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GAMIFICATION AS A TEACHING APPROACH ON STUDENTS' READING SKILLS: AN EXPERIMENTAL STUDY

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ABSTRACT

This study aimed to examine the impact of the Gamification teaching approach on the reading skills of struggling Grade 2 students. A pretest-posttest experimental design was employed, with a single group of participants undergoing a structured intervention utilizing Gamification as the teaching approach. The intervention was administered between the assessments, and statistical analyses, including class proficiency assessments and paired t-tests, were performed to evaluate the significance of the pretest-posttest results. Thirty students who faced challenges in reading participated in the study, undergoing both a pretest and a posttest, in addition to receiving the gamification-based intervention. The results revealed a significant difference in students' reading achievement levels from the pretest to the posttest. These findings suggest that the Gamification teaching approach was an effective method for enhancing reading skills among struggling readers. Based on these results, the study recommends incorporating gamification as a promising intervention for improving reading proficiency.

KEYWORDS: *Elementary Education, Teaching Approach, Reading Skills, Gamification Teaching Approach, Experimental Study*

INTRODUCTION

The Problem and its Background

Reading is fundamental to academic success, yet many young learners fail to reach grade-level proficiency early on. Those who struggle by third grade face a much higher risk of academic failure and dropping out of high school (Lesnick et al., 2010).

Reading difficulties remain a global concern, with nearly one in five students in developed countries struggling by the end of primary school (OECD, 2016). PIRLS (2021) reports ongoing literacy challenges in Africa and Asia, while Crawford et al. (2024) found weak foundational decoding skills among students in low- and middle-income nations. These deficiencies hinder comprehension and highlight the urgent need for early, phonics-based interventions to address the global literacy gap.

The Philippines continues to face challenges in reading literacy, as shown by the 2018 PISA results, where Filipino 15-year-olds scored an average of 340, which is well below China and the OECD average (San Juan, 2019). The country ranked lowest in reading proficiency among both genders. The Department of Education (DepEd, 2018) recognized ongoing reading comprehension issues in elementary learners. Galang (2021) also pointed out that many teacher education programs still rely on traditional methods, which may limit effective reading instruction.

Apokon Elementary School in Tagum City is tackling a significant literacy gap, with 182 primary learners struggling with word decoding (mCRLA) and 283 intermediate students at the Frustration Level (PHIL-IRI). To address this, the school launched the BRIDGES for STARs reading intervention, integrating gamification to boost engagement and literacy. Gamified instruction promotes active participation, comprehension (Lindström & Roberts, 2023), motivation, critical thinking, and collaboration (Zainuddin et al., 2020; Deterding et al., 2011). The researcher works closely with students who find reading challenging and often struggle to keep up with the expected skills or competencies. These students have difficulty decoding words, which makes it harder for them to fully understand and enjoy reading.

Recent studies confirm gamification's effectiveness in improving persistence and retention through reward-based learning (Dehghanzadeh et al., 2024), particularly in underserved contexts (Kim, 2019). Most research focuses on student outcomes in developed countries, leaving a gap in understanding its implementation by future educators in emerging nations like the Philippines (San Juan, 2019).

The global literacy gap is a significant challenge, particularly in underdeveloped countries like the Philippines. While research on reading interventions has grown, the impact of gamification on literacy improvement remains underexplored in the Philippine context. This study aims to address this gap by evaluating gamified reading instruction for struggling students at Apokon Elementary School. Focused on improving early reading skills, the study examines how gamification can boost engagement and proficiency, providing valuable insights for educators and policymakers to develop more effective, student-centered teaching strategies in resource-limited settings.

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Purpose of the Study

The purpose of the study is to determine the impact of gamification as a teaching approach on Grade 2 students struggling with reading at Apokon Elementary School during the academic year 2025-2026.

Research Questions

The study aimed to determine the effectiveness of the Gamification Teaching Approach on the reading skills of struggling Grade 2 students at Apokon Elementary School. Specifically, the study sought answers to the following questions:

1. What is the competency level of the students in pretest scores in the following reading skills?
   1.1 Spelling
   1.2 Vocabulary
   1.3 Fluency
   1.4 Comprehension
2. What is the competency level of the students in posttest scores in the following reading skills?
   2.1 Spelling
   2.2 Vocabulary
   2.3 Fluency
   2.4 Comprehension
3. Is there a significant difference between the pretest and posttest scores of the students in the following reading skills?
   2.1 Spelling
   2.2 Vocabulary
   2.3 Fluency
   2.4 Comprehension

METHODOLOGY

In this chapter, the following parts such as research design, research locale, research subject, research instrument, research procedures and the statistical treatment of data will be presented.

Research Design

This study used an experimental method, specifically a one-group pretest and post-test design, to gather data. The quasi-experimental design, introduced by Donald T. Campbell in 1963, is intended to help establish causal inferences. In this research, a pre-test and post-test were administered to the same group of participants, one before the treatment and one after to measure the effects of the intervention. The pre-test was given at the start, and the post-test was administered at the end of each teaching period, covering all topics planned for the experiment (Padua, 2000). The data for the study were collected based on the results of these pre-tests and post-tests, which reflected the students' progress over the course of the experimental period.

Pretest-Posttest Design

Pretest	Treatment	Post-test
O_1	X	O_2

Where: O - Pretest and posttest
X - Treatment
O_1 - Pretest
O_2 - Posttest

Research Locale

This research study was conducted at Apokon Elementary School, located in Purok Durian, Barangay Apokon, Tagum City, Davao del Norte. Apokon Elementary School is a public institution situated in the capital city of Davao del Norte. Tagum City, officially known as the City of Tagum or the City of Palms, was established as a component city on March 7, 1998. It is located 55 kilometers north of Davao City and is recognized as one of the fastest-growing cities in Region XI, with a total land area of 19,580 hectares.

Tagum City is a first-class component city and the capital of Davao del Norte, Philippines. According to the 2020 census, it had a population of 296,202, making it the most populous component city in Mindanao. The city was divided into 23 barangays, including Apokon, Bincungan, Busaon, Canocotan, Cuambogan, La Filipina, Liboganon, Madaum, Magdum, Magugpo Poblacion, Magugpo East, Magugpo North, Magugpo South, Magugpo West, Mankilam, New Balamban, Nueva Fuerza, Pagsabangan, Pandapan, San Agustin, San Isidro, San Miguel, and Visayan Village.

At present, Apokon Elementary School has a total student population of 2,277, with 47 sections ranging from preschool to grade six. The school employs 65 competent teachers, all of whom are effectively supervised by the Elementary School Principal IV. Geographically, the school is located in the eastern part of Tagum City and is easily accessible by various modes of transportation. Figure 2 illustrates the location of Apokon Elementary School in Purok Durian, Apokon, Tagum City, Davao del Norte. To

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accommodate the growing student population, the Local Government Unit (LGU) donated a large covered court with a stage and a three-story Department of Education (DepEd) building.

Research Subject

Apokon Elementary School comprised 7 Grade 2 sections. The subjects of the study were 30 Grade 2 students, selected as the experimental group based on their identification under the Full Refresher reading level in the mCRLA reading pre-assessment for the School Year 2025-2026. The researcher conducted the study by implementing the gamification teaching approach to improve the reading skills of these Grade 2 students. Her involvement allowed her to apply the theoretical knowledge and practical skills she had gained through a series of trainings and Learning Action Cell sessions, providing valuable hands-on experience in a real-world educational setting while also contributing to the improvement of struggling students' reading skills.

Research Instrument

The instrument used for data collection was a 30-item pre-test and post-test assessment derived from the mCRLA Reading Assessment. Additionally, the researcher developed a 5-session intervention plan using the Gamification Teaching Approach, which was implemented during the final period. The pre-test and post-test instruments were validated by experts and pilot-tested before use.

A Table of Specifications (TOS) was created to ensure that the test items were appropriately distributed across the different reading skills. The questionnaire consisted of 15 items related to spelling and identification of sounds, and 15 items focused on reading and comprehension. These tests were used as both the pre-test and post-test for the research study.

Research Procedure

The following data procedures were employed in this study:

Ethics Clearance. The researcher accomplished the Ethics Application Form, which was submitted to the Research Development and Publication Center. Upon submission, the Research Development and Publication Center reviewed the application for compliance with ethical standards. Once ethics approval was granted, the researcher proceeded to the next phase of the study.

Validate Questionnaire. The researcher created a Research Questionnaire for both the Pre-test and Post-test, which was used to gather data from the respondents. This questionnaire was designed to assess the effectiveness of the intervention program. The questionnaire was then submitted to the panel of experts for validation. The panel reviewed the questionnaire to ensure its clarity, accuracy, and appropriateness for the research objectives. Upon receiving feedback from the panel, the researcher made the necessary revisions to the questionnaire before finalizing it for distribution to the respondents.

Seeking Permission to Conduct the Study. The researcher wrote a letter of request and permission to the Office of the Schools Division Superintendent of Tagum City to seek approval for conducting the study. Once approval was granted, the researcher submitted the approved letter, along with the permission letter, to the school principal. Similarly, the researcher informed the research subjects who were selected for the quasi-experimental study. Additionally, the researcher adhered to proper ethical standards during the study, ensuring that the names of the subjects were not disclosed, and any sensitive information was kept confidential. After these steps, the researcher proceeded with conducting the study.

Gathering Test Materials. The researcher taught reading to the students using the Gamification Teaching Approach alongside the mCRLA reading assessment tool. The teacher's lesson plans, which incorporated the Gamification Teaching Approach, served as a guide for delivering the lessons in each session. The pre-test and post-test utilized the instrument from the mCRLA reading assessment tool.

Administration of the Instrument. The researcher gathered the students' performance in the reading assessment during the pre-test. Following this, lesson plans were employed during the intervention phase for the experimental group. After administering the lessons over five sessions, the post-test was conducted using the same instrument as the pre-test.

Statistical Treatment of Data

To test the hypothesis formulated, the following statistical tools were used in the research:

Mean. This was used to provide a concise numerical value representing the average performance of the respondents on the pre-test and post-test for reading assessment.

Paired t-test. This was used to calculate the t-value by comparing the mean difference between the pre-test and post-test scores, relative to the variability or standard error of the differences.

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RESULTS

This chapter discusses the presentation of results in accordance with the sequence of the statement of the problem.

Competence level of the students' pre-test scores in reading skills such as spelling, vocabulary, fluency, and comprehension

This section presents the results to the first statement of the problem that examines the competence level of the students' pre-test scores in reading skills such as spelling, vocabulary, fluency, and comprehension Table 1 presents the results of the pre-test performance of the struggling Grade 2 students.

Table 1
Pre-Test Performance of Grade 2 Students in Spelling

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Spelling	30	1.17	23.4	Low Mastery

As shown in table 1, the Grade 2 struggling students in the pre-test spelling as a reading skill has a mean of 1.17 which has a class proficiency of 23.4. Based on the DepEd Mastery Level Classification, the competency level of the students is in low mastery.

This makes it evident that Grade 2 students need extra help with their spelling in order to get better at it and stay motivated. This could mean reteaching, using a different approach for intervention, or giving students more chances to practice.

Table 2
Pre-Test Performance of Grade 2 Students in Vocabulary

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Vocabulary	30	2.63	52.6	Near Mastery

As shown in table 2, the Grade 2 struggling students in the pre-test vocabulary as a reading skill has a mean of 2.63 which has a class proficiency of 52.6. Based on the DepEd Mastery Level Classification, the competency level of the students is in near mastery.

Based on the result, the students are approaching proficiency in vocabulary, showing a solid foundation but still needing improvement to reach full mastery. To support their progress, the learners must build on their current knowledge by introducing more complex vocabulary and reinforcing their understanding through targeted strategies.

Table 3
Pre-Test Performance of Grade 2 Students in Fluency

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Fluency	30	2.83	28.3	Low Mastery

As shown in table 3, the Grade 2 struggling students in the pre-test fluency as a reading skill has a mean of 2.83 which has a class proficiency of 28.3. Based on the DepEd Mastery Level Classification, the competency level of the students is in low mastery.

This indicates that the students are struggling significantly with reading fluency and are far from meeting the expected proficiency level. To support these students, targeted interventions such as increased practice with reading aloud, fluency-building exercises, and guided reading sessions would be crucial. Additionally, incorporating engaging activities could provide a fun and motivating way for students to practice their skills, making the learning process more interactive and rewarding.

Table 4
Pre-Test Performance of Grade 2 Students in Comprehension

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Comprehension	30	2.83	28.3	Low Mastery

As shown in table 4, the Grade 2 struggling students in the pre-test comprehension as a reading skill has a mean of 2.83 which has a class proficiency of 28.3. Based on the DepEd Mastery Level Classification, the competency level of the students is in low mastery.

This indicates that the students are significantly struggling with reading comprehension and are far from achieving the expected proficiency. It is essential to provide focused interventions such as comprehension activities and discussions to help them develop

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their understanding of texts. Additionally, incorporating interactive and engaging methods can create a more dynamic learning environment, making it easier for the students to build their comprehension skills.

Competence level of the students' post-test scores in reading skills such as spelling, vocabulary, fluency, and comprehension

This section presents the results to the second statement of the problem that examines the competence level of the students' post-test scores in reading skills such as spelling, vocabulary, fluency, and comprehension Table 2 presents the results of the post-test performance of the struggling Grade 2 students.

Table 5
Post-Test Performance of Grade 2 Students in Spelling

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Spelling	30	2.63	52.6	Near Mastery

As shown in table 5, the reading skills of the Grade 2 students in the post-test spelling has a mean of 2.63 which has a class proficiency of 52.6. Based on the DepEd Mastery Level Classification, the competency level of the students in post-test is near mastery.

This suggests that the students made progress in their spelling skills due to targeted intervention and practice. While they have not yet reached full mastery, their advancement to the Near Mastery level indicates that the gamification teaching approach that was implemented was effective in improving their spelling abilities. Continuing to build on this progress will be key in helping them reach full proficiency.

Table 6
Post-Test Performance of Grade 2 Students in Vocabulary

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Vocabulary	30	4.07	81.4	Mastery

As shown in table 6, the reading skills of the Grade 2 students in the post-test vocabulary has a mean of 4.07 which has a class proficiency of 81.4. Based on the DepEd Mastery Level Classification, the competency level of the students in post-test is mastery.

This indicates that the students have achieved a high level of proficiency in vocabulary. This significant improvement suggests that the students benefited from effective gamification teaching approach used in the intervention. It reflects their strong understanding of vocabulary, demonstrating that they have developed the skills necessary to perform well in this area.

Table 7
Post-Test Performance of Grade 2 Students in Fluency

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Fluency	30	6.57	65.7	Near Mastery

As shown in table 7, the reading skills of the Grade 2 students in the post-test fluency has a mean of 6.57 which has a class proficiency of 65.7. Based on the DepEd Mastery Level Classification, the competency level of the students in post-test is near mastery.

This suggests that the students have shown notable improvement in fluency, moving closer to meeting the expected proficiency. While they have not yet achieved full mastery, the progress made indicates that the students are gaining more confidence and fluency in their reading skills. With continued practice and refinement of fluency strategies, they are on the right path to achieving full mastery in this area.

Table 8
Post-Test Performance of Grade 2 Students in Comprehension

Reading Skill	No. of Students	Mean	Class Proficiency	Competency Level
Comprehension	30	6.27	62.7	Near Mastery

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As shown in table 8, the reading skills of the Grade 2 students in the post-test comprehension has a mean of 6.27 which has a class proficiency of 62.7. Based on the DepEd Mastery Level Classification, the competency level of the students in post-test is near mastery.

This shows that the students have made significant strides in their comprehension skills, moving closer to achieving full proficiency. While they have not yet attained mastery, the progress from the pre-test highlights their improved ability to understand and interpret texts. The Near Mastery level signifies their developing competence in comprehension.

Null Hypothesis

Table 9 to Table 12 present the test of difference of means in Pre-test and Post-test performances of the reading skills such as spelling, vocabulary, fluency, and comprehension of the Grade 2 students.

Table 9
Test of Difference of means in Pre-test and Post-test Performances in Spelling of the Grade 2 Students

	Mean	p-value	t-value	Remarks
Pre-test	1.17	0.000	-9.805	Significant
Post-test	2.63			

Table 9 presents the test of the difference in means between the pre-test and post-test performances of the Grade 2 students in spelling. The pre-test has a mean of 1.17, while the post-test mean is 2.63. The p-value of 0.000 and the t-value of -9.805 indicate that there is a statistically significant difference between the pre-test and post-test scores, leading to the rejection of the null hypothesis and the acceptance of the alternative hypothesis. This suggests that the students' performance in spelling improved significantly after the implementation of the intervention, confirming the effectiveness of the teaching approach used.

Table 10
Test of Difference of means in Pre-test and Post-test Performances in Vocabulary of the Grade 2 Students

	Mean	p-value	t-value	Remarks
Pre-test	2.63	0.000	-10.785	Significant
Post-test	4.07			

Table 10 shows the comparison of means between the pre-test and post-test performances of Grade 2 students in vocabulary. The pre-test mean was 2.63, while the post-test mean increased to 4.07. With a p-value of 0.000 and a t-value of -10.785, the results indicate a significant difference between the two tests, leading to the rejection of the null hypothesis and the acceptance of the alternative hypothesis. This demonstrates that the students' vocabulary skills significantly improved following the intervention, confirming the positive impact of the teaching approach implemented.

Table 11
Test of Difference of means in Pre-test and Post-test Performances in Fluency of the Grade 2 Students

	Mean	p-value	t-value	Remarks
Pre-test	2.83	0.000	-15.594	Significant
Post-test	6.57			

Table 11 presents the comparison of means between the pre-test and post-test performances of Grade 2 students in fluency. The pre-test has a mean of 2.83, while the post-test mean increased to 6.57. The p-value of 0.000 and the t-value of -15.594 indicate a significant difference between the two sets of scores, leading to the rejection of the null hypothesis and supporting the alternative hypothesis. This signifies that the students' fluency in reading has improved considerably as a result of the intervention, confirming the effectiveness of the strategies used.

Table 12
Test of Difference of means in Pre-test and Post-test Performances in Comprehension of the Grade 2 Students

	Mean	p-value	t-value	Remarks
Pre-test	2.83	0.000	-13.370	Significant
Post-test	6.27			

Table 12 displays the comparison of means between the pre-test and post-test performances of Grade 2 students in comprehension. The pre-test had a mean of 2.83, while the post-test mean increased to 6.27. The p-value of 0.000 and the t-value of -13.370 reveal a statistically significant difference between the two scores, leading to the rejection of the null hypothesis and the acceptance of the

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alternative hypothesis. This indicates a marked improvement in the students' comprehension skills after the intervention, highlighting the success of the teaching approach applied.

CONCLUSION

In view of the foregoing findings, the researcher concluded that the gamification teaching approach in teaching reading resulted in the respondents achieving a near mastery competency level. There is a significant difference in pre- test and post- test scores which means, the students have improved their reading skills. The performance level of respondents in pre-test and post-test using the gamification teaching approach improved the reading skills of students at Apokon Elementary School in terms of spelling, vocabulary, fluency, and comprehension achieving a near mastery competency level. The manifestation of the pre-test and post-test increase is a good sign of developing reading skills. This implied that if there was an intervention to be employed there is always good response in their reading skills.

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