

**Click, watch, understand: Improving grade 6 science performance
through video lesson explainers**

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ABSTRACT

This action research examined the effectiveness of video explainers in improving the Science performance of Grade VI learners at Burayukan Elementary School during the fourth quarter of School Year 2025–2026. Recognizing that elementary learners are highly engaged by visual media, the study integrated video-based lessons as a supplementary instructional tool in Science VI. A quantitative research design, specifically a one-group pretest–posttest design, was employed. Frequency counts and mean scores were used to determine learners' performance levels before and after the intervention. Results showed a substantial increase in performance, with the mean pretest score of 18.35 improving to a mean posttest score of 27.77. Statistical analysis using the t-test revealed a computed t-value of -24.20 and a p-value of 0.00, which is below the 0.05 level of significance. This indicates a significant difference between pretest and posttest results, leading to the rejection of the null hypothesis. The findings suggest that the use of video explainers is an effective strategy for enhancing learners' understanding and academic performance in Science. The results of the data analysis revealed a significant difference in learners' performance before and after the use of video explainers. The findings indicate that video-based lessons effectively addressed learners' difficulties in understanding scientific concepts and improving comprehension in Science VI. Moreover, the use of video explainers contributed to an increase in the overall performance level of Grade VI learners during the fourth quarter. Based on these results, it is recommended that teachers integrate video explainers not only in Science but also across other learning areas to enhance student engagement and academic achievement.

Keywords: Improved comprehension, interactive, effective.

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INTRODUCTION

Science education at the elementary level plays a vital role in developing learners' scientific literacy, critical thinking skills, and ability to understand and explain natural phenomena. In Grade 6, learners are expected to demonstrate deeper conceptual understanding and apply scientific knowledge to real-life situations as preparation for higher levels of

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education. However, despite these expectations, many learners continue to experience difficulty in understanding abstract and complex scientific concepts, which often results in low academic performance and limited retention of lessons. This persistent challenge in elementary science education points to a fundamental gap between the demands of the curriculum and the instructional approaches most commonly employed in classrooms, a gap that warrants systematic attention and evidence-based intervention.

In many basic education classrooms, traditional instructional approaches such as lecture-based teaching, textbook discussions, and chalk-and-talk methods remain commonly used. While these methods are effective in delivering content, they may not fully address the diverse learning styles of learners, particularly visual and auditory learners. As emphasized by Fleming and Mills (1992), learners have different learning preferences, and instruction that does not match these preferences may hinder comprehension and engagement. This recognition that no single instructional method can adequately serve all learners underscores the need to explore more interactive and learner-centered instructional strategies that can better support the understanding of science concepts across a range of learning profiles.

The rapid advancement of educational technology has introduced multimedia learning as an important and increasingly accessible innovation in education. Video-based instruction, particularly video lesson explainers, has gained scholarly and practical attention as an effective tool for improving student engagement and comprehension. Video explainers present information through a combination of visuals, narration, animation, and text, making abstract concepts more concrete and easier to understand. The theoretical foundation for this approach is provided by Mayer's Cognitive Theory of Multimedia Learning, which holds that learners process information more effectively when it is presented through both visual and auditory channels simultaneously, as this dual-channel processing reduces cognitive overload and enhances meaningful learning (Mayer, 2009; Mayer, 2021). This theoretical framework positions video-based instruction not merely as a technological novelty but as a pedagogically grounded strategy aligned with how the human brain naturally processes and retains information.

Supporting this theoretical foundation, Clark and Mayer (2016) emphasized that well-designed multimedia instruction improves learning outcomes when it is aligned with the cognitive architecture of the human brain. Similarly, Moreno and Mayer (2007) found that students learn more deeply from multimedia lessons when words and pictures are integrated rather than presented separately. These converging findings highlight the pedagogical importance of using video-based instructional materials to support conceptual understanding in science, and they reinforce the view that design quality and the coherent integration of verbal and visual elements are critical determinants of instructional effectiveness.

Beyond cognitive processing, research has consistently demonstrated that video-based learning improves student engagement and motivation, two factors closely associated with sustained academic performance. Guo, Kim, and Rubin (2014) found that shorter, well-structured instructional videos significantly increase student attention and task completion rates, suggesting that brevity and purposeful design are key attributes of effective video instruction. Brame (2016) similarly stated that educational videos are most effective when they are concise, focused on specific learning objectives, and designed to encourage active learning. These principles suggest that video explainers, when thoughtfully constructed, can sustain learners' interest while simultaneously improving their comprehension of difficult scientific topics. Extending these findings to academic performance outcomes, Kay (2012) reported that instructional videos enhance student understanding and retention, particularly when learners are given opportunities to control playback and review content at their own pace, thereby accommodating individual differences in learning speed and comprehension. Hsin and Cigas

(2013) further found that video-based learning improves student achievement in science-related subjects by providing clearer and more accessible explanations of complex processes.

In the Philippine context, the integration of technology in education is strongly supported by the Department of Education through the adoption of the K to 12 curriculum, which actively encourages the use of innovative teaching strategies and digital resources to enhance learning outcomes. Nevertheless, challenges such as limited access to high-quality instructional materials and varying learner performance levels in science remain evident in many public elementary schools. These challenges highlight the urgent need for more accessible and effective instructional tools that can support teachers in delivering lessons more efficiently and meaningfully, particularly in schools where learners are most at risk of falling behind expected competency levels.

At Burayukan Elementary School, Grade VI learners have demonstrated persistent difficulties in understanding science concepts, particularly during the fourth quarter when lessons become more complex and require higher-order thinking skills. Based on classroom observations and assessment results, a number of learners struggle to grasp abstract ideas when taught using traditional methods alone. This situation underscores the need for instructional innovation capable of bridging learning gaps and improving learner performance in a manner that is both contextually responsive and theoretically informed. The convergence of global research evidence on multimedia learning effectiveness and the localized instructional challenges observed at Burayukan Elementary School together establish a compelling rationale for exploring video lesson explainers as a supplementary instructional intervention in the Grade 6 science classroom.

In response to this identified need, the researcher conducted this action research entitled "Click, Watch, Understand: Improving Grade 6 Science Performance Through Video Lesson Explainers." The study aimed to determine the effectiveness of integrating video explainers as a supplementary instructional tool in teaching Science VI. By utilizing multimedia instruction grounded in Mayer's Cognitive Theory of Multimedia Learning and informed by the broader body of research on video-based education, the study sought to improve learners' conceptual understanding, increase engagement, and enhance academic performance. The findings of this study may provide valuable insights for teachers, school leaders, and curriculum implementers seeking to improve instructional practices in science education. Furthermore, the study may encourage the broader adoption of video-based learning strategies not only in science but also across other learning areas, with the ultimate aim of promoting more meaningful, engaging, and effective learning experiences for all learners in the basic education system.

Statement of the problem

This study aims to evaluate the effects of using video explainers or video lessons in Science VI on the level of performance of Grade VI learners of Burayukan Elementary School for the Fourth Quarter of School Year 2025 to 2026. Specifically, this study sought to answer the following questions:

1. What is the level of performance of the Grade VI learners before the use of the video explainers or video lessons in Science?
2. What is the level of performance of the Grade VI learners after the use of the video explainers or video lessons in Science?
3. Is there a significant difference in the level of performance of the Grade VI learners before and after the use of the video explainers or video lessons in Science?

METHODOLOGY

This study employed a quantitative research design, specifically the one-group pretest-posttest design, to evaluate the effects of video lesson explainers on the Science performance of Grade VI learners. Under this design, a pretest was first administered to the Grade VI learners to determine their initial level of performance in Science prior to any intervention. Following the pretest, video lesson explainers were systematically integrated into the teaching and learning process over a period of seven weeks, from January 26, 2026 to March 13, 2026. Upon the completion of the intervention period, a posttest was administered to assess the learners' performance after exposure to the video explainers. The pretest and posttest results were then compared to determine the extent of improvement in learner performance, and the significant difference between the two sets of scores was analyzed using the t-test for dependent samples. All data gathered throughout the study were systematically checked, computed, tabulated, and interpreted to ensure accurate and reliable results.

The participants of this study were the 48 learners from the two Grade VI classes of Burayukan Elementary School for School Year 2025 to 2026. Specifically, Grade VI Garnet had a total population of 27 learners, while Grade VI Jade had a total population of 21 learners, yielding a combined total of 48 participants. The researcher selected these participants because she directly handles the Science subject for both sections, which allowed for consistent implementation of the intervention across the two classes. It was further observed that during the previous grade level, Grade V, the researcher and other teachers handling different subjects noticed that these learners demonstrated a marked enjoyment of watching video clips. Additionally, most of the participants either personally owned mobile phones or had access to those belonging to their parents or guardians, making video explainers a practical and convenient instructional tool for both classroom and home learning. Quality assured Learning Packages in Science VI developed by teachers from the division, regional, and central office levels served as the primary basis for writing the instructional scripts and producing the video explainers. Video clips and other accurate and relevant science information sourced from online platforms and printed materials were likewise utilized in the development of the instructional materials used throughout the study.

Prior to the conduct of the study, the researcher followed a systematic and ethically grounded data gathering procedure. Permission was formally requested from the School Head to implement the study on improving the performance of Grade VI learners in Science through video lesson explainers, and approval from the Division Office was subsequently secured. Letters were sent to the parents and guardians of the participating learners requesting their permission, support, and cooperation for the duration of the study. In addition to the parental consent forms, the learner-participants themselves were provided with individual consent letters inviting them to participate voluntarily and without any external pressure or influence from their parents or guardians. Upon receipt of all necessary approvals, the researcher prepared the research proposal and submitted it to the School Head for official notification and endorsement to the appropriate higher authorities.

Data were gathered through the administration of a pretest and a posttest. The pretest was administered by the researcher to the Grade VI learners at the outset of the study, and the data obtained were analyzed to establish the baseline level of learner performance in Science. The pretest was immediately followed by the utilization of the video lesson explainers for the identified competencies within the fourth quarter. After the completion of all video explainer sessions covering the targeted learning competencies, the researcher administered the posttest. The mean scores of the pretest and posttest were subsequently compared to determine whether

a significant difference existed in the learners' level of academic performance before and after the intervention.

For the purpose of interpreting learner performance based on test scores, a performance legend was applied consistently throughout the study. Scores ranging from 29 to 35 were classified as Outstanding, scores from 22 to 28 were classified as Exceeds Expectation, scores from 15 to 21 were classified as Meets Expectation, scores from 8 to 14 were classified as Below Expectation, and scores from 0 to 7 were classified as Needs Improvement. This five-level classification system served as the standard reference for categorizing each learner's performance on both the pretest and the posttest.

The data analysis addressed the research problems concerning the level of performance of Grade VI learners in Science before and after the use of video explainers through two statistical procedures. Frequency counts were used to determine the distribution of learner performance levels before and after the use of the video lesson explainers, enabling a clear descriptive picture of how learners were classified across the performance categories at each assessment point. The Paired-Sample t-test was then employed to determine whether a statistically significant difference existed in the level of performance of the Grade VI learners before and after the use of the video explainers, providing the inferential basis for evaluating the effectiveness of the instructional intervention.

RESULTS AND DISCUSSION

This section presents the results and discussion of data gathered from 48 Grade VI learners of Burayukan Elementary School for School Year 2025 to 2026, comprising 27 learners from Grade VI Garnet and 21 learners from Grade VI Jade. The study employed a quantitative one-group pretest-posttest design, wherein all 48 participants were subjected to a 35-item Science assessment both before and after the implementation of video lesson explainers as the primary instructional intervention over a period of seven weeks, from January 26, 2026 to March 13, 2026. Frequency counts were used to determine and describe the distribution of learner performance levels at each assessment point, while the Paired-Sample t-test was employed to determine whether a statistically significant difference existed between the pretest and posttest scores. All results are interpreted in direct relation to the objectives of the study and are discussed in light of relevant theoretical frameworks and scholarly literature on video-based instruction and multimedia learning.

Level of performance before the use of video explainers

Prior to the implementation of the video lesson explainers, the 48 Grade VI learners were administered a 35-item Science pretest to establish their baseline level of performance. An analysis of the pretest results using frequency counts revealed the following distribution across the five performance categories. One learner, representing 2.08% of the total participants, was classified as Outstanding. Eleven learners, or 22.92%, were classified as Exceeds Expectation. Twenty-three learners, representing 47.92%, were classified as Meets Expectation, making this the largest and most dominant performance category at the pretest stage. Thirteen learners, or 27.08%, were classified as Below Expectation. No learner, representing 0.00%, fell under the Needs Improvement category. The total number of participants across all categories was 48, accounting for 100.00% of the respondents.

The pretest results indicate that the majority of Grade VI learners demonstrated a baseline performance level described as Meets Expectation, with a mean score of 18.35 as reflected in the subsequent comparative analysis. This finding suggests that while a portion of

the learners possessed sufficient prior knowledge to comprehend some of the science concepts being taught, a substantial number encountered difficulty in grasping and retaining lessons delivered solely through printed Self-Learning Modules and without the support of audio and visual stimuli that characterize typical face-to-face instruction. This observation aligns with Umayam's (2021) finding that visual cues combined with audio play a significant role in the comprehension and retention of new material, highlighting the limitations of text-only instructional resources in supporting diverse learners. The instructional context at Burayukan Elementary School, wherein learners relied primarily on printed modules without integrated multimedia support, is thus reflected in the pretest distribution, which showed that 27.08% of learners had not yet reached the expected level of competency prior to the intervention.

Level of performance after the use of video explainers

Following the seven-week integration of video lesson explainers into the Science VI instructional program, the same 48 learners were administered a posttest using the same 35-item assessment instrument. The frequency count analysis of the posttest results revealed a dramatic and positive shift in the distribution of learner performance across all categories. Twenty-two learners, representing 45.83% of the total participants, were now classified as Outstanding. Twenty-three learners, or 47.92%, were classified as Exceeds Expectation, making this the most frequently occurring performance category at the posttest stage. Three learners, representing 6.25%, remained at the Meets Expectation level. No learner, or 0.00%, was classified as Below Expectation, and similarly, no learner, or 0.00%, was classified as Needs Improvement. The total across all posttest categories was 48 learners, representing 100.00% of the participants.

The posttest results reveal a substantial improvement in the overall distribution of learner performance compared to the pretest. Whereas the pretest was dominated by the Meets Expectation category at 47.92%, the posttest showed a near-complete concentration of learners in the Outstanding and Exceeds Expectation categories, collectively accounting for 93.75% of all participants. The complete elimination of learners in the Below Expectation and Needs Improvement categories following the intervention is particularly noteworthy, as it indicates that the video explainers were effective not only in advancing higher-performing learners but also in lifting those who had previously struggled to meet expected competency levels. These findings are consistent with Umayam's (2021) observation that video learning produces positive outcomes on multiple levels, including increased motivation and deeper learning, and can specifically enhance students' ability to facilitate discussions and identify problems. The posttest data thus provide compelling evidence that the integration of video lesson explainers into Science VI instruction meaningfully improved learner comprehension and understanding of the subject matter.

Significant difference in performance before and after the use of video explainers

To determine whether the observed improvement in learner performance was statistically significant, a Paired-Sample t-test was conducted comparing the pretest and posttest mean scores of the 48 Grade VI learners. The mean score of the learners before the use of the video explainers was 18.35, which corresponded to the Meets Expectation performance level based on the study's scoring legend. Following the intervention, the mean score increased to 27.77, which corresponded to the Exceeds Expectation performance level. The calculated t-value was -24.2, and the corresponding probability value was 0.00. Since the probability value of 0.00 was less than the 0.05 margin of error, the null hypothesis was rejected. This decision

indicates that there was a statistically significant difference in the level of performance of the Grade VI learners before and after the use of the video lesson explainers, and that the direction of this difference reflects a clear and substantial improvement in favor of the posttest performance.

The magnitude of improvement reflected in the mean score increase from 18.35 to 27.77, alongside the highly significant t-value of -24.2 and a probability value of 0.00, provides strong quantitative evidence of the effectiveness of video lesson explainers as an instructional intervention in Grade VI Science. These findings are corroborated by Hanzic (2020), whose study noted that video content enables children to make cognitive connections more rapidly, and that effective educational videos improve memory processes by stimulating active thinking and inquiry. Hanzic further observed that engagement with visually captivating materials at home better prepares children for subsequent lessons, leading to greater participation, more substantive discussion, and ultimately deeper learning. Similarly, Bevan (2020) affirmed that the use of short video clips allows for more efficient processing and memory recall, and that the visual and auditory nature of videos appeals to a wide audience by enabling each learner to process information in a manner that is natural and accessible to them. Analyst James McQuiney (2014), as cited by Umayam (2021), further underscored the informational density of video as an instructional medium, asserting that one minute of video is approximately equivalent to 1.8 million written words. Taken together, these scholarly perspectives situate the present findings within a well-established body of evidence affirming the instructional superiority of multimedia video content over text-only learning materials, particularly in contexts where learners benefit from the integration of visual and auditory stimuli.

Beyond its direct impact on learner performance, the conduct of this action research generated significant professional development outcomes for the researcher. The process of designing, implementing, and completing the study cultivated a critical and problem-solving mindset, deepened appreciation for the collaborative and participative nature of classroom-based research, and fostered greater openness to feedback and suggestions received during technical assistance sessions conducted both face-to-face and online. As a Science teacher and researcher, the experience reinforced a deeper understanding of the essential role of educational technology in making instruction more engaging, relevant, and effective. The process of producing the video lesson explainers, which involved demonstration teaching in front of a camera and video editing using specialized applications, further contributed to the development of the researcher's communication and ICT skills, underscoring the broader professional value of action research as a vehicle for both learner improvement and teacher growth.

The results of this study collectively and unequivocally address the three research objectives. The pretest data established a clear baseline showing that most learners were performing at the Meets Expectation level with a mean score of 18.35, with a notable proportion classified as Below Expectation at 27.08%. The posttest data demonstrated a transformative improvement, with 93.75% of learners reaching either the Outstanding or Exceeds Expectation level and a mean score rising to 27.77. The Paired-Sample t-test confirmed that this improvement was statistically significant, with a t-value of -24.2 and a probability value of 0.00, leading to the rejection of the null hypothesis. These findings contribute meaningful empirical evidence to the growing body of literature on video-based instruction in elementary science education, particularly within the Philippine public school context, and affirm the practical value of integrating multimedia learning tools into classroom instruction. The conclusions and recommendations derived from these results are presented in the succeeding chapter.

CONCLUSION

This study examined the effectiveness of video lesson explainers as a supplementary instructional tool in improving the Science performance of 48 Grade VI learners of Burayukan Elementary School for School Year 2025 to 2026. The investigation addressed three specific research objectives through the administration of a pretest and posttest using a 35-item Science assessment, with data analyzed through frequency counts and the Paired-Sample t-test. The findings consistently demonstrated that the integration of video lesson explainers into Grade VI Science instruction produced meaningful, measurable, and statistically significant improvements in learner performance, leading to several important conclusions and practical recommendations that carry implications for instructional practice at the school, district, and division levels.

Prior to the use of video explainers, the majority of the Grade VI learners demonstrated a performance level described as Meets Expectation across the five identified science competencies covered during the fourth quarter. These competencies included describing the changes on the Earth's surface as a result of earthquakes and volcanic eruptions, enumerating what to do before, during, and after earthquakes and volcanic eruptions, describing the different seasons in the Philippines, differentiating between rotation and revolution and describing the effects of the Earth's motions, and comparing the planets of the solar system. The concentration of learners at the Meets Expectation level prior to the intervention indicated that while a foundational understanding of science content was present among many learners, a considerable number had not yet achieved the level of conceptual understanding needed to exceed grade-level expectations, particularly when instruction relied solely on printed Self-Learning Modules without the benefit of integrated audio and visual support.

Following the seven-week integration of video lesson explainers into the Science VI instructional program, a substantial and positive shift in learner performance was observed. The majority of learners attained a performance level described as Exceeds Expectation after the intervention, reflecting a marked improvement from the pretest distribution. This outcome affirms that video lessons and explainers effectively aided learners in engaging with and understanding the different concepts in Science, as the materials were found to be informative, understandable, interactive, flexible, and engaging, all of which contributed to a more meaningful and effective learning process. The observed improvement is consistent with the findings of Umayam (2021), who established that visual cues combined with audio play a significant role in the comprehension and retention of new material, underscoring the instructional value of multimedia content in supporting diverse learners.

The Paired-Sample t-test confirmed that the improvement in learner performance was statistically significant, as evidenced by the increase in the mean performance level from Meets Expectation to Exceeds Expectation and a calculated t-value of -24.2 with a probability value of 0.00, which was less than the 0.05 margin of error, resulting in the rejection of the null hypothesis. This finding establishes that the video explainers, used as a supplement to the teacher's direct instruction, collaborative learning activities, and Grade VI Science Learning Packages, meaningfully enriched and improved the conceptual understanding of the learners. The statistically significant difference between the pretest and posttest performance levels affirms that video lesson explainers are an effective instructional tool for improving Grade VI Science performance and that their integration into classroom practice yields concrete and demonstrable academic benefits.

Based on these findings, several recommendations are advanced to support the broader adoption and institutionalization of video-based instruction. Teachers are encouraged to utilize video explainers as a regular instructional tool for improving learner comprehension and performance in Science, and to consider extending the use of video lessons or explainers to

other learning areas beyond Science, given the demonstrated effectiveness of the approach in facilitating understanding across complex conceptual content. At the school and district level, it is recommended that School Heads and the District Science Coordinator organize Learning Action Cell sessions focused on video production and video editing skills, including the use of applications such as Filmora, to build teachers' technical capacity for creating high-quality instructional videos that can be used across all subjects and learning areas.

With respect to plans for dissemination and utilization, the research results are intended to be shared with the School Head and teachers of Burayukan Elementary School during School LAC Sessions or Teachers' meetings, and with stakeholders during Home and School Partnership Association or School and Parent-Teacher Association meetings, where the positive outcomes of using video lessons or explainers in improving Grade VI learner performance will be highlighted. The findings may also be cascaded during District Meetings by the researcher or the School Head to facilitate benchmarking, solicit suggestions for the improvement of the materials or the research as a whole, and encourage replication or adaptation by other schools. Furthermore, the findings of the study will be integrated into the School Learning Resources Management and Development System Action Plan of Burayukan Elementary School, with the aim of improving learner performance not only in Science but across other learning areas, and to serve as an evidence base that School Heads and Master Teachers can use to encourage fellow educators to adopt this innovative and learner-centered instructional strategy for more effective and engaging teaching in contemporary educational contexts.

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