

# Project GAMEs: Enhancing the Reading Level Of Selected Grade 7 Instructional Readers

Garachico, Myrnalyn, C.

College of Education Arts and Sciences,  
Gordon College, Olongapo City, Philippines

**Abstract:** *This classroom-based action research aimed to investigate the effectiveness of Project GAMEs (Game-Assisted Method and Strategy) in enhancing the reading level of 16 instructional readers at New Cabalan National High School for the school year 2023-24. The study used purposive sampling technique and employed a one-group pre-test post-test design. Wilcoxon Signed Rank Test was used to compare the pre-test and post-test scores of the participants after the integration of Project GAMEs, while Mann-Whitney U test was employed to determine the difference in post-test scores between sexes after the integration of Project GAMEs. The results showed a significant difference between the pre-test and post-test scores of the participants following the integration of Project GAMEs. The post-tests indicated that the participants' reading abilities progressed from instructional to independent levels. Therefore, the study suggested that Project GAMEs was effective in enhancing the reading levels of instructional readers. Additionally, the results indicated that the integration of Project GAMEs had a statistically similar impact on the post-test scores of both male and female students, with only a minor practical difference between these groups that was not deemed statistically significant. Based on the study's findings, it is recommended that Project GAMEs be integrated more broadly into the curriculum at New Cabalan National High School to enhance reading levels across various grade levels.*

**Keywords:** Reading Comprehension, Instructional readers, Gamification

## 1. CONTEXT AND RATIONALE

Reading comprehension is the bedrock of effective learning. It allows learners to decipher meaning, make wise judgments, and communicate successfully. This ability empowers students to accurately interpret and evaluate written materials (Durano & Candilas, 2023). Therefore, proficiency in reading and understanding is crucial for students to navigate and comprehend the functioning society, as most information is conveyed through written text (Suson et al., 2020). It acts as a cornerstone for academic achievement in the classroom and, most significantly, opens doors to lifelong learning.

Over the years, one of the challenges that the education sector has faced globally is the low reading comprehension skills among children. Only one-third of 10-year-olds worldwide are believed to possess the ability to comprehend and interpret a basic written narrative. Conversely, the remaining two-thirds, accounting for 64%, fall short of achieving the minimum standard for reading comprehension proficiency (Unicef, 2022).

In Southeast Asia, including the Philippines, many students fail to meet the minimum expectations for their age in major learning areas such as reading (Sandoval et al., 2022). English is considered a second language in the Philippines (Mariano et al., 2020). However, in recent years, it has been noticed that a significant portion of learners in the country have difficulty comprehending English reading materials, and the quest to cultivate proficient readers remains a paramount goal. Based on the result of the Programme for International Student Assessment (2022), the Philippines ranked the 6th lowest performer out of 81 participating

countries (Descartin et al., 2023; Valenzuela & Sardina, 2024). This problem recognizes the necessity of elevating the learners' reading levels and the need to seek innovative strategies to engage and level up the learners' reading proficiency.

At the instructional reading level, the learners can only read when guided and at this level, the learner is not independent but has founding background knowledge of a topic and can access text quickly and with no or few errors (Liwanag, 2023). Instructional learners need support from a teacher, parent, or tutor. Additionally, at this level, new vocabulary is being introduced to learners, and significant progress in reading occurs. Walshire (2024) stated that at this level, students read at 90%- 95% accuracy or higher and possess at least 80% comprehension of basic review questions about the selection.

Gamification is a pedagogical approach that integrates game elements into non-game contexts to enhance engagement and learning outcomes (Erumit & Yilmaz, 2022). Its main purpose is to give students exciting and compelling learning experiences. Utilizing gamification to strengthen reading comprehension is crucial as it transforms the learning experience into an engaging and interactive process, fostering intrinsic motivation among learners that enhances comprehension skills through immersive and enjoyable activities. Recent studies in the Philippines exploring the effectiveness of gamification in enhancing reading comprehension among students show positive results (Travino & Gonzales, 2022; Durano & Candilas, 2023; Esparrago et al., 2024).

Despite of these positive findings on the effectiveness of gamification in enhancing reading comprehension, few existing studies have been published in Olongapo City over

the past five years exploring the effectiveness of gamification in students' academic performance. This positive results from previous studies and the existing research gap in the area inspired the researcher to conduct related research and investigate whether the self-developed Project GAMEs (Game-Assisted Method and Strategy) has a significant impact on enhancing the reading level of selected grade 7 instructional readers at New Cabalan National High School S.Y. 2023-2024 through a comparative analysis of the pre-test and post-test scores of the participants. The research aims to discern any notable differences, thereby contributing valuable insights into the strategy's efficacy in enhancing learner's reading levels.

## 2. METHODOLOGY

### 2.1 TYPE OF RESEARCH

The research employed a one-group pre-test post-test design to assess the effectiveness of Project GAMEs in enhancing the reading level of Grade 7 instructional readers at New Cabalan National High School, S.Y 2023-24. This design involved administering a pre-test conducted by the researcher's deployment school to measure the students' initial reading levels before the implementation of Project GAMEs and a post-test after the completion of the four-week enhancement program (Choueiry, 2021). The pre-test obtained from the school served as the basis to determine the learners' level. At the same time, the post-test conducted by the researcher evaluated the impact of Project GAMEs on the student's reading proficiency after a four-week session. Through a comparative analysis of the pre-test and post-test results, the study aimed to determine any significant improvements in the learners' reading levels after Project GAMEs.

### 2.2 CONCEPTUAL FRAMEWORK OF THE STUDY

Figure 1 shows the conceptual framework of the study. One-group pre-test post-test design was employed in this study for a direct comparison of the student's reading level before and after an intervention (Choueiry, 2021). The design was used to evaluate the effectiveness of Project GAMEs in enhancing the reading levels among Grade 7 instructional readers.

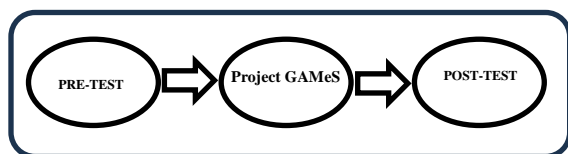


Fig. 1. Conceptual Framework

### 2.3 RESPONDENTS

The participants for this study consisted of 16 Grade 7 instructional readers enrolled in New Cabalan National High School during the school year 2023-2024.

Specifically, participants were drawn from the following sections: Aquino, Magsaysay, Ramos, and Laurel. These students were selected to represent the target population for assessing the effectiveness of Project GAMEs in enhancing reading levels. They were chosen by the information obtained from the students' pre-test scores determined by the school.

### 2.4 SAMPLING METHOD

The sampling technique employed for this study was purposive sampling, chosen to align with the research objectives (Obilor, 2023). Grade 7 instructional learners from New Cabalan National High School, S.Y. 2023-2024, were selected based on specific criteria relevant to the study's aim of evaluating the effectiveness of Project GAMEs in enhancing reading levels. A total of 16 instructional learners from sections Aquino, Magsaysay, Ramos, and Laurel were included to represent the target population. Purposive sampling ensured that the participants met the necessary criteria, focusing on those who required additional support to reach grade-level reading proficiency. This method allowed for a targeted assessment of Project GAMEs, providing clear insights into its impact on improving reading skills among Grade 7 students. By selecting participants from diverse sections, the study aimed to generalize findings within the school context while maintaining a focused and relevant participant group.

## 3 RESULTS AND DISCUSSIONS

This section presents the findings on the impact of Project GAMEs on the students' reading level. It includes an analysis of pre-test and post-test scores and discusses the implications of these results for educational practices and future research.

**Table 1**  
*Profile of the Respondents According to Sex at Birth*

| Sex          | Frequency | Percentage   |
|--------------|-----------|--------------|
| Male         | 6         | 37.5         |
| Female       | 10        | 62.5         |
| <b>Total</b> | <b>16</b> | <b>100.0</b> |

Table 1 shows the frequency and percentage distribution of the participants according to sex at birth. As shown in the table, 6 or 37.5% of the participants were male, while 10 or 62.5% were female. This supports the study of Alieto et al. (2020), which revealed that females exhibit better attitudes towards reading than males.

**Table 2**  
*Profile of the Respondents According to Section*

| Section   | Frequency | Percentage |
|-----------|-----------|------------|
| Aquino    | 5         | 31.3       |
| Laurel    | 4         | 25.0       |
| Magsaysay | 5         | 31.3       |

|              |           |              |
|--------------|-----------|--------------|
| Ramos        | 2         | 12.5         |
| <b>Total</b> | <b>16</b> | <b>100.0</b> |

Table 2 presents the frequency and percentage distribution of the participants according to their sections. As shown in the table, 5 or 31.3% of the participants were from section Aquino, 5 or 31.3% were from section Magsaysay; 2 or 12.5% were from Ramos; and 4 or 25.0% were from section Laurel.

**Table 3**  
*Reading Level of the Students in Terms of Pre-Test Scores*

| Score                       | Frequency  | Percentage | Descriptive Interpretation |
|-----------------------------|------------|------------|----------------------------|
| 5                           | 9          | 56.3       | Instructional              |
| 6                           | 6          | 37.5       | Instructional              |
| 7                           | 1          | 6.3        | Instructional              |
| <b>Composite Mean Score</b> | <b>5.5</b> |            | Instructional              |

Table 3 presents an overview of students' reading levels based on their pre-test scores. Students obtained a five on the pre-test (n = 9, 56.3%), a 6 (n = 6, 37.5%), and a 7 (n = 1, 6.3%), indicating an instructional reading level. The composite mean score of 5.5 (n = 16) affirms the claim that the student's average reading ability, as determined by the pre-test, fits into the instructional category. This table provides a baseline understanding of the students' reading levels before implementing Project GAMeS. At this level, the student reads with 75% comprehension of the text (mheducation.com, 2008) and with 90% accuracy or with no more than one (error) per ten (10) words read (Walshire, 2024).

**Table 4**  
*Reading Level of the Students in Terms of Post-Test Scores*

| Score                       | Frequency  | Percentage | Descriptive Interpretation |
|-----------------------------|------------|------------|----------------------------|
| 8                           | 2          | 12.5       | Independent                |
| 9                           | 4          | 25.0       | Independent                |
| 10                          | 10         | 62.5       | Independent                |
| <b>Composite Mean Score</b> | <b>9.5</b> |            | Independent                |

Table 4 presents an overview of students' reading levels based on their post-test scores. Students obtained an 8 on the post-test (n = 2, 12.5%), a 9 (n = 4, 25.0%), and a 10 (n = 10, 62.5%), indicating an independent reading level. The composite mean score of 9.5 (n = 16) affirms the claim that the student's average reading ability, as determined by the post-test, fits into the independent category. This table provides a baseline understanding of the students' reading levels after the implementation of Project GAMeS. Students are at the independent reading level when they can easily read a text on their own. The child reads the material almost

flawlessly and comprehends the story with great ease. With confidence, the kids can read the story by themselves (Walshire, 2024).

**Table 5**  
*Difference in Post-Test Score After the Integration of GAMeS Between Sexes*

| Sex    | n  | Median | U    | z      | Asymp. Sig. | Conclusion  |
|--------|----|--------|------|--------|-------------|-------------|
| Male   | 6  | 9.5    | 21.0 |        |             | Not         |
| Female | 10 | 10.0   | 00   | -1.134 | .257        | Significant |

*Note:* Project GAMeS (Game-Assisted Method and Strategy)

Table 5 reveals the difference between the pre-test and post-test scores after the integration of Project GAMeS using the Wilcoxon Signed Ranks Test. The results indicated that there is a statistically significant difference between the pre- and post-test scores [W = 136.000, z = -3.561, and p = .000] at the 5% significance level, with a large effect size (r = .63) (Cohen, 1988). The results show that the median score on the pre-test (Mdn = 5) subsequently increased in the post-test (Mdn = 8). It indicates that the integration of Project GAMeS was advantageous in improving student scores. Consequently, both the statistical significance and practical significance (effect size) of the outcomes indicate the effectiveness of Project GAMeS in bolstering student performance. The result was backed up by several studies on the effectiveness of gamification in enhancing the reading levels of students (Orejuela et al., 2022 & Colendra & Carada, 2023).

**Table 6**  
*Difference in Post-Test Score After the Integration of Project GAMeS Between Sexes*

| Sex    | n  | Median | U     | z     | Asymp. p. Sig. | Conclusion  |
|--------|----|--------|-------|-------|----------------|-------------|
| Male   | 6  | 9.5    | 21.00 | -     |                | Not         |
| Female | 10 | 10.0   | 0     | 1.134 | .257           | Significant |

*Note:* Project GAMeS (Game-Assisted Method and Strategy)

Table 6 depicts the difference in post-test scores of the students after integrating Project GAMeS between sexes using the Mann-Whitney U test. The test shows that there is no significant difference between males (Mdn = 9.5) and females (Mdn = 10.0) with U = 21.000, z = -1.134, and p = .257 at the 5% significance level, with a small effect size (r = .28) (Cohen, 1988). It indicates that the integration of Project GAMeS had a statistically similar impact on the post-test scores of both male and female participants with a minor practical difference between the groups, but this difference is not deemed statistically significant. Abenes et al., (2020) state that factors such as sex (male/female) do not affect the implementation of the enhancement activity.

#### 4 CONCLUSIONS

In conclusion, this study investigated the effectiveness of Project GAMEs in improving the reading levels of Grade 7 instructional readers at New Cabalan National High School during the academic year 2023-2024. Through the analysis of pre-test and post-test scores, it was evident that the integration of Project GAMEs into the curriculum yielded positive results, with students showing notable improvements in their reading abilities throughout the study. Furthermore, the absence of significant gender disparities in reading level enhancements suggests that Project GAMEs is effective across genders, highlighting its potential for promoting inclusive literacy practices. The significant difference observed between pre-test and post-test scores further emphasizes the beneficial impact of Project GAMEs on students' reading proficiency, underscoring its value as an evidence-based instructional approach. Overall, the findings of this study underscore the importance of implementing targeted enhancement, such as Project GAMEs, to foster a culture of literacy and support students in achieving academic success. Moving forward, continued investment in evidence-based literacy programs and ongoing support for educators are essential to sustain and further enhance students' reading abilities, ultimately contributing to their overall academic achievement and lifelong learning.

#### 5 RECOMMENDATIONS

Based on the conclusions, several recommendations were made to optimize the effectiveness of reading instruction:

1. **Continued Implementation of Project GAMEs:** The positive impact observed in this study underscores the importance of sustaining the integration of Project GAMEs in reading instruction. Consistent implementation can further enhance students' reading skills over time.
2. **Gender-Specific Strategies:** Since no significant differences were found in reading level improvements between males and females' post-integration of Project GAMEs, it is recommended to continue employing gender-neutral teaching strategies. However, educators may consider tailoring instructional approaches to address any unique learning preferences or challenges observed among male and female students.
3. **Professional Development:** Providing ongoing professional development opportunities for teachers in reading instruction methodologies and the effective use of educational technology can strengthen their capacity to deliver high-quality instruction. This includes training on how to effectively integrate Project GAMEs into the curriculum.
4. **Research-Based Practices:** Encouraging the adoption of evidence-based practices in teaching reading is essential. Educators should stay informed about current research findings and best practices in literacy instruction to continuously improve teaching methods and outcomes.

5. **Research and Development:** Further research should be conducted to explore additional strategies and tools that can complement Project GAMEs and address any remaining gaps in students' reading abilities. Collaboration with educational researchers and institutions can lead to the development of innovative approaches to literacy education.

#### 6 REFERENCES

- [1] Abenes, F., & Caballes, D. (2022). Readiness of Tertiary Students in Flexible Learning Approach. *CiiT International Journal of Automation and Autonomous System*, 12(3), 62-69.
- [2] Alieto, E., Eijansantos, A., Morgia, J. D. R. —, & Ricohermoso, C. D. R. —. (2020). Print-Based Texts or Digitized Versions: An attitudinal investigation among senior high school students. *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3615800>
- [3] Choueiry, G. (2021, September 14). *One-Group Pretest-Posttest Design: An Introduction*. <https://quantifyinghealth.com/one-group-pretest-posttest-design/>
- [4] Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- [5] Descartin, D. M., Kilag, O. K., Groenewald, E., Abella, J., Cordova, N., Jr, & Jumalon, M. L. (2023, December 17). *Curricular Insights: Exploring the impact of Philippine K to 12 on PISA 2022 Reading Literacy Achievement*. <https://multijournals.org/index.php/excellencia-imje/article/view/190>
- [6] Durano, E. G. B., & Candilas, K. S. (2023). Improving Grade 8 Struggling Readers' Reading Comprehension Skills through Game-based Learning and Teacher-directed Instruction. *so14.tci-thaijo.org*. <https://doi.org/10.14456/bej.2023.20>
- [7] Erümit, S. F., & Yilmaz, T. K. (2022). *The Happy Association of Game and Gamification: The Use and Evaluation of Game Elements with Game-Based Activities*. <https://eric.ed.gov/?id=EJ1335106>
- [8] Esparrago-Kalidas, A. J., Labis, P. I. a. F., Entrina, R. R., Marcelino, D. G. R., Pacana, K. M. N., & Pailaga, J. M. B. (n.d.). Employing Gamification-Incentive-Feedback (GIF) Model in Enhancing Classroom Learning Experience. *Anatolian Journal of Education*, 9(1), 183–194. <https://doi.org/10.29333/aje.2024.9113a>
- [9] Government of Canada, Statistics Canada. (2021). *4.3 Frequency distribution*. <https://www150.statcan.gc.ca/n1/edu/power-pouvoir/ch8/5214814-eng.htm>
- [10] Manaloto Jr, H.M., & Mobo, C.M. (2024). Improving reading comprehension of grade 7 learners through reflective activities. *International Journal of Academic Pedagogical Research*, 8(5), 2643-9123.



- [11] Liwanag, J. (2023). Internal and External Factors and their Impact to the Reading Skills. *Educational Research Center Philippines*, 2(4), 2945–3577. [https://etcor.org/storage/iJOINED/Vol.%20II\(4\).%2056-66.pdf](https://etcor.org/storage/iJOINED/Vol.%20II(4).%2056-66.pdf)
- [12] Mariano, E. M. M., Del Rosario, C., Bensurto, S. A. B., Hernandez, M. A. H., Laroya, E. R. L., & Llante, A. T. (2020). Using Extensive Reading in Improving Reading Speed and Level of Reading Comprehension of Students. *Journal of Critical Reviews*, 7(15). <https://www.researchgate.net/profile/Christine-Del-Rosario/publication/344890428>
- [13] Marketing Dept. (2024). Frequency Distribution and Percentage groups: Learning Statistics. *Jove*. <https://blog.jove.com/frequency-distribution-and-percentage-groups-in-statistics-learn-when-to-use-it>
- [14] Meléndez, R., Giraldo, R., & Leiva, V. (2020). Sign, Wilcoxon and Mann-Whitney Tests for functional Data: an approach based on random projections. *Mathematics*, 9(1), 44. <https://doi.org/10.3390/math9010044>
- [15] Mheducation. (n.d.). What are Accurate Descriptions of Independent, Instructional, and Frustrational Reading Levels for Individual Students? <https://www.mheducation.com/unitas/school/program/corrective-reading-2008/corrective-reading-independent-instructional-frustrational-reading-levels.pdf>
- [16] Obilor, E. I. (2023). Convenience and Purposive Sampling Techniques: Are they the Same? *SEAHI Publications and Academic Journals*, 11(1). [https://scholar.googleusercontent.com/scholar?q=cache:TljbRNVU5SUJ:scholar.google.com/&hl=en&as\\_sdt=0,5](https://scholar.googleusercontent.com/scholar?q=cache:TljbRNVU5SUJ:scholar.google.com/&hl=en&as_sdt=0,5)
- [17] Orejuela, J. G., Tolin, M. R., Soreta, M. O., & Ocampo, D. M. (n.d.). “Flipping the Language Classroom:” *Effects of gamifying instruction in the English language proficiency of Filipino ESL students*. <https://eric.ed.gov/?id=ED623278>
- [18] Pereda, P. K., Austria, J. A., & Garcia, A. (n.d.). [PROJECT ERA (Enhancement Reading Area): A Gamification Coincountered Inspired Reading Center in Producing Grade 7 Independent Readers. *Academia*. <https://independent.academia.edu/JhieAnneMercadoAustria>
- [19] Sandoval-Hernandez, A., Zhao, D., Chen, Z., & Eryilmaz, N. (2022). The Association Between educational Systems and Reading Literacy Performance in PISA Across Asia-Pacific Region and Countries. *International Handbook on Education Development in Asia-Pacific*, 1–15. [https://doi.org/10.1007/978-981-16-2327-1\\_26-1](https://doi.org/10.1007/978-981-16-2327-1_26-1)
- [20] Suson, R., Baratbata, C., Anos, W., Ermac, E., Aranas, A. G., Malabago, N., Galamiton, N., & Capuyan, D. (2020). Differentiated Instruction for Basic Reading Comprehension in Philippine Settings. *Universal Journal of Educational Research*, 8(9). <https://doi.org/10.13189/ujer.2020.080904>
- [21] Travino, R. (2021). Game-based Applications to Enhance Students’ Engagement and Performance. *International Journal of Research Publications*, 103(1). <https://doi.org/10.47119/IJRP1001031620223484>
- [22] Unicef. (2022). Only a third of 10-year-olds globally are estimated to be able to read and understand a simple written story. <https://www.unicef.org/bulgaria/en/press-releases/unicef-only-third-10-year-olds-globally-are-estimated-be-able-read-and-understand>
- [23] Valenzuela, C. L., & Sardina, D. (2024). Project Ready: Encounters and challenges of English Pre-Service teachers. *Asian Journal of Community Services*, 3(3), 317–326. <https://doi.org/10.55927/ajcs.v3i3.8123>
- [24] Walshire, R. (2024). Independent vs. Instructional Reading. *Dr. Walshire’s Website* <https://www.antioch34.com/Page/3797>