANALYSIS OF CHALLENGES IN IMPLEMENTING GAMIFIED INSTRUCTION**

In analyzing the feedback of Grade 10 students from Mayor Bartolome Serut National Agricultural and Trade High School regarding the use of gamified instruction in Filipino, several recurring challenges emerged. Common ideas were identified and grouped into three major themes: time constraints, group dynamics and uneven participation, and initial confusion with mechanics. These themes were validated through peer checking to ensure accuracy and reliability of results.

**Time Constraints.** One of the most prominent concerns raised by the students was the pressure of limited time during the activities. Several students expressed that the time allotted was not enough for them to fully process and organize their ideas. As one student shared, *“We were rushing during the second activity, and I couldn’t organize my ideas properly,”* while another added, *“The time pressure made me anxious, even though I understood the topic.”* Additionally, another student mentioned, *“If we had five more minutes, I think we could’ve completed our output better.”* These reflections highlight that while the gamified approach was engaging, time limitations hindered students from fully demonstrating their knowledge and creativity.

**Group Dynamics and Uneven Participation.** Another major theme was the issue of unequal group participation. Some students felt that collaboration was compromised due to passive or dominant group members. One student observed, *“I felt like I did most of the writing while others were just waiting for instructions,”* while another said, *“It was hard to collaborate when some group members didn’t take the activity seriously.”* Additionally, the feeling of being overshadowed was noted: *“One of my classmates dominated the whole task, so I didn’t get to share my idea.”* These experiences suggest that while group work is a core element of gamified instruction, unequal roles can negatively affect student engagement and learning outcomes.

**Initial Confusion with Mechanics.** A third theme that surfaced was students’ initial confusion regarding the rules and point system of the gamified activities. Some students shared that they were unclear on how to participate effectively. One remarked, *“At first, I didn’t know how we were supposed to earn points,”* and another noted, *“The instructions were a bit fast. I needed more time to understand the rules.”* There was also uncertainty regarding grading, as one student said, *“I was confused about how we would be graded, so I just followed my groupmates.”* This indicates a need for clearer and more detailed orientation about the mechanics of the game-based activities to ensure that all students can participate meaningfully.

Interpretation. The thematic analysis revealed that while gamified instruction presents opportunities for active and collaborative learning, its effectiveness is limited by practical challenges. Time constraints led to rushed outputs and anxiety, uneven group participation affected student morale and involvement, and unclear instructions caused confusion during initial implementation. These findings suggest that to maximize the benefits of gamified learning, careful planning must be made to allocate sufficient time, establish clear mechanics, and manage group collaboration effectively. Addressing these issues can enhance both student experience and academic performance in Filipino.

**Summary of Findings**

The pre-implementation results revealed that most Grade 10 students at Mayor Bartolome Serut National Agricultural and Trade High School performed below the expected proficiency level in Filipino. Out of 30 students, 20 scored poorly, 6 were rated fair, and only 4 achieved good to very good performance. The average score was 12.17 out of 20, or 60.83%, with a standard deviation of 2.23, showing low performance and little variation in scores.

The post-implementation results showed that gamified instruction improved the academic performance of Grade 10 students in Filipino. Out of all the students, 8 scored in the excellent range, 11 in the very good range, and 11 in the good range. No students scored in the fair or poor categories. The class had a mean score of 17.10 out of 20 or 85.50%, with a standard deviation of 1.63, showing consistent performance among students.

There is a significant improvement in the academic performance of Grade 10 students in Filipino after using gamified instruction. The students' mean scores increased from 12.17 in the pre-test to 17.10 in the post-test. The computed t-value was -11.10, and the p-value was less than 0.001, showing a highly significant difference between the two scores.

### **Conclusion**

### Based on the summary of findings, it can be concluded that the use of gamified instruction significantly enhanced the academic performance of Grade 10 students in Filipino at Mayor Bartolome Serut National Agricultural and Trade High School. Before the intervention, most students struggled to meet the expected proficiency level. However, after implementing gamified instruction, there was a marked improvement in student performance, with all students achieving satisfactory to excellent levels. The results suggest that gamified instruction is an effective teaching strategy that not only increases student engagement but also promotes better learning outcomes in Filipino.

**Ethical Approval:**

The researcher first sought approval from the school administration and relevant authorities to conduct the study at Mayor Bartolome Serut National Agricultural and Trade High School.

**Disclaimer (Artificial intelligence)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

**References**

Abdulrahaman, M. D., Faruk, N., Oloyede, A. A., et al. (2020). Multimedia tools in the teaching and learning processes: A systematic review. *Heliyon, 6*(11), e05312. <https://doi.org/10.1016/j.heliyon.2020.e05312>

Adzmi, N. A., Bidin, S., Selvaraj, B., & Saad, S. (2024). The role of gamification in enhancing engagement and motivation in language learning. *International Journal of Research and Innovation in Social Science*. <https://rsisinternational.org/journals/ijriss/articles/the-role-of-gamification-in-enhancing-engagement-and-motivation-in-language-learning/>

Alpizar, D., Adesope, O. O., & Wong, R. M. (2020). A meta-analysis of signaling principle in multimedia learning environments. *Educational Technology Research and Development, 68*(5), 2095–2119.

Cherry, K. (2019). Independent variable in psychology experiments. *Verywell Mind*. <https://www.verywellmind.com/what-is-the-independent-variable-2795278>

Canonizado, I. C. (2021, October 3). When to use total population sampling in a research study. *HubPages*. <https://discover.hubpages.com/education/When-to-use-total-population-sampling-in-a-research-study>

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From game design elements to gamefulness: Defining "gamification"*. In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (pp. 9–15). ACM. <https://doi.org/10.1145/2181037.2181040>

Dovetail Editorial Team. (2023, April 28). Guide to experimental research design. *Dovetail*. <https://dovetail.com/research/what-is-experimental-design/>

Elle, B., Almacen, J., & Labitad, F. G. (2024). Multimedia tools on learners’ performance in Filipino. *International Journal of Research Publications, 152*(1). <https://doi.org/10.47119/ijrp1001521720246923>

Ghai, A., & Tandon, U. (2022). Integrating gamification and instructional design to enhance usability of online learning. *Education and Information Technologies*. https://doi.org/10.1007/s10639-022-10941-y

Guadaña, R. R., Bermudez, J. R., Ramirez, E., & Tong, A. E. (2020, October 23). Extent of faculty adeptness and viability of gamified learning in National University. *12th International Conference on Education Technology and Computers*.

Hellín, C. J., Calles-Esteban, F., Valledor, A., Gómez, J., Otón-Tortosa, S., & Tayebi, A. (2023). Enhancing student motivation and engagement through a gamified learning environment. *Sustainability, 15*(19), 14119. <https://doi.org/10.3390/su151914119>

Kent State University. (2024). Paired samples t test. *Kent.edu*. <https://libguides.library.kent.edu/spss/pairedsamplesttest>

Kumar, A. (2024, September 30). What is descriptive statistics: Definition, type, applications & more. *Simplilearn*. <https://www.simplilearn.com/what-is-descriptive-statistics-article>

Li, J., & Xue, E. (2023). Dynamic interaction between student learning behaviour and learning environment: Meta-analysis of student engagement and its influencing factors. *Behavioral Sciences, 13*(1), 59. <https://doi.org/10.3390/bs13010059>

Lin, J. (2022). The effects of gamification instruction on the roles of perceived ease of learning, enjoyment, and useful knowledge toward learning attitude. *Turkish Online Journal of Educational Technology, 21*(2), 81–91.

López-Belmonte, J., Pozo-Sánchez, S., Moreno-Guerrero, A. J., & Marín-Marín, J. A. (2023, March 27). We’ve reached the GOAL: Teaching methodology for transforming learning in the metaverse. A teaching innovation project. *Metaverse Basic and Applied Research*.

Magno, J. M., Indal, R. S., Chavez, J. V., Garil, B. A., & Delos Reyes, R. B. (2024). Alternative teaching strategies in learning Filipino language among dominant English speakers. *Forum for Linguistic Studies, 6*(4), 404–419. <https://doi.org/10.30564/fls.v6i4.6742>

Malahito, J. A. I., & Quimbo, M. A. T. (2020). Creating G-Class: A gamified learning environment for freshman students. *E-Learning and Digital Media, 17*(2), 204275301989980.

Mariano, M. S., Escalaw, M., & Gallego, E. (2023, September 11). Teachers’ innovation on reflective and integrative (RAI) video lessons in enhancing the academic performance of Grade 2 learners in Araling Panlipunan. *JPAIR Institutional Research*. <https://philair.ph>

Mayer, R. E. (2021). Evidence-based principles for how to design effective instructional videos. *Journal of Applied Research in Memory and Cognition, 10*(2), 229–240.

Moscoso, M. O., de Jesus, A. K. P., Abagat, R. F. D., et al. (2020). The eve of the 1896 revolution: Experiencing Philippine history through immersive and gamified learning. *Asian Association of Open Universities Journal, 15*(1), 115–130.

Nadeem, M., Oroszlanyova, M., & Farag, W. (2023). Effect of digital game-based learning on student engagement and motivation. *Computers, 12*(9), 177. <https://doi.org/10.3390/computers12090177>

Neerupa, C., Kumar, R. N., Pavithra, R., & William, A. J. (2024, April 24). *Game on for learning: A holistic exploration of gamification’s impact on student engagement and academic performance in educational environments*. Deleted Journal. <https://doi.org/10.1108/manm-01-2024-0001>

Qudsi, H. (2024). Gamification in education: Boosting student engagement and learning outcomes. *ShodhKosh: Journal of Visual and Performing Arts, 5*(4). <https://doi.org/10.29121/shodhkosh.v5.i4.2024.2542>

Smiderle, R., Rigo, S. J., Marques, L. B., Peçanha de Miranda Coelho, J. A., & Jaques, P. A. (2020). The impact of gamification on students’ learning, engagement and behavior based on their personality traits. *Smart Learning Environments, 7*(1), 1–11. https://doi.org/10.1186/s40561-019-0098-x

Wulan, D. R., Nainggolan, D. M., Hidayat, Y., Rohman, T., & Fiyul, A. Y. (2024). Exploring the benefits and challenges of gamification in enhancing student learning outcomes. *Global International Journal of Innovative Research, 2*(7), 1657–1674. <https://doi.org/10.59613/global.v2i7.238>

Specialist, J. B. E. L. (2020, November 12). 5 benefits of interactive content. *CAE Computer Aided E-learning*. <https://www.cae.net/5-benefits-of-interactive-content-to-improve-students-attention-span/>

Walther, J. B., & Whitty, M. T. (2020). Language, psychology, and new new media: The hyperpersonal model of mediated communication at twenty-five years. *Journal of Language and Social Psychology, 40*(1), 0261927X2096770.

Subiyantoro, S., Degeng, I. N. S., Kuswandi, D., & Ulfa, S. (2024). Developing gamified learning management systems to increase student engagement in online learning environments. *International Journal of Information and Education Technology, 14*(1), 26–33.

Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). The impact of gamification on learning and instruction: A systematic review of empirical evidence. *Educational Research Review, 30*, 100326. https://doi.org/10.1016/j.edurev.2020.100326

Zhang, S., & Hasim, Z. (2023, January 5). Gamification in EFL/ESL instruction: A systematic review of empirical research. *Frontiers in Psychology, 13*. https://doi.org/10.3389/fpsyg.2023.00000