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# Leveraging Digital Learning Resources to Enhance Reading Comprehension of Grade 1 Learners of Atok Elementary School

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#### Abstract

The erosion of fundamental learning skills among early grade learners in the Philippines necessitates innovative instructional strategies. This pre-experimental study investigated the impact of leveraging digital learning resources on the reading comprehension levels of 15 Grade 1 learners at Atok Elementary School. Employing a one-group pre-test and post-test design, the study assessed learners' reading abilities in Letters/Rhymes and Words/Sentence using the Comprehensive Rapid Literacy Assessment (CRLA) framework before and after a targeted intervention involving 15 researcher-developed and expert-validated digital learning resources aligned with the K-12 curriculum.

Pre-test results indicated that the majority of learners exhibited basic reading recognition skills, primarily at Level 2 ("Moderate Refresher"). However, post-test data revealed a significant improvement, with a substantial number of learners progressing to Level 4 ("Grade Ready") in both reading components. Statistical analysis using the Chi-Square Test for Independence demonstrated a statistically significant difference in reading comprehension levels before and after the intervention for both Letters/Rhymes (X<sup>2</sup> = 16.81, p < 0.001) and Words/Sentence (X<sup>2</sup> = 13.27, p < 0.005), leading to the rejection of the null hypothesis.

Expert evaluators from the School Quality Assurance Team provided valuable feedback, emphasizing the engagement and multisensory nature of the digital resources. Their suggestions for further enhancement, such as increasing interactivity and incorporating more localized content, were noted for future iterations. The findings of this study suggest that strategically leveraging digital learning resources can be an effective approach to significantly enhance reading comprehension among Grade 1 learners. The observed shift towards higher reading proficiency levels underscores the potential of technology-integrated instruction in addressing early literacy challenges and fostering a stronger reading foundation. The study recommends the continued exploration and integration of well-designed digital resources in early literacy programs.

#### Introduction

The evolving landscape of the Philippines Education System caused by different factors and challenges resulted to the erosion of the fundamental learning skills and competency assimilation among early grade level learners.

"K-12 program" is a comprehensive reform of the Philippines' basic education [1]. Through this reform, the Philippines is making efforts to catch up with global standards [2]. Reading comprehension is one of the main competencies to be mastered yet given minimal focus in the K-12 curriculum.



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There are several immediate programs of the Department of Education to address the need to improve the reading abilities of the learners such as the National Learning Camp introduced during the summer of School Year 2022-2023, National Reading Program, intensification of the School Reading program and Intervention, Catch-up Fridays and others. The official implementation of the the new MaTaTaG curriculum aims to address the pressing needs of the Philippine Education.

Reading is the process of looking at written symbols and getting meaning from them. It involves using our eyes to receive written symbols such as letters, punctuation marks, and spaces, and our brain to convert them into words, sentences, and paragraphs that communicate something to us. Reading is one of the four main language skills alongside listening, speaking, and writing. It requires word recognition and comprehension [3].

Reading comprehension should go hand in hand with reading as a whole. One cannot go through successful reading without comprehend of the decoded written symbols.

The importance of understanding the character of effective reading instruction within the primary grades can't be overstated [4].

Reading engagement is also a factor to develop strong reading foundation among grade 1 learners.

The ability to read is very crucial in this generation because industrialization is taking place which is an extremely powerful force in human affairs. With the bulk of information readily available for everyone, it would be unfortunate if an individual cannot partake of human beings' accumulated experiences and achievement if they cannot read. Similarly, the way a man craves for basic necessities in life, man hungers and succumbs to the promise of new worlds, ideas, philosophy and a vast horizon that could be opened through reading. Reading is the ordinary individual's passport to knowledge, his gate pass to worlds beyond imagination [5].

Reading is the true backbone of most learning be it math, science, or even home economics hence, it is immeasurably important. It is expected that as students climb the educational ladder, it is associated with more reading as the subject become denser and more challenging. A study revealed that individuals bring knowledge and skill to their jobs, future studies. Despite the emphasis on the importance of reading, the Philippine Informal Reading Inventory (Phil IRI) Oral Reading result in 2010 shows a diminishing efficiency in reading skills especially in the primary grades [6].

With the new technology at hand, teachers are now challenged to get the attention of the learners inside and outside the four walls of the classroom. One of the remedies is to interweave the available technology at hand and the competency requirement of the grade level to be successful in the teaching learning process.

However, it is observed that high number of learners reaching the seventh-grade level shows significant below average reading skills. This results to the provision of reading remediation activities to these learners.

Providing enough intervention in the lower primary grades will solidify strong reading foundation. With the available assessment tool provided by the Department Education in the lower primary grades it is imperative to gauge reading level and provide enough intervention activities.

Teachers should have new understandings of how to create authentic and constructivist learning contexts that can be used in a range of educational settings [7]

As a universal language which everyone can understand, stories have been passed on from generations to generations as a way to share feelings, wisdom, and values. Now in this digital age, the traditional art of storytelling has found its modern reincarnated version in the form of digital stories. Storytelling is an art



to be honed; and when combined with multimedia, including audio, video, and graphics, it transforms the experience in ways never before imagined [8].

Digital learning resources presentation is very much convenient for both teachers and students. Preparing traditional materials in discussing events in a literary piece is surely a hard thing even for experienced teachers. The amount of time needed to prepare a stage for another story is longer compare with the development of digital learning resources presentations Furthermore, the vast options to be choose from in creating presentation being from selecting characters and to adding some attachments categorized digital learning resources presentations as an efficient material in teaching literature [9].

#### **Statement of the Problem**

Generally, the study aimed to enhance the reading comprehension levels of Grade 1 learners at Atok Elementary School by integrating digital learning resources as an instructional strategy.

Specifically, it sought to address the following research questions:

- 1. What is the level of reading comprehension among Grade 1 learners of Atok Elementary School before and after the integration of digital learning resources?
- 2. Is there a significant difference in the reading comprehension levels of Grade 1 learners before and after the implementation of digital learning resources?
- 3. What are the comments and suggestions of expert evaluators regarding the improvement and enhancement of the digital learning resources used?

#### Hypothesis

There is no significant difference in the level of reading comprehension of Grade 1 learners before and after leveraging digital learning resources.

#### **Theoretical and Conceptual Framework**

Reading comprehension and engagement are two factors for successful reading of learners. One of the challenges to educators in this computer age is the deteriorating engagement of learners to reading thus erodes their reading comprehension.

Guided by the two theories of learning which are (a)Constructivist Learning Theory posits that learners actively construct knowledge and meaning through their experiences. By creating digital stories, Grade 1 learners can actively engage with the text, construct their own interpretations, and connect the story to their personal experiences [10] and Cognitive Load Theory(b) suggests that learners have limited cognitive capacity, and overloading them with information can hinder learning. Digital learning resources can help manage cognitive load by presenting information in a multimodal format that engages multiple senses, making it easier for learners to process and retain information [11].

This study aims to use digital Learning Resources, a technology -based strategy, to improve the reading comprehension and engagement of grade 1 learners of Atok Elementary School.

The study will make use of the Digital Learning Resources developed and enhanced by the researcher approved for implementation by the school Quality Assurance Team. These are audio-visual learning materials that can be used with the aid of the teacher or with minimal supervision from the teacher. These are series of videos and other interactive materials used in the pre-reading and reading activities.

Since most of the learners nowadays had developed the fond of watching and learning form digital platforms, this research is timely to conduct to test the effectiveness of leveraged digital learning resources



in improving reading comprehension of the learners. The end goal of reading is to develop comprehension from the text read.

Garcia [12] of the University of the Philippines Open University states that digital learning resources are "digitally formatted materials included in the context of a course" and can range from digital assets like images and videos to comprehensive courseware.

The materials are in the form of videos, images, and sounds blended to make learning fun realizing the pace of the learner.

Alshaye (2021) [13] proved that digital learning resources can significantly improve critical reading skills. In this study, the researcher will determine the effectiveness of leveraging digital Learning Resources in the reading comprehension of grade 1 learners which will be measured by conducting: (a) an inquiry-based investigation; (b) thorough learning observation; and (c) tracking performance records of the pupils with the help of a flock system.



Figure 1. Research Paradigm

The research paradigm followed the Input-Process-Output (IPO) model, which guided the systematic flow of the study.

This study was guided by an Input–Process–Output (IPO) framework to systematically capture the intervention flow. The Input phase involved the establishment of learners' baseline reading comprehension levels and the development of digital learning resources aligned with reading competencies. These resources were enhanced and finalized following quality assurance evaluation by the School Quality Assurance Team.

The Process phase began with the evaluation and refinement of the digital materials based on expert feedback. Subsequently, the revised resources were implemented as the primary instructional tools for reading. Post-tests were conducted to measure learners' reading gains, with particular focus on decoding, fluency, and comprehension.



The Output phase reflected the measured improvements in reading comprehension and the validation of digital learning resources as an effective pedagogical strategy. This paradigm showcases a cyclical instructional improvement model, integrating content evaluation, learner performance, and standards-based alignment to ensure evidence-driven literacy enhancement.

#### **RESEARCH METHODOLOGY**

This section presents the methods and procedures employed in the conduct of the study. It includes the research design, locale of the study, respondents, research instruments, data gathering procedure, and statistical treatment used to analyze the data.

#### **Research Design**

This study utilized a pre-experimental design, specifically the one-group pre-test and post-test design, to determine the effect of leveraging digital learning resources on the reading comprehension levels of Grade 1 learners. The design enabled the researcher to compare learners' performance before and after the intervention, thereby establishing whether significant improvements occurred as a result of the implemented strategy.

#### Locale of the Study

The study was conducted at Atok Elementary School (AtES), specifically among the Grade 1 class. The school is situated in Purok 2, Atok, Flora, Apayao, and is part of the Flora District under the Schools Division of Apayao, Cordillera Administrative Region (CAR).



#### **Respondents of the Study**

The respondents of the study consisted of a single group of Grade 1 learners from Atok Elementary School. The group comprised 15 pupils, with 5 males and 10 females. These learners were purposively selected to participate in the implementation of digital learning resources aimed at enhancing reading comprehension skills.

In addition to the learner respondents, the study also engaged a panel of expert validators to review and evaluate the digital learning materials. The validators included the School Quality Assurance Team, composed of five members: the school head as chairperson, a curriculum expert (preferably a Master Teacher), and three senior teachers with substantial classroom experience. This quality assurance process was conducted in accordance with DepEd Order No. 43, s. 2010, as updated by DepEd Order No. 82, s. 2024, and aligned with DepEd Order No. 009, s. 2021, which articulates the Department's Quality Policy



Statement. The validators ensured that the developed digital materials adhered to instructional quality standards and were appropriate for the target grade level.

#### **Research Instruments**

To effectively measure and support the improvement of reading comprehension among Grade 1 learners, the researcher employed a set of research instruments, both for data collection and instructional intervention.

Prior to the implementation of the study, parental consent was obtained through formally approved consent forms distributed during a classroom Parents-Teachers Association (PTA) meeting. This ensured ethical compliance and transparency in the participation of the learners.

A pre-test was administered to establish baseline reading comprehension levels. Following the intervention, a post-test was given to assess measurable improvements. Both assessments were evaluated using a rubric-based framework to determine alignment with the Grade 1 reading competencies prescribed by the Department of Education.

To guide the assessment and interpretation of the learners' reading performance, the study adopted the Comprehensive Rapid Literacy Assessment (CRLA) framework. This framework provided clear and structured descriptors for categorizing learners' reading abilities into four levels across two components: Part 1 - Letters/Rhymes and Part 2 - Sentences and Comprehension. These two parts of the assessment provide the reading level of the learners.

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Reading Levels	Part 1-Letters/Rhymes	Part 2 Sentences and
		comprehension
Level 1	0-14-Full Refresher (reads	25% of the passages and
	only words and rhyming	below and cannot answer the
	words)	comprehension question
Level 2	15-20- Moderate Refresher	26%-50% of the passages and
	(words and Rhyming words)	answer 1 comprehension
		question
Level 3	7-16- Light Refresher (can	51%-75% of the passages and
	read words in sentences)	answer 2-3 comprehension
		questions
Level 4	17-20- Grade Ready (can read	76%-100% of the passages
	words in sentences)	and answer 4-5
		comprehension questions

 Table 1. Reading Levels for Part 1 and Part 2 of the Assessment Tool

These descriptors were used during both the pre-test and post-test phases to determine the learners' progress and to classify their reading proficiency. The dual focus on decoding (Part 1) and comprehension (Part 2) provided a holistic view of learners' reading development.

The intervention relied on fifteen (15) digital learning resources, specifically developed and enhanced to support reading skills. These digital materials were aligned with the quarterly reading competencies and structured to provide multisensory, interactive learning experiences. The digital resources included:



- Mga Tunog ng Alpabetong Filipino: Developed learners' ability to produce the correct sounds of letters.
- Ang mga Alpabetong Filipino: Focused on letter recognition in the mother tongue (L1).
- Mga Patinig at Katinig: Targeted isolating consonant and vowel sounds in words.
- Pagpapalit at Pagdaragdag ng mga Tunog sa Pagbuo ng Bagong Salita: Enabled phoneme substitution to form new words.
- Pagbasa ng Filipino Sight Words: Improved decoding and fluency with high-frequency words.

Additional resources aimed to develop syllabication and comprehension skills:

- Mga Nursery Rhymes at Tula: Strengthened rhythmic reading and memorization.
- Mga Salitang may Dalawang/Tatlong Pantig: Developed syllable segmentation skills.
- Pagtukoy sa mga Salitang Magkakatugma: Focused on rhyming skills and phonemic awareness.
- Pagbasa ng Dalawa at Tatlong Salitang Magkakatugma: Reinforced pattern recognition through repetition.
- Pagtukoy sa Unang Tunog (Patinig, Katinig, Semi-vowels): Built phonological awareness for initial sounds.
- Mga Salitang Ginagamit sa Pagtukoy at Paglalarawan: Strengthened functional vocabulary for naming and describing nouns and events.

The culminating resource set was the Digital Marungko Material (Unang Hakbang sa Pagbasa Gamit ang Marungko, Aralin 1–23). Each lesson included stories followed by comprehension questions designed to assess literal understanding, inferencing, and higher-order thinking skills (HOTS). Learners' responses were scored using a structured rubric, where each correct answer reflected a level of reading comprehension mastery.

#### **Data Gathering Procedure**

Prior to the conduct of the study, the researcher sought formal permission from the Schools Division Superintendent, through a written request endorsed by the School Head of Atok Elementary School and the Public Schools District Supervisor of Flora District. A Classroom Parents-Teacher Association (PTA) meeting was convened to inform parents about the nature and scope of the research. Upon securing their understanding and agreement, parental consent forms were distributed and collected from the parents or guardians of the participating learners.

A pre-test was administered to establish the baseline reading comprehension levels of the Grade 1 learners. Based on the results, the researcher developed a targeted intervention plan, which included the scheduled integration of digital learning resources tailored to the identified reading needs of the pupils. This plan was submitted to the school head for review and was subsequently approved for implementation. The action plan specified the number of instructional sessions allocated for each digital resource.

Following approval, the researcher implemented the intervention program using 15 developed and enhanced digital learning resources. These resources were subjected to a quality assurance review conducted by the School Quality Assurance Team. The team was composed of five members: the school head (as chair), a Master Teacher, and three senior teachers (preferably Teacher III). Feedback from the team was consolidated and used to revise and finalize the instructional materials. All decisions and improvements were made collaboratively to ensure instructional quality and alignment with DepEd standards.



The finalized resources were integrated into the daily National Reading Program sessions. Learners who demonstrated difficulty or lagged behind were given additional mastery support through remedial sessions conducted after regular class hours, either by the classroom teacher or designated peer tutors ("little teachers"). In some cases, selected digital resources were used repeatedly to reinforce content mastery and ensure learning retention.

At the end of the intervention period, a post-test was administered to measure changes in reading comprehension levels. In addition to quantitative data, qualitative feedback was gathered regarding the implementation and perceived effectiveness of the digital learning resources. These data informed the study's final analysis and recommendations.

#### **Statistical Treatment of Data**

The researcher employed both descriptive and inferential statistical methods to analyze the data collected from the pre-test and post-test results of the Grade 1 learners.

Descriptive Statistics, such as the mean and standard deviation, were used to summarize and describe the learners' reading comprehension scores before and after the intervention. These measures provided a clear overview of performance trends and score dispersion within the group.

To determine the significance of the differences between pre-test and post-test results, Inferential Statistics were applied. Specifically, a t-test for paired samples was utilized to assess whether the observed changes in reading comprehension scores were statistically significant.

In addition, the Chi-Square Test for Independence was used to analyze the distribution of learners across different reading levels before and after the implementation of the digital learning resources. This test helped determine whether the intervention produced a statistically significant shift in reading proficiency classifications.

All statistical analyses were conducted using standard significance levels ( $\alpha = 0.05$ ) to guide the interpretation of results.

#### **RESULTS AND DISCUSSION**

This presents results from the data gathered. Discussion and thorough analysis of the results are also reflected.

Reading Levels	Letters/Rhymes	Words/Sentence
Level 1	0	2
Level 2	12	10
Level 3	3	3
Level 4	0	0
Mean	3.75	3.75
Standard Deviation	4.92	3.77
r value	0.982	
Interpretation	Very Strong Positive	Correlation

 Table 2. Pre-Test Reading Comprehension Levels of Grade 1 Learners

The pre-test results presented in Table 1 show that the majority of learners fell within Level 2 for both Letters/Rhymes (n = 12) and Words/Sentence (n = 10), indicating a "Moderate Refresher" stage based on



the CRLA descriptors. These learners were able to recognize words and rhyming patterns but exhibited limited fluency and comprehension, as evidenced by their ability to read only chunks of text and correctly respond to just one comprehension item.

Only a small proportion of learners reached Level 3, the "Light Refresher" stage (n = 3 in both components), suggesting that few learners demonstrated emerging fluency, though still with inconsistent comprehension. Notably, no learners achieved Level 4 (Grade Ready) performance, and two learners were at Level 1 in Words/Sentence, requiring a "Full Refresher." The mean score of 3.75, with a high standard deviation of 4.92 (Letters/Rhymes) and 3.77 (Words/Sentence), indicates variability in reading skills and a concentration of scores at lower proficiency levels.

The computed Pearson r value of 0.982 signifies a very strong positive correlation between learners' abilities in letter/rhyme recognition and sentence-level reading comprehension. This result implies that those who performed well in decoding and phonemic awareness also tended to perform better in sentence reading, reinforcing the interdependence of lower-order and higher-order literacy skills.

The findings reveal that prior to the intervention, the learners' reading comprehension was notably below expected grade-level standards. Their concentration in Levels 1 and 2 underscores the need for targeted interventions in foundational skills. The strong correlation between decoding (Part 1) and comprehension (Part 2) reflects the theoretical assertion that phonological processing and fluency are predictive of comprehension success (National Reading Panel, 2000) [13].

These results are aligned with Alshaye (2021), who found that learners with insufficient decoding fluency also showed poor comprehension outcomes [14]. Similarly, Smeda, Dakich, and Sharda (2014) emphasized the importance of early engagement with literacy content to build both decoding and meaning-making competencies [15]. The observed gap at Level 4 validates existing concerns in the Philippine education sector regarding early-grade reading backlogs (Enhaure & Torno, 2017) [16].

Reading Levels	Letters/Rhymes	Words/Sentence
Level 1	0	0
Level 2	0	3
Level 3	5	5
Level 4	10	7
Mean	3.75	3.75
Standard Deviation	4.15	2.59
r value	0.904	
Interpretation	Strong Positive Cor	relation

 Table 3. Reading Comprehension Levels of Grade 1 Learners after Leveraging Digital Learning

 Resources

The post-test results presented in Table 2 show a marked shift in learners' reading proficiency following the integration of digital learning resources. Notably, no learners remained in Level 1 or Level 2, which previously indicated the need for "Full" and "Moderate Refresher" interventions. Instead, learners progressed into the higher levels of reading competence: 10 learners reached Level 4 (Grade Ready) in Letters/Rhymes, and 7 learners achieved the same in Words/Sentence. This suggests mastery in both decoding and expressive, fluent reading with comprehension.



The remaining learners were classified under Level 3 (Light Refresher), with 5 learners each in both domains. This level implies partial fluency, with minor lapses in prosody and comprehension. The absence of any learners at Level 1 confirms substantial gains in foundational literacy. The mean score of 3.75 remained constant; however, the standard deviation notably decreased in Words/Sentence (from 3.77 to 2.59), reflecting more consistency in learners' sentence-level comprehension. The Pearson correlation coefficient (r = 0.904) continued to show a strong positive relationship between decoding skills and comprehension, affirming that as learners improved in recognizing letters and rhymes, their sentence-level reading fluency also increased.

These results demonstrate that digital learning resources is an effective intervention in advancing both decoding and reading comprehension skills among Grade 1 learners. The upward movement from Levels 1–2 to Levels 3–4 highlights not only skill acquisition but developmental readiness, as learners began to exhibit fluency, expression, and comprehension aligned with grade-level expectations.

This finding is consistent with Garcia (2022), who emphasized the instructional value of digital learning resources in enhancing early literacy through multimodal engagement [17]. Furthermore, Shahid and Khan (2022) found that digital learning resources supports the cognitive and emotional engagement of young learners, resulting in more meaningful interactions with texts [18]. The progression also reflects Cognitive Load Theory (Paas & van Merriënboer, 2020), as the digital format likely reduced extraneous processing and facilitated more efficient encoding of information [19].

Reading Levels	Pre-test	Post-test
Level 1	0	0
Level 2	12	0
Level 3	3	5
Level 4	0	10
Computed X <sup>2</sup>	16.81	-
p – value	0.0000414	
Interpretation for p	Significant	
Decision	Reject the Null Hyp	othesis

 Table 4. Test of Significant Difference in the Level of Reading Comprehension of Grade 1

 Learners Before and After Leveraging Digital Learning Resources (Part 1 – Letters/Rhymes)

Table 4 presents the results of the Chi-Square Test for Independence, which was conducted to determine whether a significant difference existed in the reading levels of Grade 1 learners in Letters/Rhymes before and after the use of digital learning resources. The computed Chi-square value ( $X^2 = 16.81$ ) with a corresponding p-value of 0.0000414 indicates a statistically significant result, as the p-value is far below the conventional significance level of 0.05. Thus, the null hypothesis was rejected, affirming that the observed changes in reading levels were not due to chance.

Prior to the intervention, 12 learners were classified under Level 2 (Moderate Refresher) and none attained Level 4 proficiency. After the implementation of digital learning resources, a pronounced shift occurred: 10 learners advanced to Level 4, while the remaining 5 were categorized under Level 3. No learners remained in Levels 1 or 2, signifying a successful transition to higher reading proficiency.



The statistically significant improvement in learners' letter and rhyme recognition suggests that the use of digital learning resources, such as videos, visual presentations, and interactive audio tools, enhanced early decoding skills and phonemic awareness. The results affirm that even non-narrative digital tools, when aligned with literacy competencies and delivered in a multimodal format, can support foundational reading development.

This finding is reinforced by Garcia (2022), who emphasized that digital learning resources can strengthen the connection between visual stimuli and sound-symbol recognition, particularly for beginning readers [17]. It also aligns with Cognitive Load Theory (Paas & van Merriënboer, 2020), which posits that multimedia-based materials can reduce extraneous cognitive load and enhance processing efficiency [19]. Furthermore, Smeda et al. (2014) support the use of technology-enhanced learning environments as effective platforms for addressing gaps in early-grade literacy through individualized, engaging content delivery [15].

# Table 5. Test of Significant Difference in the Level of Reading Comprehension of Grade 1Learners Before and After Leveraging Digital Learning Resources (Part 2-Words/Sentence and<br/>Comprehension)

Reading Levels	Pre-test	Post-test
Level 1	2	0
Level 2	10	3
Level 3	3	5
Level 4	0	7
Computed X <sup>2</sup>	13.27	
p – value	0.0041	
Interpretation for p	Significant	
Decision	Reject the Null Hypo	thesis

Table 5 presents the Chi-Square Test for Independence results for the Words/Sentence and Comprehension component of the reading assessment. The computed Chi-square value ( $X^2 = 13.27$ ) and the corresponding p-value (0.0041) indicate a statistically significant difference in learners' reading comprehension levels before and after the integration of digital learning resources. Since the p-value is below the 0.05 level of significance, the null hypothesis was rejected, establishing that the observed improvements were not due to random variation.

During the pre-test, the majority of learners were at Level 2 (Moderate Refresher), with two learners at Level 1, indicating limited decoding and comprehension ability. Following the intervention, the post-test results showed a clear improvement: seven learners progressed to Level 4 (Grade Ready), and five learners reached Level 3, demonstrating enhanced fluency and ability to answer 2–5 comprehension questions.

The significant gain in Words/Sentence reading and comprehension confirms the effectiveness of the digital learning resources in promoting not just decoding skills but also comprehension strategies. The data reveal that learners were able to internalize reading material better, process meaning, and respond accurately to comprehension tasks, an outcome crucial in early literacy development.

These findings align with Ankrum, Genest, & Morewood (2017), who emphasized that effective reading instruction must incorporate varied discourse and learner-centered approaches to promote comprehension



[20]. Moreover, Shahid and Khan (2022) noted that digital materials, especially those with visual and auditory supports can scaffold learners' understanding and engagement with texts, thereby improving comprehension outcomes [18]. The results also reflect Constructivist principles, which advocate for learner engagement with content through active, multimodal experiences (Almulla, 2023) [21].

#### **Evaluator Comments and Action Responses**

The digital learning resources underwent formal evaluation by a quality assurance team composed of experienced educators. Their recommendations were carefully reviewed and used to guide the revision process. The matrix below presents selected evaluator feedback, along with the corresponding action taken by the researcher.

Learning Resource No.	Evaluator Suggestion	Action Plan / Response
Resource 1	Add activities that promote critical thinking and collaboration.	Integrated pair discussion tasks and open- ended response questions after the video.
Resource 2	Adjust difficulty level to better match learner ability.	Simplified vocabulary and reduced sentence length based on Grade 1 benchmarks.
Resource 3	Improve pacing for learners with special needs.	Added pause prompts and slowed narration speed for inclusivity.
Resource 4	Revise formatting and visual organization of slides.	Reformatted text size, alignment, and spacing; added visual cues.
Resource 5	Enhance learner engagement; materials are effective but can be more interactive.	Embedded clickable sound buttons and short "find the word" tasks within the presentation.
Resource 6	Provide safety and health-related reminders where necessary.	Added caution icons and verbal reminders in applicable sections.
Resource 8	Avoid potential cultural or gender biases.	Replaced names/images to reflect inclusivity and cultural neutrality.
Resource 11	Improve sound volume and clarity.	Enhanced audio mixing and standardized voice-over quality.
Resource 12	Reduce gender bias in examples.	Reworded gender-specific lines; used neutral examples for professions and roles.

#### Table 6. Evaluators' comments and action plan/ response

#### SUMMARY, CONCLUSION, AND RECOMMENDATIONS Summary of Findings

The thesis research investigated the impact of leveraging digital learning resources on the reading comprehension of Grade 1 learners at Atok Elementary School. Data were collected on the learners' reading comprehension levels before and after the implementation of digital learning resources' activities.



#### **Current Level of Reading Comprehension (Pre-Intervention):**

The initial assessment of reading comprehension revealed that the majority of Grade 1 learners exhibited basic recognition of letters/rhymes and words/sentences, placing them predominantly at Level 2. The average scores for both Letters/Rhymes (out of 30) and Words/Sentence (out of 50 Words Per Minute - WPM) were low, at 8.2 (27.33%) and 4.2 (8.4%) respectively. Notably, no participants demonstrated advanced reading skills (Level 4) in the pre-test. A very strong positive correlation (r = 0.982) was found between the recognition of letters/rhymes and words/sentences, suggesting that learners proficient in one area were likely proficient in the other.

#### Level of Reading Comprehension After Leveraging Digital Learning Resources (Post-Intervention):

Following the implementation of digital learning resources' activities, a significant improvement in the reading comprehension levels of the Grade 1 learners was observed. The average scores for both Letters/Rhymes and Words/Sentence significantly increased to 26.8 (89.33%) and 34.53 (69.07%) respectively. The distribution of learners shifted towards higher reading levels (Levels 3 and 4), indicating a development towards advanced reading skills. While no progress was observed at Level 1, a consistent increase in skill levels was evident from Level 2 to Level 4. A strong positive correlation (r = 0.904) remained between the two reading components.

#### Significant Difference in Reading Comprehension:

Statistical analysis using the Chi-Square Test for Independence revealed a **significant difference** in the level of reading comprehension of Grade 1 learners **before and after** leveraging digital learning resources for both Part 1 (Letters/Rhymes) ( $X^2 = 16.81$ , p = 0.0000414) and Part 2 (Words/Sentences) ( $X^2 = 13.27$ , p = 0.0041). In both cases, the p-values were significantly less than the 0.05 significance level, leading to the rejection of the null hypothesis. This indicates that the implementation of digital learning resources had a statistically significant positive impact on the reading comprehension levels of the Grade 1 learners. The observed shift of learners from lower to higher reading levels after the intervention demonstrates a substantial improvement in their reading abilities.

#### Conclusions

Based on the findings of the study, the following conclusions were drawn:

- 1. The use of digital learning resources significantly improved the reading comprehension levels of Grade 1 learners, as evidenced by the shift from lower proficiency levels (Levels 1 and 2) to higher levels (Levels 3 and 4) in both Letters/Rhymes and Words/Sentence components.
- 2. A statistically significant difference was found between the pre-test and post-test results in both reading domains, confirming that the observed improvements were not due to chance, but directly attributable to the implemented intervention.
- 3. Learners who showed gains in decoding skills (Letters/Rhymes) also demonstrated improvements in comprehension (Words/Sentence), as indicated by a strong positive correlation in both pre- and posttest analyses.
- 4. Digital learning resources served as effective instructional tools by supporting learner engagement, visual-auditory reinforcement, and alignment with reading competencies appropriate for Grade 1 level.



5. Feedback from expert evaluators confirmed the pedagogical value of the digital materials, while also identifying areas for improvement such as content pacing, learner-level appropriateness, and inclusivity, which guides the refinement of the resources.

#### Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

- 1. School Heads and Curriculum Planners are encouraged to institutionalize the use of digital learning resources as a strategic reading intervention, particularly for early grade levels, through formal school memoranda and integration into regular reading programs.
- 2. Teachers handling early grade literacy should be trained in the development and delivery of digital learning resources, with emphasis on aligning content to reading competencies and adapting materials to diverse learner needs.
- 3. Instructional Materials Coordinators and Learning Resource Developers should enhance the quality assurance process by incorporating evaluator feedback related to cognitive challenge, pacing, inclusivity, and audio-visual quality of digital content.
- 4. The School Quality Assurance Team should conduct regular monitoring and formative evaluation of implemented digital resources to ensure instructional alignment, learner engagement, and content responsiveness.
- 5. The Department of Education and Local School Boards should invest in infrastructure and technology support such as devices, projectors, internet access, and audio systems to facilitate widespread integration of digital learning in classrooms.
- 6. Future researchers and educational technologists are encouraged to replicate or extend the study across different grade levels, subject areas, or learner populations, and to explore the long-term effects of digital learning tools on literacy development.

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