



# Technology-Aided Phonics Reading Strategy on Learners' Performance in English

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## Abstract

Reading is a foundational skill crucial to learner's academic success, especially in the early years of education. However, many Grade 1 learners struggle with basic literacy skills particularly in identifying letter sounds, blending, and segmenting. These difficulties are often worsened by traditional methods that lack engagement. Limited availability of interactive and stimulating resources further contributes to low reading performance. To address this gap, the study investigated the effectiveness of a technology-aided phonics reading strategy in enhancing Grade 1 learners' English performance. Specifically, it aimed to determine the learners' pretest and posttest scores in both control and experimental groups, examine their attitudes toward English, and assess the impact of the intervention. In Impalutao Integrated School, it involved sixty-four (64) learners. A quasi-research design was used to collect and analyze data. Statistical methods like frequency, percentage, mean, standard deviation Paired Sample T-test and Regression Analysis were applied for data analysis. The findings showed that learners who received technology the intervention made significant progress in reading, moving from a Satisfactory to an Outstanding performance level. In contrast, the control group showed only minimal improvement. Furthermore, the experimental group developed a more positive attitude toward learning English. The study concludes that integrating technology into phonics instruction is an effective approach in improving early literacy outcomes. It is recommended that teachers incorporate interactive digital tools in reading lessons and that schools provide necessary training and resources to successfully implement this intervention in the classroom.

**Keywords:** Technology-aided Phonics Reading Strategy, performance in English

## Introduction

Reading is one of the most essential skills that young learners must develop, as it lays the foundation for lifelong learning and academic success. It is through reading that children begin to explore new ideas, understand the world around them, and communicate effectively. In the early years of schooling, particularly in Grade 1, children are expected to begin their journey into reading with the help of strategies that match their developmental needs and learning styles. This stage is considered a critical period, as it is when learners build the basic literacy skills needed for future academic progress. However, despite the importance of early reading instruction, many young learners continue to face difficulties in mastering the fundamental components of reading. Challenges such as poor phonemic awareness, limited vocabulary, and difficulty in decoding words often hinder their ability to read fluently and with comprehension. These issues are further compounded by a lack of access to quality reading resources and insufficient reading



support at home that may not cater to diverse learners' needs. In many classrooms, traditional methods of teaching reading may fall short in capturing the attention and interest of young learners, especially in the digital age, where children are increasingly exposed to multimedia content outside of school. As a result, learners may become disengaged or unmotivated, leading to gaps in reading development that can persist over time if not addressed effectively. Therefore, there is a growing need to adopt innovative and inclusive reading strategies that not only address these challenges but also enhance learners' interest and confidence in reading. The integration of technology-aided phonics reading strategies offers significant potential to address reading challenges among learners. Through digital applications, interactive games, and multimedia resources, students can practice and refine their phonics skills in an engaging, personalized, and self-paced manner.

Acknowledging the limited studies on the use of technology-aided phonics reading strategy to improve the performance of learners in English, especially locally, the present study deems it necessary to assess the effectiveness of the focused intervention. With this, the present study is set forth to investigate the effectiveness of technology-aided phonics reading strategy as an intervention to improve the reading performance in letter sound, blending, and segmenting letter sound of Grade 1 Learners of Impalutao Integrated School in English. The researcher, who is currently an Elementary Teacher in Impalutao Integrated School, has found that most of the Grade 1 Learners had a low reading performance in the Literacy Level Report for the School Year 2023-2024, specifically in areas involving sounds, Consonant Vowel Consonant (CVC), phrases, sentences, and paragraphs. Further, most of the Grade 1 Learners are categorized as those who need intervention. This, together with the aforementioned research gap, has prompted the researcher to conduct this study. This research is reckoned to be of significance to students, teachers, school administrations, the Department of Education, and even future researchers.

## Objectives

The main objective of the study was to determine the effect of the Technology-Aided Phonics Reading Strategy on learners' performance in English at Impalutao Integrated School during the 2023-2024 School Year. Specifically, this aimed to find the learners level of performance in English pretest and post-test of the control and experimental group; assess the learners' attitude towards English; determine the significant difference in the learners' performance in English pretest and post-test of the control and experimental group; determine the effect of technology-aided phonics reading strategy on learners' performance in English.

## Statement of the Problem

The study aimed to determine the effect of Technology-Aided Phonics Reading Strategy on Learners' Performance in English at Impalutao Integrated School during the School Year 2023-2024. Specifically, it sought to answer the following questions:

1. What is the learners level of performance in English pretest and posttest of control and experimental group?
2. What is the learners' attitude towards English?
3. Is there a significant difference in the learners' performance in English pretest of the control and experimental group?
4. Is there a significant difference in the learners' performance in English post-test of the control and experimental group?



5. Is there a significant effect of Technology-Aided Phonics Reading Strategy on learners' performance in English?
6. What are the implications of the findings in teaching English to Grade 1 learners?

## Hypothesis

Based on the specific problems stated except Problems 3,4 and 5 , the following null hypotheses were tested at 0.05 level of significance.

**Ho1** : There is no significant difference in the learners' performance in English pretest of the control and experimental group.

**Ho2** : There is no significant difference in the learners' performance in English post-test of the control and experimental group.

**Ho3** : There is no significant effect of Technology-Aided Phonics Reading Strategy on Learner's Performance in English.

## Literature

This part presents the literature and related studies taken from books, articles, journals, periodicals, and other sources that have relevance to the present study. It includes concepts on Technology-Aided Phonics Reading Strategy in terms of digital tools and resources, interactive presentation, and video lessons. Furthermore, learners' performance and attitude towards English are also included.

### *Technology-Aided Phonics Reading Strategy*

The instruction of phonics, an essential component in early literacy, has traditionally relied on direct instruction from teachers, utilizing resources such as books, flashcards, and oral repetition. However, with the integration of technology in education, phonics instruction has experienced a significant transformation. The use of technology-aided phonics instruction not only improves accessibility but also enhances student engagement, retention, and performance in early literacy skills. The application of interactive tools for phonics teaching has been extensively studied, showing that technology promotes student engagement. For example, multisensory interactive digital texts have been shown to improve decoding and word reading skills in bilingual learners through engaging and adaptive features (Gonzalez-Frey & Ehri, 2022). Technology enables individualized instruction, allowing students to learn at their own pace, revisit lessons as needed, or advance when ready. This flexibility is particularly beneficial for addressing diverse learning needs and challenges (Schmid et al., 2023). This ability to cater to individual learning needs is particularly beneficial for students who may face learning challenges or those who need additional time to master certain skills. With technology, educators can tailor their instructional methods to meet the needs of each learner, ensuring that no child is left behind, which contrasts with the one-size-fits-all approach often seen in traditional classroom settings (Barrett, 2024).

### *Performance in English*

Technology-aided instruction has had a profound impact on students' performance in English, particularly in areas such as reading comprehension, vocabulary acquisition, and written expression. Numerous studies have found that digital tools improve language acquisition by making learning more interactive, personalized, and accessible. Mize, Park, and Martin (2022) observed that multimedia platforms combining text, audio, and visuals significantly enhance reading comprehension and other language skills. Their research showed that students who used multimedia tools were better able to grasp complex linguistic structures and improve their overall literacy performance. Studies have demonstrated that



technology-aided lessons promote active learning and foster deeper student engagement with the content. For instance, technology-supported active learning environments encourage students to actively participate in discussions, group work, and reflective practices, which enhance cognitive skills and motivation (Santos et al., 2021). Lozano and Téllez (2023) emphasized the importance of personalized learning environments provided by technology, noting that students who engage with content at their own pace are more likely to retain information and perform better on assessments.

### ***Attitude Towards English***

The use of technology in English language instruction has not only improved performance but also positively influenced students' attitudes toward learning the language. Research by Bora (2023) indicated that interactive digital resources, such as videos and language learning apps, increase students' motivation and interest in English. The engaging nature of these tools makes learning more enjoyable, leading to a more positive attitude towards English as a subject. When students are engaged and motivated, they are more likely to persist in their studies and develop a deeper appreciation for the language. Studies indicate that students who participated in technology-driven phonics instruction tend to develop greater confidence in understanding English concepts, which plays a vital role in language learning. Confidence is pivotal in encouraging students to take risks and actively practice speaking, writing, and reading in English. Studies have highlighted how gamified elements of digital learning tools—such as challenges, rewards, and progress tracking—enhance student motivation and self-assurance. For instance, gamification strategies have been found to significantly boost engagement and intrinsic motivation, fostering a more interactive and enjoyable learning environment (Kim et.al., 2023). Research indicates that online language learning platforms play a key role in fostering greater student engagement and interest in English classes. For instance, learners engaging with platforms that include interactive features such as quizzes and instant feedback report higher levels of enjoyment and engagement in their studies. This enjoyment is critical, as it directly correlates with a student's willingness to invest time and effort in their education. Studies have also highlighted how gamified elements, personalized feedback, and real-time progress tracking in digital tools foster motivation and active participation among language learners (Huang et al., 2023).

### **Methods**

The study employed a quasi-experimental research method to test causal relationships. In particular, the experimental research method was used. This method is characterized by one group or groups under observation following a treatment that is assumed to cause change (Sirisilla, 2023). It is an appropriate method for the present study as the study aims to apply and assess the effectiveness of technology-aided phonics reading strategy in enhancing the performance in English among Grade 1 Learners in Impalutao Integrated School, Impasugong I District. The experimental group was exposed to a technology-aided phonics reading strategy, utilizing digital tools and interactive PowerPoint designed to enhance their phonemic awareness and reading skills. In contrast, the control group would receive traditional reading instructions through conventional methods, including teacher-led phonics lessons, printed materials, and charts.

### **Results and Discussion**

This presents the results of the data analyzed in tabular form. Each table follows an interpretation of the results along with its implications and the researcher's insights. Related studies were also cited to support the statistical analysis of the data gathered in the study.

## Tables and Figures

**Table 1: Distribution of Learners' Level of Performance in English Pretest of Control and Experimental Group**

| Level of Performance      | Control   |         | Experimental |         |
|---------------------------|-----------|---------|--------------|---------|
|                           | Frequency | Percent | Frequency    | Percent |
| Outstanding (82-100)      | 0         | 0       | 0            | 0       |
| Very Satisfactory (62-81) | 0         | 0       | 0            | 0       |
| Satisfactory (42-61)      | 8         | 25      | 17           | 53.12   |
| Fair (22-41)              | 23        | 71.87   | 15           | 46.87   |
| Poor (0-21)               | 1         | 3.13    | 0            | 0       |
| Total                     | 32        | 100     | 32           | 100     |
| Mean                      | 6.38      |         | 17.25        |         |
| SD                        | 0.34      |         | 0.30         |         |

### Legend:

(24-30)82-100% Outstanding (7-12) 22-41% Fair  
 (19-24) 62-81% Very Satisfactory (0-6) 0-21% Poor  
 (13-18)42-61% Satisfactory

Table 1 presents the distribution of learners' academic performance in the pretest for both the control and experimental groups. In the control group, the highest frequency of 23 (71.87%) scoring between 22-41% in the Fair level of performance. While the experimental group had the highest frequency in the Satisfactory level of performance with 17 out of 32 learners (53.12%) scoring between 42-61%. The distribution highlights a clear difference in academic performance between the two groups prior to any intervention. The experimental group's higher proportion of Satisfactory scores suggests a stronger initial understanding of the content compared to the control group, which had a majority of students scoring in the Fair category. This disparity establishes an important baseline for evaluating the effects of the teaching methods applied to each group in subsequent assessments. The distribution highlights a clear difference in academic performance between the two groups prior to any intervention. The experimental group's higher proportion of **Satisfactory** scores suggests a stronger initial understanding of the content compared to the control group, which had a majority of students scoring in the **Fair** category. This disparity establishes an important baseline for evaluating the effects of the teaching methods applied to each group in subsequent assessments.

**Table 2: Distribution of Learners' Level of Performance in English Posttest of Control and Experimental Group**

| Level of Performance      | Control   |         | Experimental |         |
|---------------------------|-----------|---------|--------------|---------|
|                           | Frequency | Percent | Frequency    | Percent |
| Outstanding (82-100)      | 0         | 0       | 29           | 90.62   |
| Very Satisfactory (62-81) | 0         | 0       | 3            | 9.38    |
| Satisfactory (42-61)      | 10        | 31.25   | 0            | 0       |
| Fair (22-41)              | 22        | 68.75   | 0            | 0       |
| Poor (0-21)               | 0         | 0       | 0            | 0       |



|              |              |            |              |            |
|--------------|--------------|------------|--------------|------------|
| <b>Total</b> | <b>32</b>    | <b>100</b> | <b>32</b>    | <b>100</b> |
| Mean         | <b>13.48</b> |            | <b>27.65</b> |            |
| SD           | <b>0.31</b>  |            | <b>0.33</b>  |            |

**Legend:**

(24-30)82-100% Outstanding (7-12) 22-41% Fair  
 (19-24) 62-81% Very Satisfactory (0-6) 0-21% Poor  
 (13-18)42-61% Satisfactory

Table 2 presents the distribution of respondents' academic performance in the post-test for both the control and experimental groups. The control group had a lowest frequency with 10 learners ( 31.25%) scoring in the Satisfactory range (42-61%). This means that more than two-thirds of the learners in this group scored below this level, the fact that only a small percentage of learners in the control group reached the Satisfactory range indicates that their performance remained relatively low, showing little improvement from the pretest. In the experimental group, the lowest frequency was in the Very Satisfactory category, where 3 out of 32 learners ( 9.38%) scored between 62-81%. This means that only a small number of learners lower than the Outstanding range, which includes scores from 82-100%. The fact that most of the learners in the experimental group performed at a high level , reaching the Outstanding category, shows that the intervention was effective in improving their performance. Since only 3 learners scored in the Very Satisfactory, it indicates that nearly all of the learners were able to achieve great results after the intervention . This is a strong improvement , especially compared to the control group, which had a lot of learners in the Fair and Satisfactory categories.

**Table 3:Summary of the Learners’ Level of Performance in English Pretest and Posttest of the Experimental and Control Groups**

| Level of Performance | Control     |             |                                | Experimental |             |                                |
|----------------------|-------------|-------------|--------------------------------|--------------|-------------|--------------------------------|
|                      | Mean        | SD          | Description/<br>Interpretation | Mean         | SD          | Description/<br>Interpretation |
| Pretest              | 6.38        | 0.34        | Poor                           | 17.25        | 0.30        | Satisfactory                   |
| Post-test            | 13.48       | 0.31        | Satisfactory                   | 27.65        | 0.33        | Outstanding                    |
| <b>Overall</b>       | <b>9.93</b> | <b>0.33</b> | <b>Fair</b>                    | <b>22.45</b> | <b>0.32</b> | <b>Very Satisfactory</b>       |

**Legend:**


(24-30)82-100% Outstanding (7-12) 22-41% Fair  
 (19-24) 62-81% Very Satisfactory (0-6) 0-21% Poor  
 (13-18)42-61% Satisfactory

Table 3 presents the summary of the Learners’ Academic Performance in the English pretest and post-test of the experimental and control groups. In the control group, the performance levels were measured at pretest and posttest. In the pretest, the mean score is 6.38 (SD=0.34), indicating a “Poor” level of performance. This suggests that the learners initially struggled with the skills or knowledge being assessed, showing a clear gap in their understanding or ability. In the posttest, the mean score improved significantly to 13.43 (SD=0.31), which is categorized as Satisfactory. This improvement suggests that the learners made progress and could apply the content effectively by the end of the study. The overall mean was 9.93 (SD=0.33), placing the learners at “Fair” performance level, reflecting some improvement but not yet at

an optimal level. In the experimental group, the mean score was 17.25 (SD=0.30), categorized as Satisfactory, Indicating that the learners had a decent understanding of the material even before the intervention. After the implementation of the intervention, the posttest mean score significantly increased to 27.65 (0.33), reaching an Outstanding level. This dramatic improvement suggests that the intervention was highly effective in enhancing the learners' reading skills. The overall mean score of 22.45 (SD=0.32) was categorized as "Very Satisfactory," reflecting the learners' substantial progress through technology-based learning activities. This notable increase in performance highlights the positive impact of incorporating interactive and engaging digital tools into reading instruction. The learners showed increased motivation and active participation during the intervention which may have contributed to their improved outcomes. These digital tools not only captured the learners attention but also provided immediate feedback and multi sensory learning experiences that are beneficial for visual and auditory learners , helping them grasp phonics concepts more effectively. The results support the integration of the intervention as a valuable strategy for improving literacy among early grade learners.

**Table 4; Distribution of Learners' Attitude Towards English of Experimental Group**

| Indicators                                               | Mean        | SD          | Description |
|----------------------------------------------------------|-------------|-------------|-------------|
| I love to study the subject.                             | 1.84        | 0.37        | Yes         |
| This subject is very interesting.                        | 1.93        | 0.25        | Yes         |
| I really enjoy this subject.                             | 1.97        | 0.18        | Yes         |
| I would rather study this subject than play.             | 1.78        | 0.42        | Yes         |
| This subject is very easy.                               | 1.87        | 0.34        | Yes         |
| This subject teaches me to be accurate.                  | 1.75        | 0.44        | Yes         |
| This subject always comes first than others.             | 1.78        | 0.42        | Yes         |
| This subject is a good subject.                          | 1.78        | 0.42        | Yes         |
| This subject is not boring.                              | 1.91        | 0.30        | Yes         |
| No matter what happens, this subject always comes first. | 1.69        | 0.47        | Yes         |
| <b>Overall</b>                                           | <b>1.83</b> | <b>0.36</b> | <b>Yes</b>  |

Legend: 1.51-2.00 Yes / Positive 


1.00-1.50 No / Negative 

Table 4 presents the distribution of learners' attitudes towards English in the experimental group, measured across various indicators. The overall mean score of 1.83 (SD=0.36) indicates that the learners generally have a positive attitude toward English., with all indicators rated as "Yes". This suggest that learners find the subject enjoyable, interesting, and valuable. The use of technology-aided phonics reading strategy appears to have played a significant role in fostering this positive outlook by making lessons more engaging and interactive. Learners seem to appreciate the way the approach supports their learning, helping them find English easier and more enjoyable to study. The high mean score for enjoyment indicates that the technology-aided phonics reading strategy positively impacts learners' attitudes towards English. When learners enjoy a subject, they are more likely to stay motivated and participate actively, which supports better learning outcomes. This also highlights the importance of creating an engaging and interactive classroom environment, especially for young learners. Studies have shown that students who enjoy their learning experience are likelier to retain information and perform better academically (Smith

& Lee, 2021). A positive attitude toward English early in life can build a strong foundation for future literacy skills and confidence in language use. This finding emphasizes the value of using innovative teaching strategies to make learning enjoyable and effective. This indicates a high level of consistency in responses among the learners, reinforcing the conclusion that enjoyment of the subject is widely shared.

**Table 5: Distribution of Learners' Attitude Towards English of Control Group**



| Indicators                                                                                                                                                                                                                                       | Mean        | SD          | Description |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| I love to study the subject.                                                                                                                                                                                                                     | 1.69        | 0.47        | Yes         |
| This subject is very interesting.                                                                                                                                                                                                                | 1.56        | 0.50        | Yes         |
| I really enjoy this subject.                                                                                                                                                                                                                     | 1.57        | 0.51        | Yes         |
| I would rather study this subject than playing.                                                                                                                                                                                                  | 1.57        | 0.51        | Yes         |
| This subject is very easy.                                                                                                                                                                                                                       | 1.81        | 0.40        | Yes         |
| This subject teaches me to be accurate.                                                                                                                                                                                                          | 1.59        | 0.50        | Yes         |
| This subject always comes first than others.                                                                                                                                                                                                     | 1.69        | 0.47        | Yes         |
| This subject is a good subject.                                                                                                                                                                                                                  | 1.57        | 0.50        | Yes         |
| This subject is not boring.                                                                                                                                                                                                                      | 1.38        | 0.49        | No          |
| No matter what happens, this subject always comes first.                                                                                                                                                                                         | 1.56        | 0.50        | Yes         |
| <b>Overall</b>                                                                                                                                                                                                                                   | <b>1.60</b> | <b>0.49</b> | <b>Yes</b>  |
| <i>Legend: 1.51-2.00 Yes / Positive</i>  <i>1.00-1.50 No / Negative</i>  |             |             |             |

Table 5 presents the distribution of learners' attitudes towards English for the control group based on various indicators. The overall mean score is 1.60 (SD= 0.49), indicating a generally positive attitude towards English. However, this average is slightly lower than that of the experimental group, suggesting that although the learners in the control group have a positive perception of English, their enthusiasm is not as strong. These findings emphasize the need for more engaging and innovative teaching strategies to help improve learners' motivation. Even though learners hold a positive attitude towards English, they may require more stimulating and interactive lessons to maintain their interest and motivation. A positive attitude remains crucial, even with slight variations as it can influence motivation and learning outcomes (Davis & Johnson, 2020). It suggests a differing levels of interest among students. This is the only indicator with a lowest score, highlighting that a notable number of learners may struggle with staying engaged. This suggests that while many learners find English easy, the subject may lack the excitement needed to keep them motivated. It indicates that not all learners equally engaged, which calls for more interactive and stimulating teaching methods. Introducing activities that make learning fun or incorporating technology could help capture learners' attention and make English more enjoyable.

**Table 6: Summary of the Learners' Attitude Towards English of Control and Experimental Group**



| Groups                                                                                                                                                                                                                                                   | Mean        | SD          | Interpretation  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----------------|
| Experimental Group                                                                                                                                                                                                                                       | 1.83        | 0.36        | Positive        |
| Control Group                                                                                                                                                                                                                                            | 1.60        | 0.49        | Positive        |
| <b>Overall</b>                                                                                                                                                                                                                                           | <b>1.72</b> | <b>0.43</b> | <b>Positive</b> |
| <i>Legend: 1.51-2.00</i>  <i>Positive</i> <i>1.00-1.50</i>  <i>No / Negative</i> |             |             |                 |

Table 6 presents the summary of learners' attitudes towards English in both the control and experimental groups. The experimental group achieved a mean score of 1.83 (SD=0.36) indicating a positive attitude toward the subject. On the other hand, the control group had a lower mean score of 1.60 (SD=0.49) also reflecting a positive attitude but with more variability in responses. This comparison reveals key insights into how different instructional methods may influence learners' attitudes. These results suggest that incorporating more dynamic learner-centered approaches such as technology-aided phonics reading strategy could have a significant effect on improving not only learner performance but also their long-term engagement and enthusiasm for the subject. Given the positive results in the experimental group, it would be worthwhile to further explore how technology can be integrated into English instruction to create a more stimulating and motivating environment for all learners. By doing so, learners develop a deeper, more sustained interest in English that will likely enhance their learning experience and academic success.

**Table 7: Test of Difference in the Learners' Academic Performance in English of the Pretest of the Control and Experimental Group**

| Groups       | Mean  | SD   | t-value | p-value | Interpretation  |
|--------------|-------|------|---------|---------|-----------------|
| Control      | 6.38  | 3.37 | -0.490  | 0.140   | Not Significant |
| Experimental | 17.25 | 1.97 | 0.289** | 0.03    | Significant     |

**Legend:** NS=not significant at  $\alpha = 0.05$ , if  $p\text{-value} > 0.05$ ; \*\* S= significant if  $p\text{-value} < 0.05$

Table 7 depicts the difference in learners' academic performance in the English pretest between the control and experimental groups. The control group obtained a mean pretest score of 6.38 (SD=3.37), while the experimental group achieved a significantly higher mean pretest score of 17.25 (SD=1.97). The t-value for the control group is -0.490, with a p-value of 0.140, indicating that the difference in pretest scores is not statistically significant (NS) since the p-value exceeds the alpha level of 0.05. On the other hand, the experimental group has a t-value of 0.289 and a p-value of 0.03, which is less than 0.05, demonstrating a statistically significant difference (S) in pretest scores. This suggests that when teaching strategies are aligned with learners' needs, students are more likely to develop a stronger academic foundation at the early stages of learning. These findings reinforce the idea that thoughtful, learner-centered approaches can make a meaningful impact right from the start. The significant difference in pretest scores highlights the potential impact of the teaching interventions applied to the experimental group. The higher mean score in the experimental group suggests that students in this group had a stronger foundation in English, possibly due to more effective instructional strategies. Additionally, the experimental group indicates greater consistency in their performance compared to the control group, suggests more variation in the learners' abilities. This indicates that the intervention not only improved the overall performance but also contributed to reducing disparities among students.

**Table 8: Difference in the Learners' Performance in English Posttest of the Control and Experimental Group**

| Groups       | Mean  | SD   | t-value | p-value | Interpretation  |
|--------------|-------|------|---------|---------|-----------------|
| Control      | 13.48 | 4.95 | -0.700  | 0.376   | Not Significant |
| Experimental | 27.65 | 5.54 | 0.576** | 0.002   | Significant     |

**Legend:** NS=not significant at  $\alpha = 0.05$ , if  $p\text{-value} > 0.05$ ; \*\* S= significant if  $p\text{-value} < 0.05$

Table 8 depicts the difference in learners' academic performance in English between the posttest scores of the control and experimental groups. The control group achieved a mean posttest score of 13.48 (SD=4.95) while the experimental group obtained a significantly higher mean post-test score of 27.65 (SD=5.54). The t-value for the control group is -0.700, with a p-value of 0.376, indicating that the difference in posttest scores is not statistically significant (NS) as the p-value exceeds the alpha level of 0.05. In contrast, the t-value for the experimental group is 0.576 with a p-value of 0.002, demonstrating a statistically significant difference (S) in post-test scores.

The significant improvement in post-test scores for the experimental group underscores the effectiveness of the intervention applied. The substantial increase in the mean score, coupled with statistical significance, suggests that learners in the experimental group benefited more from the intervention, both in terms of academic achievement and consistent results, as shown by the relatively close standard deviation. This indicates that the teaching strategies used in the experimental group were more effective in elevating students' performance than the control group, whose improvement remained statistically insignificant. The significant result shows that the learners benefited from the interactive and engaging intervention of technology-aided phonics reading strategy, which likely helped strengthen their phonemic awareness, word recognition, and overall reading comprehension. The digital tools used in the intervention such as videos, animated presentations and audio supported phonics activities provided consistent scaffolding that guided learners through the reading process step-by-step. The multimedia elements of the intervention catered to the visual and auditory learning styles of Grade 1 learners, making abstract phonics concepts more concrete and easier to understand. The interactive format also allowed for immediate feedback, repetition and reinforcement which are essential for early readers. The variety of the digital materials kept learners engaged and motivated, creating a more dynamic and enjoyable learning experience compared to traditional classroom instruction.

**Table 9: Regression Analysis on the Effect on Technology-Aided Phonics Reading Strategy on Learners' Academic Performance**

| Group              | Academic Performance |           | T-value | P-value | Interpretation |
|--------------------|----------------------|-----------|---------|---------|----------------|
|                    | Pre-test             | Post-test |         |         |                |
| Experimental Group | 17.25                | 27.65     | .254**  | 0.01    | Significant    |

**Legend:** NS=not significant at  $\alpha = 0.05$ , if p-value > 0.05; \*\* S= significant if p-value < 0.05

Table 9 shows the effect of a technology-aided phonics reading strategy on learners' academic performance, specifically comparing pretest and post-test results in the experimental group. The mean academic performance in the pretest was 17.25, which increased significantly to 27.65 in the post-test. The T-value of .254 with a P-value of 0.01 indicates a statistically significant improvement in academic performance after the intervention. This suggests that technology-aided phonics instruction had a positive and measurable impact on learners' academic performance in English.

The observed improvement in the experimental group's performance strongly supports the rejection of the null hypothesis Ho3, which posited that there would be no significant effect of the technology-aided phonics reading strategy on learners' performance. The significant p-value (0.01) confirms that the intervention led to substantial improvements, highlighting the effectiveness of this strategy in fostering better literacy skills among Grade 1 learners.

Further, the significant improvement in the experimental group's posttest performance serves as

compelling evidence for the efficacy of the intervention . It demonstrates how this approach can be effectively utilized as instructional tool to enhance foundational literacy skills, such as phonemic awareness and reading fluency in young learners. The interactive and engaging nature of the technology used likely contributed to maintaining learners' attention and increasing their participation in the learning process, which in turn resulted in better performance.

It highlights the intervention in developing foundational reading skills among young learners. Grade 1 learners are in the early stages of language and acquisition and literacy development. At this critical period, they require more interactive, engaging and supportive learning experiences. The use of digital tools such as phonics videos, interactive games and audio-visual presentations provides multisensory input that caters to their developmental needs. These tools help learners recognize letter sounds, decode words and improve reading fluency in a way that traditional instruction alone may not fully achieve.

### **Conclusion**

The study concludes that the technology-aided phonics reading strategy significantly enhanced the performance of Grade 1 learners, as seen in the experimental group 's improvement from a Satisfactory to an Outstanding level. Integrating interactive digital tools into early literacy instruction increased both learner engagement and academic outcomes . The strategy also fostered a more positive attitude toward English, encouraging greater enthusiasm and participation . A notable difference was found between the control and experimental groups, with the latter achieving higher scores in both pretest and posttest results. This suggest that the intervention provided a stronger foundation in reading skills. While the control group showed minimal progress, the experimental group demonstrated significant gains in phonemic awareness , decoding and fluency. Overall, the study confirm s that technology-aided phonics reading strategy is an effective tool for foundational reading in enhancing learners' performance in English.

### **Recommendations**

In the light of findings and conclusions of the study, the following recommendations are disclosed:

1. Teachers should consider implementing Technology-Aided Phonics Reading Strategy across Grade 1 English classes to enhance early literacy development and create a more active learning environment that supports phonemic awareness, reading fluency and overall English proficiency leading to better learning outcomes for young learners.
2. Teachers are encouraged to introduce short daily-based drills and sound matching games to help strengthen learner's ability to identify and produce letter sounds. These activities should be integrated early to build a stronger foundation for reading.
3. Teachers should integrate technology-based instructional method to help foster a positive attitude toward the subject, making it more enjoyable and accessible for all learners.
4. School Administrators should encourage teachers to use this technology-aided phonics reading strategy to the development of interactive and engaging classroom environment that utilize technology to keep learners motivated and actively involved in their learning process.
5. School should adapt and implement the booklet of Technology-Aided Phonics Reading Strategy to enhance early grade learners' reading skills.
6. School should conduct hands-on training sessions to help teachers become more comfortable and skilled in using digital tools to improve confidence and ensure consistent use of technology in daily lessons.



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