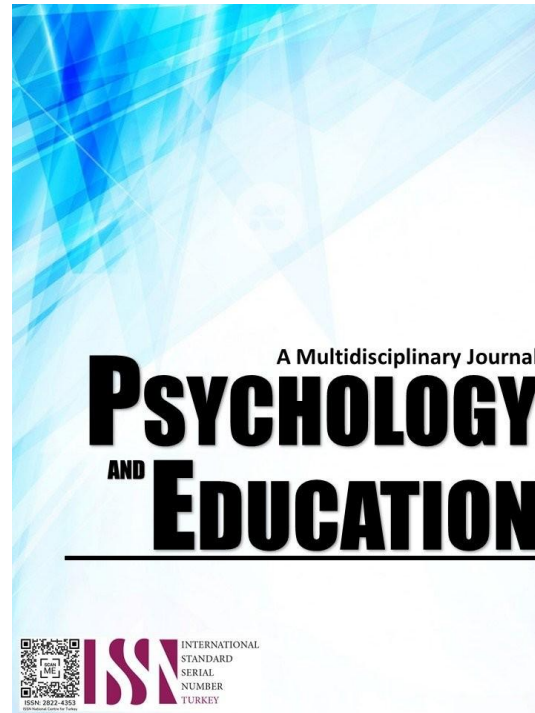


**YOUTUBE VIDEOS AS INSTRUCTIONAL TOOLS FOR
IMPROVING READING COMPREHENSION
SKILLS AMONG GRADE 3 LEARNERS:
A MIXED-METHODS STUDY**



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YouTube Videos as Instructional Tools for Improving Reading Comprehension Skills Among Grade 3 Learners: A Mixed-Methods Study

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Abstract

Reading comprehension remained a persistent challenge among learners, particularly in developing both foundational and higher-order skills. This study examined the use of YouTube videos as an instructional tool to support the reading comprehension of Grade 3 learners at Macate Elementary School during the School Year 2025–2026. It specifically examined learners' pretest and posttest levels of reading comprehension skills, determined whether a significant relationship existed, and explored learners' experiences during the intervention. A convergent parallel mixed-methods design was employed, integrating quantitative and qualitative data collected concurrently. The quantitative component utilized a one-group pretest–posttest design involving 21 purposively selected learners who were assessed using a 30-item reading comprehension test. The qualitative component was analyzed from the teacher's journal entries to capture learners' experiences during the intervention process. Quantitative data were analyzed using mean, standard deviation, and a paired t-test, while qualitative responses were analyzed thematically. Results indicated a statistically significant improvement in learners' reading comprehension scores from pretest to posttest. Qualitative findings indicated that YouTube videos enhanced learners' engagement and motivation, including active participation, enjoyment in learning, peer interaction, and real-life connections, and improvements in both basic comprehension and critical thinking skills. However, challenges included vocabulary difficulties and the need for instructional support and repetition, as well as attention-related issues during video-based learning, such as short attention span and off-task behavior. The integration of findings suggested that while YouTube videos supported reading comprehension, their effectiveness depended on structured implementation and guided instruction. The study concluded that YouTube-assisted instruction may serve as a valuable supplementary strategy, although findings were limited by the study's design and context. Further research using more rigorous designs and larger samples was recommended.

Keywords: *instructional tools, noting details, problem-solution, reading comprehension, sequencing events, YouTube videos*

Introduction

Reading comprehension is essential for academic success, critical thinking, and long-term success. Rather than being a passive activity, reading is an active cognitive process in which learners construct meaning by connecting new information with prior knowledge (Medranda et al., 2023). Reading comprehension requires numerous cognitive skills that allow the learner to evaluate, analyze, and form an opinion about what has been read across multiple formats (Chen & Xiao, 2024).

Globally, reading comprehension continues to be an area of concern. According to the results from the Program for International Student Assessment (PISA) 2022, only a small number of students worldwide achieved the minimum standard of proficiency to demonstrate functional literacy. This indicates ongoing problems with students' reading performance within various regions across the globe (OECD, 2023). These findings highlight the need for effective and evidence-based instructional strategies to strengthen learners' comprehension skills

In the Philippines, reading comprehension is one of the major challenges in education. National statistics show that while 91.6% of all Filipinos (ages 10 to 64) are classified as literate, only 52.4% of elementary school graduates are functionally literate (Philippine Statistics Authority, 2019). On top of that, the Philippine government's performance in the Program for International Student Assessment (PISA) in 2022 indicates that they are still below international standards, underscoring the need to improve higher-order comprehension skills in digital learning contexts (OECD, 2023; Rico-Juan et al., 2024).

At the local level, this problem is most clearly profound. According to results from the Comprehensive Rapid Literacy Assessment (CRLA) 2025, 21.66% of Grade 3 Learners were reading at the expected grade level as opposed to being classified as either transitional or emerging readers. In Nueva Vizcaya, 16.98% of readers were reading at their grade level, while 48.86% were performing at the transitional level. At Macate Elementary School, 19.23% of Grade 3 learners exhibited grade-level reading ability, and 65.38% were classified as transitional readers. These findings point to specific gaps in higher-order comprehension sub-skills, particularly in sequencing events and identifying problem–solution relationships, which require deeper cognitive processing than noting details.

On the other hand, multimedia-assisted instruction has been recognized as a viable strategy by researchers to help improve reading comprehension. The combination of text, audio, and visual media will help to motivate and engage learners and enhance their understanding of what they read (Azores & Velasco, 2025; Murphy & Arciuli, 2024). Additionally, YouTube has created an excellent source of instructional material and provides many different types of visual instruction that enhance comprehension, especially when combined with other effective strategies. However, existing literature also highlights challenges, including the lack of structured

instructional design, variability in content quality, limited technological access, and difficulties in aligning videos with curricular goals (Mayer & Fiorella, 2022; UNESCO, 2025; Cinco et al., 2023).

Despite these developments, there remains limited research examining the use of YouTube as a structured, competency-based instructional tool targeting specific reading comprehension sub-skills among primary learners. Previous studies have largely focused on general comprehension outcomes rather than discrete skills such as noting details, sequencing events, and identifying problem–solution relationships. Moreover, few studies have employed a mixed-methods approach to explain both the effectiveness of such interventions and the learning processes underlying them, particularly in resource-constrained contexts.

To address these gaps, this study examined the relationship between YouTube-based instruction and Grade 3 learners' reading comprehension, focusing on specific sub-skills such as noting details, sequencing events, and identifying problem–solution. The study aimed to improve learners' reading comprehension skills. By integrating quantitative outcomes with qualitative insights, it provided a more comprehensive explanation of how and why YouTube-assisted instruction supports reading comprehension.

Research Questions

This study determined the relationship between the use of YouTube videos and the reading comprehension skills of Grade 3 learners at Macate Elementary School during the School Year 2025–2026. Specifically, this study answered the following research questions:

1. What is the level of the respondents' reading comprehension skills before and after the use of YouTube videos?
2. Is there a significant difference in the respondents' reading comprehension skills before and after the use of YouTube videos?
3. What learning successes and challenges did the learners experience in the use of YouTube videos, based on the teacher's journal?
4. How do the quantitative results and qualitative findings converge to explain the learners' reading comprehension development when YouTube videos are integrated into instruction?

Literature Review

Reading comprehension is a complex and developmental process involving the dynamic interaction of cognitive, linguistic, and strategic components. Rather than functioning independently, these domains operate interdependently, enabling learners to decode text, construct meaning, draw inferences, and transfer understanding across contexts (Peng, 2023). This perspective aligns with sociocognitive and constructivist frameworks, particularly Lev Vygotsky's theory of scaffolded learning and Richard Mayer's Cognitive Theory of Multimedia Learning. Both theories emphasize that learning occurs most effectively when instruction integrates foundational skills with higher-order processes through guided interaction and multimodal input. Thus, reading comprehension should not be viewed as a static outcome but as a progressively developed set of interrelated skills shaped by instructional design and learner engagement.

Recent literature increasingly conceptualizes comprehension as a process-oriented construct rather than a product of reading ability. Multi-component instructional approaches, which combine explicit teaching, guided practice, and gradual release of responsibility, have been shown to significantly enhance comprehension outcomes (Denton, 2021; Peng, 2023). However, findings across studies are not entirely consistent. While strategy instruction generally yields moderate to large effects, variations in instructional design, particularly the degree of scaffolding and feedback, substantially influence effectiveness. This suggests that it is not merely the presence of strategies but how they are structured and implemented that determines learning success.

Explicit and scaffolded instruction remains central to comprehension development, particularly in fostering metacognitive awareness. Studies consistently highlight that active engagement—through discussion, guided tasks, and collaborative learning—enables students to monitor their understanding and construct meaning more effectively (O'Hare et al., 2023). Grounded in Vygotsky's Zone of Proximal Development, these findings underscore the importance of instructional support that is calibrated to learners' needs. However, some studies emphasize independent learning approaches, creating a tension in the literature regarding the optimal balance between teacher guidance and learner autonomy. This inconsistency points to the need for structured yet flexible instructional models.

A closer examination of specific comprehension sub-skills further reveals variability in instructional demands. Noting details, often considered a foundational skill, involves identifying explicitly stated information. While generally easier to acquire, research indicates that low proficiency in this area is associated with reduced engagement and weaker information retention (Caraig, 2022). In contrast, sequencing events requires higher cognitive processing, as learners must organize information logically and temporally. Studies suggest that students frequently struggle with this skill without explicit scaffolding (Tolibas, 2025). Visual and multimodal supports have been shown to reduce cognitive load and improve performance. However, the extent and consistency of teacher support vary significantly across studies, limiting generalizability.

Higher-order skills, such as identifying problem–solution relationships, demand inferential reasoning and analytical thinking. Research consistently identifies this as a challenging area for learners, particularly when instruction lacks explicit guidance (Briones & Hussein, 2024). Yet, the literature presents conflicting approaches; some studies advocate for independent discovery, while others emphasize structured scaffolding. Evidence tends to favor guided, performance-based tasks that promote deeper cognitive engagement (Aliah et

al., 2023), suggesting that higher-order comprehension is best developed through intentional instructional design rather than incidental learning.

The integration of multimedia, particularly video-based learning, has gained increasing attention as a means of enhancing comprehension. Studies indicate that video can support deeper understanding by engaging both visual and auditory processing channels, consistent with Mayer's multimedia learning principles (Noetel et al., 2021). However, the effectiveness of such tools is highly contingent on instructional alignment. Without clear learning objectives, guided tasks, and opportunities for interaction, multimedia resources may lead to cognitive overload rather than improved comprehension.

This concern is particularly evident in the use of platforms such as YouTube. While widely accessible and engaging, YouTube-based instruction is not inherently effective. Research highlights that learning outcomes depend on factors such as content quality, instructional scaffolding, and teacher mediation (Shoufan & Mohamed, 2022; Eamcharoen, 2024). The literature reveals an ongoing tension between the potential of multimedia technologies and the challenges of their implementation, especially in contexts with limited resources or insufficient teacher training.

In the Philippines, the adoption of video-based learning continues to expand; however, empirical research remains limited in scope. Existing studies tend to focus on general engagement and accessibility rather than specific comprehension outcomes or sub-skill development. Moreover, issues such as inadequate technological infrastructure and limited professional development opportunities constrain effective implementation. This gap highlights the need for context-specific investigations that examine not only the use of multimedia tools but also their structured integration into instruction.

Therefore, the literature suggests that effective reading comprehension instruction requires a deliberate integration of explicit teaching, scaffolded support, and well-designed multimedia resources. However, a critical gap remains in studies that systematically examine how scaffolded multimedia instruction, particularly using YouTube, supports the development of specific comprehension sub-skills such as noting details, sequencing events, and identifying problem-solution relationships within authentic classroom settings. Additionally, inconsistencies in instructional approaches and limited theoretical integration across studies indicate the need for more coherent and theory-driven research.

This study addresses these gaps by grounding its framework in sociocultural and multimedia learning theories while empirically examining the impact of structured YouTube-based instruction on targeted comprehension skills. In doing so, it contributes more rigorous and contextually relevant evidence to the growing body of literature on multimedia-assisted reading instruction

Methodology

Research Design

This study employed a mixed-methods approach using a convergent parallel design to examine the association between YouTube-based instruction and Grade 3 learners' reading comprehension. In this design, quantitative and qualitative data were collected concurrently, analyzed separately, and then integrated to provide a more comprehensive understanding of the research problem (Adhikari & Timsina, 2024). The quantitative data provided numerical evidence of learners' performance, while the qualitative data offered insights into students' engagement and learning experiences during the intervention.

The quantitative component utilized a one-group pretest-posttest quasi-experimental design without a control group. This design enabled the researcher to examine changes in reading comprehension within an authentic classroom setting where random assignment was not feasible. However, this approach inherently limits internal validity. Specifically, potential threats such as maturation (natural development of learners over time), testing effects (influence of repeated exposure to assessment), and history effects (external factors influencing performance) may have contributed to observed changes. Consequently, the findings are interpreted as indicative of association rather than causal relationships, and claims of effectiveness are made with caution.

To address these limitations, the study incorporated a qualitative component focusing on learner engagement. Qualitative data were collected through teacher reflective journals, which documented students' participation, responsiveness, and interaction during the YouTube-based instruction. This component provided contextual depth and helped explain patterns observed in the quantitative results.

Data triangulation was employed through the integration of quantitative performance data and qualitative reflections. This approach strengthened the credibility of the findings by allowing cross-validation of results and providing a more nuanced understanding of both learning outcomes and engagement processes. Additionally, triangulation helped minimize potential observer bias by situating teacher observations alongside measurable student performance data.

Instrument

The competencies identified from the Comprehensive Rapid Literacy Assessment (CRLA) guided the development of the instruments. The researcher developed a validated 30-item pretest and posttest aligned with the targeted sub-skills: noting details, sequencing events, and identifying problem-solution.

The instrument underwent content validation by subject matter experts, and pilot testing was conducted to assess item clarity and

difficulty. Item analysis procedures (difficulty index and discrimination index) were performed to refine test items. The instrument achieved a Cronbach's alpha of 0.854, indicating acceptable internal consistency.

A Table of Specifications (TOS) ensured alignment between test items and learning competencies. A scoring rubric was established to standardize the interpretation of results. For the qualitative component, teacher reflective journals were used to document learners' experiences during the intervention.

YouTube videos were selected based on established criteria, including content relevance, age appropriateness, instructional alignment, and design features, guided by Neumann and Herodotou (2020). Videos were systematically evaluated using a structured rating scale to ensure quality and consistency.

Procedure

Permission was obtained from the Schools Division Superintendent and relevant authorities prior to data collection. The instruments were validated and pilot-tested with learners from nearby schools to ensure reliability and clarity. The intervention was conducted over 15 instructional days, focusing on noting details, sequencing events, and identifying problem-solution through structured and scaffolded YouTube-based lessons. Each session included activation of prior knowledge, guided video viewing, and interactive activities such as group discussions and written responses.

Following the intervention, the same validated instrument was administered as a posttest. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were analyzed thematically. Integration of findings occurred during interpretation to identify convergence and divergence between data strands.

Data Analysis

Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize learners' performance. A paired t-test was conducted to determine whether there was a statistically significant difference between pretest and posttest scores at $\alpha = 0.05$.

Additionally, the researcher's journal entries were analyzed using the thematic analysis approach of Creswell and Poth (2018), enabling the identification and categorization of recurring themes based on observations during the implementation of YouTube videos. Qualitative data were examined through systematic procedures, including coding, categorization, and theme development. Trustworthiness was ensured through peer debriefing, the use of audit trails, and data triangulation.

Ethical Considerations

The study adhered to established ethical standards in educational research. Parental informed consent and child assent were obtained prior to participation, recognizing that Grade 3 learners cannot provide independent legal consent. Participation was voluntary, and learners were informed of their right to withdraw at any time without penalty.

Confidentiality was strictly maintained through the use of anonymized data and secure storage of all research materials. Data were used solely for academic purposes. The researcher ensured that the intervention was developmentally appropriate, posed no harm, and supported learners' educational well-being.

Results and Discussion

This section presents the data gathered from the research instruments in tabular form, with results discussed in relation to relevant literature to highlight their potential educational implications.

Level of the Respondents' Reading Comprehension Skills Before and After the Use of YouTube Videos

Table 1 shows that the Grade 3 learners' pretest performance in reading comprehension was generally low prior to the intervention, with a mean score of 14.43 (Low). This indicates that the participants did not meet the expected grade-level comprehension standard. Although a few learners were classified under higher performance levels, the overall distribution and a standard deviation of 6.01 suggest notable variability in learners' comprehension skills.

Table 1. *Respondents' Level of Reading Comprehension Skills Before the Use of YouTube Videos in the Lessons*

<i>Reading Comprehension Skills Level</i>	<i>Frequency</i>	<i>Percentage</i>
Very high (24-30)	1	4.76
High (16 - 23)	11	52.38
Low (8 - 15)	5	23.81
Very Low (0 - 7)	4	19.05
Mean		14.43
Standard Deviation		6.01
Qualitative Description		Low

Legend: N=21

The qualitative results further support the quantitative results and have shown the areas of concern. Teacher journal entries indicated that the learners were having difficulty identifying characters and key details. Lack of vocabulary was a major barrier to understanding, as they were unsure of the meanings of words such as "selfish" and needed clarification.

Combining both quantitative and qualitative evidence shows that participants entered the intervention program with latent lower-order and higher-order understanding. Specifically, learners had significant deficits in their knowledge of words, their ability to remember information, or their ability to identify detailed aspects of texts. Therefore, it is likely that learners would not benefit from just text-based instruction but rather from scaffolding and using a variety of modes to provide support in developing their understanding.

Similar findings were reported by Caraig (2022), where several students remained at the instructional or frustration level prior to the intervention. However, the study does not establish causal relationships; rather, it suggests that multimedia-based strategies, such as YouTube, can enhance student engagement and understanding when implemented with appropriate scaffolding.

Table 2. Respondents' Level of Reading Comprehension Skills After the Use of YouTube Videos in the Lessons

Reading Comprehension Skills Level	Frequency	Percentage
Very high (24-30)	14	66.67
High (16 - 23)	5	23.81
Low (8 – 15)	2	9.52
Very Low (0 – 7)	0	0.00
Mean		14.43
Standard Deviation		6.01
Qualitative Description		Low

Legend: N=21

Table 2 shows that posttest results indicated a substantial increase in Grade 3 learners' reading comprehension following the use of YouTube video materials, with a mean score of 23.24. Most learners achieved "very high" (66.67%, n = 14), followed by "high" (23.83%, n = 5), while only 2 learners remained in the "low" category and none in "very low." This distribution reflects an overall upward shift in performance compared to pretest results.

Qualitative findings provide explanatory support for the observed quantitative gains. Teacher journal entries indicated increased learner engagement and participation during the intervention. For instance, on Day 2, learners actively participated in discussions and demonstrated heightened interest in the lesson, suggesting increased motivation. The teacher noted that this heightened engagement may have supported key comprehension processes such as attention, information retrieval, and meaning-making.

Improvements were also observed in specific comprehension skills. On Day 3, learners were able to identify characters and settings, indicating a developing ability to note details. By Day 10, learners successfully engaged in sequencing tasks using graphic organizers, demonstrating improved ability to organize events logically with teacher guidance. Furthermore, learners were able to explain problem-solution relationships using their own words, reflecting the development of higher-order comprehension skills. These patterns of improvement are consistent with the gains reflected in the posttest scores, indicating incremental student growth during the intervention.

The integration of quantitative and qualitative findings suggests that structured and scaffolded YouTube-based instruction was associated with improved reading comprehension and increased learner engagement. This aligns with existing research indicating that multimedia learning, particularly the combination of visual and verbal inputs, can enhance comprehension (Noetel et al., 2021). However, these findings should be interpreted with caution due to the limitations of the one-group pretest-posttest design; thus, no causal conclusions can be established.

The results are consistent with prior studies showing that well-designed video-based instruction can enhance both engagement and academic performance (Eamcharoen, 2024; Zhu et al., 2022). The findings also align with theoretical perspectives, particularly Mayer's Multimedia Learning Theory, which emphasizes dual-channel processing, and Vygotsky's Social Constructivist Theory, which highlights the role of guided instruction in skill development.

Therefore, the findings suggest that YouTube videos can serve as a useful supplementary resource in developing reading comprehension skills among Grade 3 learners. However, their effectiveness depends on appropriate scaffolding and instructional design, rather than the use of the technology alone.

Respondents' Reading Comprehension Skills Before and After the Use of YouTube Videos

Table 3. Summary of T-Test Computation on the Difference in the Respondents' Level of Reading Comprehension Skills Before and After the Use of YouTube Videos in the Lessons

Test	Mean	SD	MD	t-value	p-value	Decision	Remarks
Pretest	14.43	6.01	-8.81	-11.722	0.000	Reject Null Hypothesis	Significant
Posttest	23.24	4.52					

Table 3 presents the t-test results comparing reading performance before and after the integration of YouTube video lessons. Results indicate a significant improvement, with mean scores increasing from 14.43 to 23.24, reflecting a net gain of 8.81 points in learners'



reading achievement.

A comparison of the standard deviations (pretest = 6.01; posttest = 4.52) indicates a decrease in score variability after the intervention, suggesting that learner performance became more consistent. In other words, learners demonstrated greater uniformity in their overall comprehension of the reading materials following intervention.

Further insights into this improvement are reflected in the qualitative findings. At the beginning of the intervention, participants experienced challenges related to vocabulary and attention, which affected their comprehension. For example, several learners asked for the meanings of unfamiliar words, indicating limited vocabulary knowledge. As the intervention progressed, participants showed steady improvement in participation, recall, and self-confidence, which contributed to increased engagement in learning tasks.

During the middle phase of the intervention, learners demonstrated improved recall and participated more actively in discussions. Their sequencing skills also developed, as evidenced by the use of transitional words (e.g., first, next, after, last) and increased independence in organizing events. In the later stages, learners exhibited emerging higher-order comprehension skills, particularly in their ability to explain problem-solution relationships using their own words. These observations align with the quantitative results, indicating gradual improvement throughout the intervention period.

By the end of the intervention, most learners displayed greater confidence, sustained engagement, and improved ability to express their understanding, despite minor vocabulary difficulties. The combination of video-based instruction and guided activities appears to have supported both comprehension and engagement, as reflected in both quantitative and qualitative findings.

These results are consistent with previous studies suggesting that video instruction, when combined with active learning strategies, can enhance learning outcomes (Noetel et al., 2021; Zhu et al., 2022). However, due to the use of a one-group pretest-posttest design, the findings should not be interpreted as establishing causal relationships.

Therefore, YouTube can serve as a multimodal instructional tool that supports the development of reading comprehension skills when paired with appropriate scaffolding. Nevertheless, variations in individual performance highlight the continued need for differentiated instruction and guided support.

Learning Successes and Challenges the Learners Encountered in the Use of YouTube Videos

Tables 4 and 5 present learners’ learning experiences, highlighting both successes and challenges. Themes were derived using Creswell and Poth’s (2018) thematic analysis procedures, involving coding, categorization, and theme development. Qualitative data from teacher reflective journals were analyzed independently from the quantitative results and later integrated during interpretation, consistent with the convergent parallel design. The inclusion of dated verbatim excerpts and systematic coding procedures enhanced the credibility and transparency of the analysis. Rather than presenting findings separately, the qualitative themes were used to explain the observed quantitative improvement in reading comprehension (M = 14.43 to M = 23.24), providing insight into how and why changes may have occurred.

Table 4. *Thematic Analysis of the Learning Successes the Learners Encountered in the Use of YouTube Videos*

Themes	Subthemes	Code words
Enhanced Learner Engagement and Motivation	Active Participation	active participation; volunteering to answer; group discussion
	Enjoyment in Learning	shouting with joy; laughing while watching; excitement
	Peer Interaction	peer coaching; helping classmates; collaborative responses
Improved Comprehension and Higher-Order Thinking Skills	Real-Life Connection	sharing experiences; relating to real life; familiar situations
	Basic Comprehension	identifying characters; noting details; recalling information
	Critical Thinking	explaining problem-solution; own words explanation; deeper understanding

Table 4 shows that learners’ successes included increased engagement, improved motivation, and progressive development of comprehension skills, including higher-order thinking skills. These outcomes suggest that learners were not only more participative but also more cognitively involved in processing texts, which may help explain the gains observed in posttest performance.

Theme 1: Enhanced Learner Engagement and Motivation

This theme demonstrates that integrating YouTube videos was associated with increased learner engagement, positive emotional responses, collaboration, and meaningful connections, which help explain improvements in the reading comprehension results.

Active Participation. Classroom observations indicated a progression from guided to active participation, with learners becoming increasingly engaged in peer discussions. This was evident in their active involvement and expressed enthusiasm during learning activities. Although score gains cannot be directly attributed to engagement, the data suggest that active participation supported key comprehension processes such as attention, recall, and meaning-making. The increase in mean scores (from 14.43 to 23.24) coincided with higher levels of engagement, indicating a positive association between participation and performance. This finding aligns with Noetel et al. (2021), who emphasized that video-based learning is more effective when combined with interactive and participatory strategies.

Enjoyment in Learning. Video-based instruction elicited positive emotional responses, increasing learners’ interest and motivation.



These affective factors are essential for sustaining attention and supporting comprehension. The integration of multimedia elements appears to enhance engagement and relevance, thereby promoting persistence in task completion. This supports Noetel et al. (2021), who highlighted the role of motivation and engagement in improving learning outcomes.

Peer Interaction. Collaboration was observed as students assisted one another during tasks. Such interactions may have contributed to more consistent performance, as reflected in the reduced standard deviation (from 6.01 to 4.52). While this does not establish causality, it suggests that peer collaboration helped narrow performance gaps and supported shared understanding. These findings are consistent with O’Hare et al. (2023), who emphasized the importance of collaboration in developing both comprehension and metacognitive skills.

Real-Life Connection. Learners were able to relate lesson content to their personal experiences, enriching their learning. This connection between new knowledge and prior experience likely contributed to deeper understanding and improved retention. This supports Han et al. (2023), who argued that contextualized learning strengthens comprehension by linking new information to existing cognitive schemas.

Therefore, Theme 1 suggests that engagement, motivation, collaboration, and contextualization were associated with improved comprehension, providing qualitative support for the observed quantitative improvements.

Theme 2: Improved Comprehension and Higher-Order Thinking Skills

This theme demonstrates that video-based instruction, when appropriately scaffolded, was associated with the development of both foundational and higher-order comprehension skills.

Basic Comprehension. Learners showed gradual improvement in identifying details, recalling information, and organizing story elements. Their initial difficulties in vocabulary and recall decreased as they engaged in guided viewing and were provided with multiple opportunities for exposure to the material. Over time, learners became increasingly independent in sequencing and organizing events and ideas. These developments are consistent with the increase in mean scores from pretest to posttest (14.43 to 23.24), indicating improvement in comprehension skills. This supports Carraig’s (2022) assertion that foundational skills, such as noting details, are essential for overall comprehension development.

Critical Thinking Skills. In the later stages of the intervention, learners were able to articulate problems and solutions using their own words, reflecting an emerging ability to analyze and make inferences. Rather than simply recalling information, learners demonstrated deeper understanding through the interpretation and evaluation of texts. This finding aligns with Aliah et al. (2023) and Van Elsen et al. (2023), who emphasized that higher-order thinking tasks promote meaningful learning and comprehension.

The data indicate a progression from initial levels of understanding to more complex cognitive processes following engagement in the intervention. The shift from low to very high-performance levels reflects this development. However, the findings should be interpreted as associative rather than causal due to the absence of a control group.

Overall, prior studies suggest that multimedia instruction, when combined with active learning strategies and appropriate scaffolding, can support comprehension and the development of higher-order thinking skills (Noetel et al., 2021; Zhu et al., 2022).

Thematic Analysis on the Learning Challenges the Learners Encountered in the Use of YouTube Videos

Table 5 presents the challenges encountered by learners during the implementation of YouTube-based instruction, specifically in terms of vocabulary limitations, need for instructional support, and attention-related difficulties, indicating that multimedia learning requires structured and scaffolded implementation.

Table 5. *Thematic Analysis on the Learning Challenges the Learners Encountered in the Use of YouTube Videos*

Themes	Subthemes	Code words
Vocabulary Challenges and Need for Instructional Support	Vocabulary Difficulty Need for Repetition	unfamiliar words; asking word meanings; difficulty understanding terms repeated viewing; repeated explanation; reinforcement
Attention Challenges During Video-Based Learning	Short Attention Span Off-Task Behavior	easily distracted; short attention span; loss of focus curiosity beyond topic; unrelated questions; shifting attention

Theme 1: Vocabulary Challenges and Need for Instructional Support

Vocabulary Difficulty. Learners often experienced difficulty understanding and using new vocabulary due to limited prior knowledge. Classroom observations highlighted this challenge. On Day 1, one learner asked, “Madam, ano po ang selfish?” (What does “selfish” mean?), while on Day 3, another asked whether the “main character” referred to the bida (protagonist). These instances indicate that insufficient vocabulary hindered learners’ ability to comprehend instruction fully.

Limited vocabulary knowledge affects not only text-based understanding but also multimedia learning. When learners lack familiarity with key terms, they struggle to connect visual and auditory inputs to overall meaning, resulting in only surface-level comprehension.

This underscores the importance of explicit vocabulary instruction as a foundation for deeper understanding.

Classroom observations as reflected in the teacher's journal further emphasized the need for scaffolding. On Day 5, the teacher noted the necessity of pausing videos, simplifying questions, pre-teaching vocabulary, and providing additional visual aids and follow-up activities to support struggling learners. By Day 15, most learners demonstrated improved confidence and comprehension, although some continued to encounter minor vocabulary difficulties. These findings suggest that repeated exposure and structured support are essential for vocabulary development and comprehension.

The findings support Widyastuti et al. (2025) in demonstrating that while multimedia and task-based approaches can increase engagement, their effectiveness in promoting deeper comprehension depends on the presence of sustained scaffolding and guided instructional support.

Need for Repetition. Repeated exposure to content emerged as a key factor in improving comprehension and retention. On Day 2, learners required a retelling of the story to recall basic elements, indicating the need for reinforcement. As learners were exposed to the material multiple times, they demonstrated improved recall, increased confidence, and more active participation in discussions.

Subsequent observations support this pattern. On Day 5, learners showed better recognition of details and greater participation, although some still required support. By Day 7, learners improved in sequencing tasks using graphic organizers, and by Day 10, repeated viewing continued to enhance understanding, particularly for those who needed additional reinforcement.

Quantitative results further support the value of repetition. The decrease in standard deviation (from 6.01 to 4.52) indicates more consistent performance among learners, while posttest results show fewer learners in the "Low" and "Very Low" categories. These findings suggest that repeated exposure contributed to improved comprehension and reduced performance gaps.

Overall, repeated viewing of YouTube videos allowed learners to process information at their own pace, revisit challenging content, and reinforce their understanding. This supports Zhu et al. (2022), who found that repeated practice enhances memory and comprehension, making it an effective strategy in multimedia learning environments.

Theme 2: Attention Challenges During Video-Based Short Attention Span and Distraction.

Short Attention Span. Video-based learning presents certain challenges, particularly in sustaining learners' attention. Classroom observations revealed that some learners became distracted during video presentations. For example, on Day 8, several learners displayed short attention spans and were easily distracted, while on Day 11, some learners lost focus during viewing sessions. These attention lapses may hinder comprehension, as incomplete processing of instructional content can lead to reduced encoding and recall of information.

Although most learners benefited from the intervention, 9.52% remained at the "Low" level, which may be attributed to attention-related difficulties. While a significant difference was observed between pretest and posttest scores, the posttest standard deviation (4.52) indicates variability in learner engagement and attention. Longer video durations also contributed to distraction, suggesting that shorter, segmented videos with interactive elements may better sustain attention.

These findings highlight that video-based instruction alone does not guarantee sustained focus. Learners' ability to maintain attention significantly influences comprehension and retention. Therefore, instructional videos should be carefully designed using shorter segments, guided activities, and structured interaction to minimize cognitive overload and enhance engagement. This aligns with Gallen et al. (2023), who emphasized the role of sustained attention in learning, as well as Bali et al. (2026), who linked reduced attention to lower cognitive processing and recall. Similarly, Shoufan and Mohamed (2022) stressed the importance of structured design in video-based instruction.

Off-Task Behavior. Off-task behavior, engagement in activities unrelated to the lesson, was also observed. For instance, on Day 9, some learners asked unrelated questions such as, "Ma'am, anong mas masarap, scrambled egg or boiled egg?" (Which is tastier, scrambled egg or boiled egg?) While such curiosity reflects active thinking, it may divert attention from the lesson if not properly managed.

Quantitative findings showed an overall improvement in mean scores (from 14.43 to 23.24), with only 9.52% of learners remaining in the "Low" category. These learners were often those who exhibited off-task behaviors and required additional redirection. The findings suggest that structured instructional strategies such as guided discussions, clear directions, and defined learner roles help maintain on-task behavior and support comprehension.

Overall, the results indicate that while YouTube-based instruction can enhance learning, its effectiveness depends on structured implementation and active teacher facilitation. Consistent with Noetel et al. (2021), video-based learning is most effective when combined with active engagement and instructional support, rather than used as a standalone tool.

Quantitative Results and Qualitative Findings Converge to Explain That Learners' Reading Comprehension Development Improved when YouTube Videos were Integrated into Instruction

The quantitative results and qualitative findings converge to indicate that learners' reading comprehension development improved

when YouTube videos were integrated into instruction, particularly when supported by structured scaffolding and guided activities. Quantitatively, learners demonstrated significant gains in mean scores (from 14.43 to 23.24) and more consistent performance, as reflected in the reduced standard deviation. Qualitatively, these improvements were explained by increased learner engagement, active participation, enhanced motivation, and the progressive development of both foundational skills (noting details and sequencing events) and higher-order skills (identifying problem–solution). At the same time, qualitative data highlighted challenges such as vocabulary difficulties and attention issues, emphasizing the need for explicit instruction, repetition, and classroom management. Taken together, the findings suggest that YouTube-based instruction supports reading comprehension development by promoting multimodal learning and engagement, but its effectiveness depends on appropriate scaffolding and teacher facilitation rather than the technology alone.

Conclusions

The findings indicate that the integration of YouTube-based instruction was associated with improvements in Grade 3 learners' reading comprehension, as reflected in increased posttest scores and more consistent performance levels. However, given the use of a one-group pretest–posttest design without a control group, these improvements cannot be attributed solely to the intervention, as factors such as maturation, testing effects, and classroom context may have influenced the results. Qualitative findings further suggest that YouTube-based instruction supported learner engagement, motivation, and the development of both foundational and higher-order comprehension skills. At the same time, challenges related to vocabulary difficulty, attention span, and the need for instructional scaffolding were observed. These results highlight that the effectiveness of video-assisted instruction is highly dependent on structured implementation and teacher mediation. Overall, the study provides context-specific evidence that YouTube videos may serve as a supplementary instructional tool in reading comprehension. However, due to the study's limited sample size and single-site context, the findings should be interpreted with caution and not generalized beyond similar settings.

Therefore, it is recommended that teachers use curriculum-aligned YouTube videos as a supplementary resource, supported by explicit instruction, guided discussion, and vocabulary scaffolding to enhance comprehension. School leaders may consider providing targeted professional development on multimedia integration and improving access to necessary technological resources to support effective implementation. Instructional planners are encouraged to design structured video-based lessons that incorporate segmentation, interactive tasks, and follow-up activities to sustain learner engagement and deepen understanding. Future research may address the limitations of this study by employing control or comparison groups, increasing sample size, and conducting multi-site investigations to improve generalizability. Further studies may also examine the long-term effects of video-assisted instruction on specific comprehension sub-skills.

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