Research Article

Utilization of Videocast in Enhancing Audio-Visual Learning Skill of Grade 7 Students

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Abstract: This study investigates the enhancement of audio-visual learning skills among twelve Grade 7 students at Santa Cruz Integrated National High School (Main) through researcher-developed videocasts. Utilizing an explanatory mixed-methods design, the research integrates quantitative data from pre-tests and post-tests, followed by qualitative data to thoroughly assess student outcomes. A case study framework is employed to evaluate learning progress, while a qua-si-experimental design measures the effects of a two-week intervention. The researchers se-lected the 12 participants through purposive sampling from a sample of 41 students across two sections. Initial pre-test results revealed that students using audio-visual methods exhibited "fair" to "satisfactory" learning skills. However, following the intervention, post-test scores demonstrated significant improvement, with students achieving "very satisfactory" to "excel-lent" levels. A t-test was performed to analyze the differences between pre-test and post-test performance, confirming that these improvements were statistically significant. Additionally, a one-way ANOVA analysis indicated that variations in learning styles did not significantly impact post-test outcomes. Collectively, these findings suggest that the integration of videocasts substantially enhanced the audio-visual learning skills of the students.

Keywords: educational intervention; learning styles; quasi-experimental design; pre-test and post-test evaluation; learning progress

1. Introduction

Technological enhancements have drastically changed the nature of learning spaces and educational practices worldwide. Leading this change is the modification of audio-visual learning, which improves students' interactions through sound and imaging and captures their multiple senses, thereby enhancing comprehension. In the current digital era, educational institutions increasingly adopting innovative approaches to improve learning outcomes, with audio-visual resources emerging as essential components of effective pedagogy. Among these resources, videocasts – a combination of podcasts and visual media – have gained prominence for their potential to facilitate deep learning through multimodal content delivery.

In connection with this, videocasts can be claimed to embody this shift, as they promote elaborate knowledge creation. The period of digitalization, characterized by high technological advancement, has impacted many areas, particularly educational processes, and, as noted in UNESCO's report on the monitoring of education in the world in 2023, has influenced pedagogical technologies. This emphasized the need for appropriate use to enhance learning experiences without supplanting human interaction. This perspective highlights the importance of utilizing tools like videocasts to support and enrich traditional teaching methods.

Despite the recognized benefits of audio-visual learning, certain areas remain underexplored. Viewing comprehension skills, often overlooked in language learning, are crucial yet under-researched. This oversight extends to curriculum design, pedagogical strategies, and assessment methods, resulting in a gap in comprehensive language education. Addressing this gap is essential for developing critical viewing and visual literacy skills, which are foundational for deep learning experiences. As noted by certain authors (Ambubuyog et

al., 2023), while speaking is emphasized in many educational settings, listening and viewing skills often receive insufficient attention, contributing to an underdeveloped curriculum for these skills. Similarly, Santos and Paglinawan (2023) highlight that viewing comprehension skills are often neglected in teaching materials and assessments, despite their importance in language development.

Videocasts represent an innovative solution to this challenge through the integration of auditory and visual elements to create dynamic and immersive learning experiences. They leverage the power of visual storytelling and interactive media, aligning with contemporary educational strategies that emphasize student engagement and active learning. The use of videocasts in education aligns with UNESCO's call for the appropriate use of technology to enhance learning while maintaining the central role of teachers

This research aims to explore how videocasts can enhance the audio-visual learning skills of Grade 7 students. Specifically, it investigates the impact of video-based learning on students' understanding, retention, and engagement. The study seeks to identify effective methods for integrating audio and visuals in teaching, with the goal of improving educational outcomes and supporting the overall development of seventh-grade students. By examining the role of video content in education, this research aspires to offer valuable insights for educators, policymakers, and researchers interested in optimizing teaching practices in the digital age.

Statement of the Problem:

H_0: There is no significant difference on the level of audio-visual learning skills of students before and after utilizing the videocast.

H_0: There is no significant relationship between the learning style and the post-test result of Grade 7 students.

The research aims to answer the following key *questions*:

1. What are the learning styles of the Grade 7 students according to their responses?
2. What is the initial and post-test level of audio-visual learning skills of the selected Grade 7 students at Santa Cruz Integrated National High School?
3. Is there a significant difference on the level of audio-visual learning skills of the students before and after the utilization of the videocast?
4. Is there a significant relationship between the learning style and post-test result of Grade 7 students?

2. Materials and Methods

2.1. Research Design

This research used an explanatory mixed-methods design, incorporating both quantitative and qualitative approaches to examine the impact of videocasts on audio-visual learning skills among Grade 7 students at Santa Cruz Integrated National High School (Main). As it was stated (Saunders et al., 2019), explanatory design gathers both data types to explore identified relationships or trends. The study employed a case study framework to assess student outcomes, while a quasi-experimental approach measured the intervention over two weeks. Purposive sampling was used to select participants, ensuring that those included had relevant experience with the intervention, which enhanced the reliability of the findings. Data were gathered through structured questions, allowing for consistency across responses and facilitating a comprehensive analysis. Statistical and qualitative analyses provided thorough insights, offering a multidimensional view of the impact of videocasts on learning. These findings were then linked to practical educational contexts, highlighting how specific instructional strategies could be applied to improve student outcomes in similar settings.

2.2. Population and Sampling

This study was conducted at Santa Cruz Integrated National High School, situated in Brgy. Oogong, Santa Cruz, Laguna, which provided secondary grade levels, including Grade 7 students, the target group for this research. A purposive sampling technique was employed to select forty-one (41) Grade 7 students as the total sample for the videocast intervention. This method allowed researchers to choose participants who were most relevant to the study's objectives.

2.3. Research Instrument

The research instrument for this study comprised several key components. The pre-survey consisted of 18 questions designed to identify participants' learning styles. The pretest and posttest included 10 items per videocast to evaluate participants' comprehension. The questions were divided into 3 easy, 3 average, and 4 hard items, targeting both lower-order and higher-order thinking skills. The videocast was developed through manual drawing and animation, with assistance from AI tools. The researchers utilized applications such as Ibis Paint, Animaker, and CapCut in the production process. The evaluation tools followed a similar format to the survey and were conducted using Google Forms and paper-and-pencil tests. Additionally, during the intervention, an existing videocast on YouTube was first presented before introducing our original videocast, which featured stories from Philippine Literature. In conclusion, the thoughtful use of varied tools and methodologies ensured a comprehensive evaluation of the learning materials.

2.4. Data Gathering Procedure

The data gathering procedure began with securing approval for the study by obtaining signatures from the Program Chair of the College of Education and the high school principal of Santa Cruz INHS. Following this, a pre-survey was administered to all Grade 7 students to gather baseline information. Subsequently, a pre-test was conducted using audio-visual learning material available online, with participants selected through purposive sampling. An interview was conducted during the intervention of the videocast, which was created originally by the researchers as a learning material. After the intervention, a post-test was administered through questionnaires. Throughout these stages, careful documentation of the gathered data was maintained to ensure accuracy and reliability in the analysis process.

2.4. Treatment of Data

Mean and standard deviation measured the initial and post-test levels of audio-visual learning skills among selected Grade 7 students at Santa Cruz Integrated National High School. A t-test determined whether a significant difference existed in students' learning skills before and after utilizing the videocast. Additionally, a one-way ANOVA analyzed the relationship between students' learning styles and their post-test results. Table 1 shows the statistical tools used during the research.

Table 1. Statistical tools.

Statement of the problem	Statistical treatment	Formula
What is the initial and post-test level of audio-visual learning skills of the selected Grade 7 students at Santa Cruz Integrated National High School?	Mean and Standard Deviation	$\mu = \dfrac{\Sigma x_i}{N}$ $s = \sqrt{\dfrac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2}$
Is there a significant difference on the level of audio-visual learning skills of the students before and after the utilization of the videocast?	T-test	$t = \dfrac{\overline{D} - \mu_{D\,hyp}}{s_{\overline{D}}}$
Is there a significant relationship between the learning style and post-test result of Grade 7 students?	One-way ANOVA	$F = \dfrac{MST}{MSE}$ $MST = \dfrac{\sum_{i=1}^{k}(T_i^2/n_i) - G^2/n}{k-1}$ $MSE = \dfrac{\sum_{i=1}^{k}\sum_{j=1}^{n_i}Y_{ij}^2 - \sum_{i=1}^{k}(T_i^2/n_i)}{n-k}$

3. Results

This part deals with the presentation, analysis and interpretation of data gathered that determined the outcome of the utilization of videocast in enhancing audio-visual learning skill of Grade 7 students. This part discusses the findings of the study based on the research questions.

3.1. Statistics and Data Analysis

Table 1 presents the learning styles of Grade 7 students based on their responses. The table includes three categories: Audio-Visual, Visual, and Visual-Audio-Kinesthetic, along with the corresponding number of students and percentages for each category.

Table 1. Learning styles of the Grade 7 students according to their reponses.

Learning Styles	Number of Students	%
Audio-Visual	5	41.67
Visual	4	33.33
Visual-Audio-Kinesthetic	3	25
Total	**12**	**100**

In table 1, there are five students who were identified as audio-visual learners, with a total of 41.67% of the population. Then, 33.33 % of the population was visual learners, and only 25% of the population was audio-visual-kinesthetic learners.

Students absorb information in a multitude of ways, and understanding these learning styles is key to unlocking their academic potential. Some of the respondents thrive on visuals like pictures and through watching, while others prefer listening to lectures or learning through doing hands-on activities. There are also students who learn through both audio and visual learning style, while others learn through visual, audio and kinesthetic.

Based on the response of the students, **watching television helps them learn effectively** as stated by students "I can learn more effectively and because it can sometimes be helpful to broaden our knowledge." Also, **television can be a source of entertainment** as supported by the statement, "It is fun when I am watching cartoons." One of the students say "So, I can watch shows I like and news about the typhoon" which can be denoted that **television can serve as a valuable tool for learning and staying connected with current events**. As stated by Muppalla, Vuppalapati, Reddy Pulliahgaru, and Sreenivasulu (2023), watching television can help young children learn effectively. Screen exposure whether that be from a TV or mobile device can be beneficial, depending on the context in which it's viewed. The students remark highlighted the effectiveness of television as a learning tool, with students expressing that they can learn more effectively and broaden their knowledge through different television programs.

Students stated that "I don't have to read anymore and to further understand what is being listened to or read." These statements centered on the **preference for audiobooks over traditional reading, highlighting the convenience**. Audiobooks, in terms of learning, implies that individuals can acquire more knowledge through auditory learning. Audiobooks alleviated the difficulty of reading while facilitating better comprehension. In support to this the study of Joblon (2023), students who consistently used audiobooks achieved double the rate of reading growth compared to their peers. This indicated that regular use of audiobooks can significantly enhance reading skills and overall literacy development in students.

Instructional materials play a crucial role in facilitating effective teaching and learning processes by providing visual aids, hands-on experiences, and interactive resources to enhance students' understanding of educational concepts (Bacia, 2024). It explored how the integration of visual materials such as textbooks, workbooks, audiovisual materials, multimedia presentations, manipulatives, laboratory equipment, digital resources, and interactive technologies, support the improvement of students' academic performance. One of the students said "In order to understand well the events, places, or characters in the story." This statement revolved around the benefits of incorporating visuals, such as pictures, into storytelling or learning materials. These **visuals elements can enhance engagement, understanding, attractiveness, and comprehension for the learners**.

Verbal instructions are driven by the **better comprehension and improved task performance**. One of the audio-visual learners stated, "In order to fully understand what is

being heard or read" this emphasizes the importance of understanding, stating that verbal instructions facilitate a deeper comprehension of spoken information. **Verbal instructions aid in better understanding compared to other forms of communication.** Singh (2022) noted that verbal instructional modelling affects students perceived levels of self-confidence, particularly in their critical thinking skills.

Using visual image associations as a learning strategy are effective as they contribute to enhanced understanding, retention, and engagement with the material being studied. One of them said that "to accomplish what is being said and see what is happening in the story" this elaborated the practical benefits in terms of completing tasks and visualizing the actions and events within a story. In a study conducted by Henebery (2022); it stated that "The use of visuals has been found to improve learning by up to 400%, new research into memory retention and its relationship with visual learning. Overall, visual image associations as a learning strategy, as they contributed to enhance understanding, retention, and engagement with the material being studied.

In terms of listening to radio, one student stated that "Because it's entertaining to listen to." **This highlights the entertainment value of radio listening, suggesting that it provides enjoyable and engaging content.** Relaxation, and the dissemination of important information, are also factors that make it a preferred choice for the individual. The study conducted by Tobin and Guadagno (2022) supported the idea that listening can serve as a platform for fulfilling informational need, such as entertainment and fostering positive psychological outcomes. By catering to individuals' intellectual curiosity and providing a platform for social engagement, podcasts offered a unique and potentially enriching form of audio content.

The statements provided strongly support the preference for studying in a quiet environment with minimal distractions. One of these was "To think more and study well" this explicitly stated the need for a quiet place to foster deeper thinking and effective studying. This also demonstrated a preference for **studying in a quiet place, as it is seen as conducive to productivity, focus, and effective learning**. Swargiary and Roy (2023) stated that with recommendations for noise control measures, the design of study spaces, awareness and education initiatives, and the accommodation of individual study preferences to optimize the study environment and support student's academic success.

The respondents demonstrated characteristics of audio-visual learners who prefer learning through a combination of auditory and visual stimuli. They enjoyed media formats like television, radio, and audiobooks, which offer this combination, enabling them to engage more effectively with the content and deepen their understanding. This inclination highlighted their preference for immersive learning experiences that utilizes both auditory and visual elements.

With the **availability of digital devices on educational context**, students had the opportunity to explore topics that interest them in greater depth. In terms of **accessibility**, students responded, "**We have it in our house**" and "Because my **favorite hobby is watching TV**." Based on a study presented by Ünal (2022), televisions are used effectively in foreign language teaching as a mass communication tool and as a lesson tool in teaching cultural elements of the language. This proved that the method of self-directed learning, enhanced by the **visual medium they prefer**, nurtured a lasting passion for learning that extends well beyond the TV screen.

Additionally, visual learners excelled in the **multimedia environment** that television provides. A student emphasized the, "**It can be understood easily since the actions can be seen like in the noontime show, It's Showtime**." Unlike textbooks that contain only static images, television conveyed information in a lively and engaging manner. This visual stimulation helped students **not only to remember facts but also to grasp** the underlying reasons and mechanisms behind them.

There are studies in the literature that stated that learning style is an important learner feature that affects the learning environment (Cevher & Yıldırım, 2020) as visual learners benefit greatly from **processing information visually**. When information is delivered visually – such as through diagrams, charts, images, and videos – these learners can more easily comprehend and remember the content. The respondents stated, "The books that you are reading can be comprehended easily if there are pictures" and "**Pictures greatly helped to understand the text easily**." Through this, the researchers concluded that text-heavy books can be difficult to read because they mainly rely on the reader's imagination to create mental images. Books with illustrations filled this need by acting as **a strong link between written language and visual comprehension**.

Furthermore, while books contained pictures, these **images played a crucial role beyond just enhancing the page's visual appeal**; they actively contributed to the storytelling process and helped clarify complex ideas. Images can **break down intricate information** into understandable segments, making it easier for readers to grasp the content. For example, a diagram or illustration can simplify a complicated scientific process, a historical event, or a mathematical concept, making it more accessible and engaging. This visual aid bridged the gap **between abstract concepts and concrete understanding**, especially for visual learners who benefit from seeing information presented graphically.

Moreover, creating and using strong visual image associations for learning **greatly improved comprehension** of the lessons. A student said "I can easily understand it if I know the meaning or message of the picture." An article by Structural Learning stated that visual learning strategies are transformative in educational settings, providing a scaffold for students to climb to greater heights of understanding and cognitive development. This explained that pictures and visual aids are essential in this process. It also simplified complex concepts into more understandable and memorable parts. A respond highlighted, "**The lesson is more enjoyable and easier to learn**", offered a **clear and vivid depiction of information** and helped **prevent the confusion** that might occur with text-only explanations. This clear visual representation made learning **more intuitive and straightforward**, providing an easy grasp of the subject matter. As a result, visual aids not only enhance understanding but also improve retention and recall of information, leading to **a more effective and efficient learning experience**.

In conclusion, students who learn best visually benefited greatly from educational materials that incorporate visual elements. This can include televisions, multimedia content, and well-illustrated books. These visual aids not only made learning more engaging but also improved comprehension and retention of information.

For audio-visual and kinesthetic learners, **watching TV helps them in their learning style** for this entertains them because they can see moving objects or people. Moreover, watching TV contributed in their learning. According to some works (Averion et. al., 2020), the use of LED TV in the classroom is an effective and useful educational-technological tool inside the classroom for it creates various effects both to teachers and students. With the use of LED TV, teachers became competent, confident, and effective. Through this, they learn new concepts that are significant in their lives. Some of the respondents said that "It entertain me and I can see moving objects or people" and "The reason I watch TV is because I learn from what is being aired." Therefore, TV served as a source of both entertainment and education for students.

Listening to audiobooks is one of the ways to enhance respondents' learning style. This helped them to understand what the content of the material is. Also, they learn more because listening is a thing they like. The respondent stated that "Because it helps me learn and also understand what is being said" and "Because I enjoy listening…" According to Best and Clark (2021), audio helps readers understand the subject. Overall, listening to audiobooks improved students' learning style because they like doing it and they learn through listening.

On the other hand, the student conveyed that they **prefer reading books with pictures** which reveals one of the learning styles. It helped the learner to understand and visualize what is happening in a story, providing a clearer context for the narrative. In addition, picture book reading improved children's learning understanding (Wang & Shao, 2024). The student explained that, "So that **I can understand and see what is really happening in the pictures**, something like that" and "**I like to read books with pictures so I can understand them better**." The student is expressing their reason as to why they are more likely to learn when reading books with pictures. Students' learning style may vary in different aspects.

Furthermore, some students preferred **listening to verbal instructions**. This provided immediate clarity and guidance, aiding in your understanding of the task or information being conveyed. As stated in the recent studies (Ambubuyog et. al., 2023), active listening promotes active participation during class discussions. Learners have stated that "It's for my own benefit and so that **I can also understand what is being said**", "I like to listen to discussion where someone is speaking so **I can understand it better**." The learner has emphasized the importance of understanding most especially in face-to-face instruction.

Additionally, some of the selected respondents also stated that they have the **need to construct and use strong visual image associations to learn**. Visual images provided a tangible representation of abstract concepts, making them easier to comprehend and remember. Additionally, the visual imagery strategy is effective for improving comprehension, especially in descriptive texts or literature rich in sensory details (Reading Rockets, 2025).

They stated that their rationale for this preference lies in understanding. "Yes, to **fully understand**", "… **I also want to learn**." The respondents highlighted that the visual images help them to fully understand and learn what the context all about is.

Moreover, **listening to the radio** was also a way on how to enhance students' auditory skill. It helped the learners to understand what the speakers are discussing, keeping them informed about current events and important topics. Learners have stated their reason with regards to this: "So, I can **determine what the person in the radio is talking about**.", "Because I can **listen to other news through it**." In line with that, the study of Syahabuddin and Rizqa (2021) focused on podcasts, showing broader potential of audio-based media, including radio, in improving auditory skills. Both medium offered valuable opportunities for listeners to develop and refine their listening abilities through exposure to diverse content and regular practice.

Letourneau & Sobel (2020) stated that many informal learning environments use playful approaches to encourage and support learning, but the efficacy of such approaches might be dependent on children's belief that learning can occur during play. Conversely, some of the selected students' **likes to play with objects while learning**. It was quite common for young learners to interact with objects during the learning process, as this forms a fundamental part of their educational development.

In line to that, according to the Catalyst Learning Curricula (2024), when students design 3D models, they are able to take charge of their learning experience and explore the material in a way they find interesting. For some students, designing models also gave them a way to create art through what they are learning. Some of the selected student liked **crafting 3D models** because it made them feel creative and engaged. Students have articulated their reason, "It's like I feel **creative**". However, some says that it was just for academic requirements, "So **I can have passing grades**…"

Lastly, most of the selected students preferred to **study in a quiet place with minimal distractions (sound)**. It allowed them to study in peace and concentrate effectively. The absence of distractions ensured that they can focus fully on my tasks and better understand the material they are studying. Conveying their main reason: "yes, because I can study in **peace, I can also focus**". Emphasizing the essence of comprehending complex ideas when they are not interrupted especially sound barriers. "So, there can be no distractions on what I am doing, **I can also focus**, and for me to **understand what I am studying**."

These respondents displayed characteristics of audio-visual-kinesthetic learners because their statements collectively indicated a reliance on auditory (listening to audiobooks, verbal instructions, and the radio), visual (watching TV, reading books with pictures, and using visual images), and kinesthetic (playing with objects and creating 3D models) learning styles. This blend of preferences suggested that they learn best when they can engage multiple senses, integrating visual, auditory, and hands-on experiences.

Based on the pre-survey results, audio-visual was the most evident learning style, therefore, the researchers chose videocast as the learning material that will be used in the intervention. Videocasts offer a comprehensive and engaging learning experience that aligns with the preferences and needs of students across different learning styles, including audio-visual. With that, the researchers used the stories "Pliant like a Bamboo" and "How Ilang-ilang Got Its Name" as the basis for creating videocasts. By utilizing these culturally relevant stories into the videocasts, this will result to a more enriching learning experiences and understanding of their cultural heritage. Table 2 shows the initial and post-test level of audio-visual learning skill of Grade 7 students at Santa Cruz Integrated National High School (Main), which shows the means, standard deviations, and verbal interpretations.

Table 2. Level of audio-visual learning skill of students in the pre-test and post-test.

	Pre-test			Post-test		
	Mean	**SD**	**Verbal interpretation**	**Mean**	**SD**	**Verbal interpretation**
Videocast 1	3.8333	1.6422	Fair	8.5000	1.1677	Excellent
Videocast 2	4.1667	1.5859	Satisfactory	7.9167	2.1088	Very Satisfactory
Overall	4.0000	1.5880	Fair	8.2083	1.6934	Excellent

Note: 0-2 needs improvement, 2.01-4 fair, 4.01-6 satisfactory, 6.01-8 very satisfactory, 8.01-10 excellent.

For "Videocast 1" during pre-test, which the researchers utilized a video material from the internet, the Grade 7 students obtained a mean of 3.8333 which is considered as "Fair". This indicated that the students experienced problems in the audio-visual material they watched and listened to. The low mean score indicated how hard it is for the students to comprehend and analyze the video content.

On the other hand, the Grade 7 students obtained a mean of 4.1667, which is considered as "Satisfactory", in "Videocast 2". In comparison with the first videocast, the mean was higher in the second videocast. However, this indicated that the students are still struggling in terms of understanding the audio-visual material utilized in the pre-test. This suggested that they require focused interventions to enhance their audio-visual learning skill.

Overall, the students got an average score of 4.0000 with a standard deviation of 1.5880, by this; the researchers concluded that the remark of the students is "Fair" during pre-test. With this result of pre-tests, it suggested that the Grade 7 students needed an effective intervention to enhance their audio-visual learning skills so they can fully understand and interpret the stories. The study of Wahyuni and Nissa (2023) has shown that Grade 7 students often face challenges in effectively utilizing audio-visual learning skills for learning. The study revealed that Grade 7 students initially performed poorly when using audio-visual material, with a mean score of 49.75 in the pretest. However, after receiving instructional support that involved audio-visual methods, their mean score significantly improved to 82.25. This improvement indicates that while students might start with a lack of proficiency in audio-visual learning skills, targeted interventions can lead to substantial progress in their learning outcomes.

With an average score of 8.5000 and a standard deviation of 1.1677, the researchers concluded that the students got an "Excellent" remark during post-test of "Videocast 1". With this, it showed that the intervention, utilization of videocast created by the researchers based on their learning preferences in the pre-survey, helped the students to enhanced their audio-visual learning skill.

Moreover, in "Videocast 2", with an average score of 7.9167 and a standard deviation of 2.1088, researchers concluded that the students' remark is "Very Satisfactory" during post-test. It showed that the videocast is effective in enhancing students' audio-visual learning skill. It also shows that the students comprehended and analyzed the content of the videocast.

Overall, the students got an average score of 8.2083 with a standard deviation of 1.6934, by this; the researchers can conclude that the students got an "Excellent" remark during post-tests of both videocasts. This explained that the utilization of videocasts during the intervention helped the Grade 7 students in enhancing their audio-visual learning skill. In line with this, Kathirvel and Hashim (2020) stated that audio-visual materials have been contributing a lot to both teachers and students in language learning and creates an interactive, fun and most importantly, effective education to students. The videocast improved learners' audio-visual skills as the researchers provided a learning resource tailored to meet the students' needs. As a result, the students successfully passed the post-test, achieving excellent performance. Table 3 presents the change in audio-visual learning skill of Grade 7 students before and after utilizing videocast. The results are summarized in a table that includes the mean of pre-test and post-test, t-value, crit value, and remarks

Table 3. Difference in the audio-visual learning skill of Grade 7 students before and after the implementation of the videocast.

Pre-Test vs. Post Test					
Videocast	**Means**		**T-value**	**Crit value**	**Remarks**
	Pre-test	**Post-test**			
Videocast 1	3.8333	8.5000	-12.410		
Videocast 2	4.1667	7.9167	-5.6451	**2.2010**	**Significant**
Overall	**4.0000**	**8.2083**	**-10.9215**		

The mean of the pre-test for the "Videocast 1" is 3.8333, categorized as "Fair". On the other hand, after the utilization of the videocast as an intervention, the scores improved with a mean of 8.5000 in the post-test. This demonstrates that the utilization of videocast helped students' audio-visual learning skill to be enhanced.

Similarly, the mean of pre-test, which is 4.1667 (Satisfactory) and the mean of post-test,

which is 7.9167 (Very Satisfactory) in "Videocast 2" also improved. This only proved that the videocast created by the researches had a positive impact in the audio-visual learning skills of students.

All in all, having a t-value with a higher absolute value than the critical value, the researchers concluded that the utilization of videocast in enhancing the audio-visual learning skill has a significant effect on Grade 7 students. According to some works (Muppalla et al., 2023), animated video stories as an innovation had a positive effect on the learners' achievement. Moreover, the in-teractive nature of videocasts allowed students to engage more deeply with the content, fostering both retention and comprehension. This approach also catered to diverse learning styles, par-ticularly benefiting visual and auditory learners who require dynamic and multisensory teaching aids. This emphasized that the implementation of the videocast during the teaching-learning process absolutely contributed to a positive change in students' learning. The videocast helped learners in enhancing their audio-visual learning skills to understand the lesson and achieve the learning goal. Table 4 shows the relationship between the learning styles and post-test result of Grade 7 students.

Table 4. Relationship between the learning styles and post-test result of Grade 7 students.

		Analysis of Variance (ANOVA)							
n	Variable	Sum of squares (SS)	df	Mean square (MS)	F	p-value	F_{crit}	Size Effect	Remarks
12	Videocast 1	15	11	3.5296	2.11	0.1772	4.26	0.32	Not Significant
	Videocast 2	48.9166		5.7074	0.07	0.9329		0.01	Not Significant

Table 4 presents the results of the one-way ANOVA conducted to assess the relationship between the different learning styles on the posttest scores of Grade 7 students. The first section summarizes the findings for Videocast 1, which indicates a sum of squares (SS) of 15 and a mean square (MS) of 3.5296, leading to an F-value of 2.11. This F-value is compared to the critical value of 4.26, which shows that the variation among the groups. The p-value is 0.1772, which is greater than the significance level of 0.05. The partial eta value of 0.32 suggests that learning styles explain 32% of the variation in posttest scores with a moderate effect size.

For Videocast 2, the results reveal a SS of 48.9166 and a MS of 5.7074, with an F-value of 0.07. This F-value is substantially lower than the critical value, indicating a lack of difference among the learning style groups, further confirmed by a high p-value of 0.9329. Additionally, the partial eta is 0.01, showing that only 1% of the variation in scores can be attributed to learning styles.

Overall, "Videocast 1" and "Videocast 2" can be used as effective instructional materials to students to deepen their understanding about the content despite of their learning styles. According to Ashikuzzaman (2024), audio-visual aids are crucial in modern education because they enhance the learning experience by engaging multiple senses, and one of the importance of AV is it caters different learning styles. He also stated that AV supports students with different abilities and needs.

4. Discussion and Conclusions

The pre-test results showed the student's audio-visual learning falls under the categories of "fair" and "satisfactory," justifying the need for intervention. Language teachers positively evaluated the videocast, confirming its suitability. However, after the intervention was carried out, the selected respondents scored in the range of "excellent" and "very satisfactory" suggesting that the intervention had a significant impact for the development of their au-dio-visual learning skills. Therefore, the null hypothesis – there is no significant difference in the level of audio-visual learning skills of students before and after utilizing the videocast – was not accepted. However, there is no significant relationship between the learning style and the post-test result of Grade 7 students, which was therefore accepted.

Research by Privado and Hermosa (2023) emphasized that combining audio-visual input

not only boosts cognitive capacities but also makes material easier to learn and enhances student motivation. Similarly, some scolars (Suing et al., 2023) showed that audio-visual resources create a positive learning environment, improve engagement, and simplify complex topics. The significant increase in post-test scores indicates that integrating both visual and auditory elements into instruction can enhance students' comprehension and retention. Just as previous research highlighted the role of audio-visual resources in creating a more engaging and motivating learning environment, the videocasts used in this study provided interactive and accessible content that helped Grade 7 students grasp lessons more effectively.

Moreover, certain studies (Muppalla et al., 2023) concluded that animated video stories as an innovation had a positive effect on learners' achievement, further supporting the effectiveness of multimedia-based instruction. This aligns with the findings of the current research, where the use of researcher-developed animated videocasts led to notable improvements in students' post-test performance. The integration of animation, narration, and visual storytelling not only captured students' attention but also facilitated better understanding and recall of information. These results affirm that innovative tools like videocasts can significantly contribute to academic achievement and are valuable additions to instructional strategies.

Based on the study's findings, it is recommended that students use videocasts for self-paced learning, allowing them to revisit challenging topics and strengthen understanding. Peer discussions centered on videocast content can further support learning through collaboration. Teachers are encouraged to evaluate and enhance the researcher-developed videocasts and regularly integrate them into their lesson plans to improve audio-visual learning and student engagement.

For future research, the use of advanced editing tools and the inclusion of subtitles are suggested to improve the quality of videocasts. Exploring other types of videocasting and instructional methods may yield varied outcomes. Additionally, future studies should consider using larger sample sizes, alternative methodologies, and diverse assessment tools to further examine the connection between learning styles and academic performance.

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