



Research Article

# Effectiveness of a Developed Video Lesson On Kitchen Tools, Equipment, and Paraphernalia for TLE 8 Cookery Students

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**Abstract:** This study aimed to determine the effectiveness of a developed video lesson compared to traditional teaching methods in conveying TLE8-Cookery concepts to Grade 8 students at Gacub Atad S. Iligan Tribal National High School and Esperanza Integrated School. Using a quasi-experimental design, students were divided into two groups – one taught using a traditional approach, the other using a crafted video lesson. The video was developed following ADDIE Model and evaluated on content, instructional, and technical quality using the DepEd Learning Resource Management Department Section (LRMDS) tool. Results showed high ratings for the video’s content alignment, instructional clarity, and technical quality, especially its clear audio-visual elements. Moreover, students taught through the video lesson demonstrated significantly greater improvement in post-test scores compared to those taught traditionally, underscoring the video’s potential to enhance comprehension and retention in cookery concepts. The study recommends that the Department of Education and school leaders incorporate video lessons as effective tools to support technical subjects and consider training teachers in creating instructional videos. Future studies could extend this research to analyze the long-term impact and engagement benefits of video lessons.

**Keywords:** video lesson, cookery concept, technology and livelihood education, ADDIE model

## 1. Introduction

In the field of technology education, the methods through which knowledge is imparted and absorbed continually evolve. With the advent of technology, the traditional paradigms of teaching face new challenges and opportunities (Goh & Abdul-Wahab, 2020). One such domain under scrutiny is the teaching and learning experience in culinary education, where the efficacy of traditional teaching methods is being juxtaposed against emerging alternatives, such as recorded video instruction (Cheng & Lander, 2024).

Recent studies have emphasized the transformative potential of incorporating technology into educational frameworks. According to Loon (2021), the integration of recorded video instruction presents an enticing proposition, promising greater accessibility, flexibility, and engagement for learners. Additionally, research by Gabbianelli (2020) suggests that video-based instruction can enhance comprehension and retention of complex concepts in culinary education. However, the efficacy of this approach in yielding tangible learning outcomes remains a subject of empirical investigation. Studies such as those conducted by Turan and Cetintas (2020), have explored the impact of video-based learning on student satisfaction and performance, providing valuable insights into its potential benefits and limitations.

In contrast, traditional teaching methods have stood the test of time, offering a structured and interactive learning environment that fosters direct teacher-student interaction (Cevikbas & Kaiser, 2020). Research by Hall (2022) highlights the importance of face-to-face interaction in culinary education, emphasizing the role of hands-on experience and real-time feedback in skill acquisition. Yet, amidst the digital revolution, questions arise regarding its adaptability to the evolving needs and preferences of modern learners. Amin, Nordin, and Hasbullah (2021) have investigated the effectiveness of traditional teaching methods in culinary education, shedding light on the factors influencing student engagement and learning

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outcomes in face-to-face settings.

In the context of Gacub Atad S. Iligan Tribal National High School, the institution has introduced Grade 8 TLE-Cookery subject to its curriculum. Despite efforts to support learning, challenges persist. The school has provided textbooks to students, yet their availability is limited, unable to meet the demands of the student population. Compounding the issue, the printed materials are monochromatic, lacking the vivacity needed to engage learners effectively. Such limitations have prompted students to rely on their imagination to grasp the concepts, as the school lacks the actual materials or facilities aligned with the provided textbooks. Ramzan, Mushtaq, and Ashraf (2023) emphasize that the absence of adequate learning materials can hinder students' mastery of the subject matter, which is evident in the low Mean Percentage Score achieved by students during the Division-wide quarterly exam. This deficiency in resources not only affects the students' comprehension but also their performance in assessments. Addressing these challenges is imperative to ensure that students receive quality education and have the opportunity to excel in their studies.

Thus, examining the comparative learning outcomes between these two pedagogical strategies, this study seeks to contribute to the ongoing discourse surrounding effective teaching practices in TLE8 - Cookery. Through analysis and interpretation of data, this study aims to provide educators and stakeholders with evidence-based insights to inform decision-making and enhance the quality of instruction in TLE8 – Cookery.

The study seeks to determine which method - a newly crafted video lesson or the traditional approach to teaching - proves more effective in conveying TLE8-Cookery concepts to the Gacub Atad S. Iligan Tribal National High School and Esperanza Integrated School during the 1st quarter of the academic year 2024-2025. Specifically, this study sought to answer the following questions:

(1) What is the evaluation rating of the developed video lesson in TLE8-Cookery using the DepEd Learning Resource Management Department Section (LRMDS) evaluation tool for the quality of lecture-demo video in terms of content quality; instructional quality; technical quality;

(2) What is the performance of Grade 8 TLE – Cookery students in the pre-test and post-test when taught using Traditional method and using video lesson?

(3) Is there a significant difference in pre-test and post-test scores of Grade 8 TLE – Cookery students when taught using Traditional method and using video lesson? 4.

(4) Based from findings, what action can be made?

## 2. Literature Review

This study is grounded in Constructivist Learning Theory, which emphasizes active learning through hands-on culinary experiences that bridge theory and practice while fostering skills like problem-solving, teamwork, and a sense of community (Rannikmäe et al., 2020; Cabuenas, 2023). Complementing this is Knowles's Self-Directed Learning Model, which nurtures autonomy and intrinsic motivation by encouraging students to select projects, research topics, and reflect on their progress, fostering critical thinking and lifelong engagement (Collier, 2022; Nurdiana et al., 2023).

Additionally, this research aligns with Division Memorandum No. 410 s.2019 and RA 10533, which advocate curriculum flexibility, contextualization, and intervention plans to address least mastered competencies, as well as DepEd Order No. 021 s.2019, which supports the development of quality, contextualized learning materials for Grade 8 TLE-Cookery students. The use of video lessons is essential in distance education, enabling instruction through various technologies for geographically separated students and teachers (Sutiah et al., 2020).

Effective distance learning, like traditional education, relies on strong course design, meaningful interaction, clear communication, and consistent feedback (Bolliger & Martin, 2021). Video lessons, as a key mode of digital delivery, offer flexibility, convenience, and accessibility, benefiting students who cannot attend traditional classes and allowing them to learn at their own pace, enhancing engagement and perceptions of online learning (Kelly & Zakrajsek, 2023; Bahiyah, 2023). Furthermore, video-based instruction reduces institutional costs by requiring fewer resources and allowing content reuse, making it a cost-effective solution for students and institutions alike (Almahasees et al., 2021; Jayabalan et al., 2021).

Teacher-made learning materials are important for keeping students motivated and supporting their individual learning needs. They are flexible, encourage independent learning, and can be quickly adjusted to fit different situations (Fitria, 2022; Amini et al., 2024). These

materials help students stay engaged by including self-check activities and teamwork tasks, which improve both independence and cooperation (Bakar et al., 2022; Sippel, 2024). When combined with video lessons, they create engaging learning environments that meet the needs of different students (Alda et al., 2020). Using different types of learning materials, such as videos and visual or auditory tools, helps students learn in ways that work best for them, achieve lesson goals, and develop useful skills (Batac et al., 2021).

Instructional materials, especially modules, are crucial for engaging students and helping teachers deliver effective lessons. According to Orozco and Berame (2022), teaching aids enhance understanding and comprehension of lesson content. These materials are key to improving students' retention of information. Kilag, Catacutan, Miñoza, Arcillo, Espinosa, and Figer-Canes (2023) noted that educational materials are designed to reinforce core concepts, promote critical thinking, and support various learning methods, including mass instruction, individualized learning, and group activities. Online distance education, as highlighted by Funa (2023), fosters independent, learner-centered learning, allowing students to take ownership of their education. However, Placencia Jr. and Lopres (2022) pointed out that distance learning has challenges, such as limited interaction between students and content, and a lack of immediate feedback, which traditional classroom settings can provide more effectively.

Traditional instructional methods have struggled to keep up with rapid technological advancements and environmental changes (Ayçiçek & Yanpar Yelken, 2021). To address this, educators have incorporated digital devices and electronic materials to improve student engagement (Jenset et al., 2018). The rise of video-based learning platforms like Khan Academy and edX, alongside for-profit platforms like Coursera and Udacity, has led to increased research in the field. The popularity of learning videos has surged, with millions of students accessing content on platforms like YouTube, highlighting the growing role of massive open online courses (MOOCs) in education (Lin, 2023). To ensure effective learning in the digital era, Akpınar, Kutbay, and Akkaya (2023) stress the importance of sound pedagogical design.

Materials developed by the Learning Federation are based on current research on how students learn, with the goal of enhancing understanding through well-selected learning objects. However, interaction with these objects is just one part of the learning experience, and the Federation ensures that digital resources, including videos, support best teaching practices. In the context of learning engagement, it is important that learning experiences are tailored to meet students' needs, balancing challenge with building on existing knowledge to help them extend their understanding.

Herrington, Oliver, and Reeves (2003) argue that authentic, scenario-based problem-solving and investigative activities are key to engaging students with unfamiliar concepts. The rise of online distance learning has created both opportunities and challenges. While it promotes learner-centered ownership, flexibility, and accessibility, it can also limit learner-content interaction and make it difficult to provide immediate feedback (Lin et al., 2021). Despite these challenges, online learning continues to evolve, driven by technological advancements and pedagogical research, offering new possibilities for teaching and learning in the digital age. Aykut (2020) explored the impact of educational videos on student engagement, finding that both researcher-selected and student-selected videos positively influenced classroom participation. Interestingly, videos chosen by students had a greater impact on participation compared to those selected by researchers.

Similarly, Nouri (2016) examined students' perceptions of videos at the higher education, discovering that most students viewed videos as beneficial, improving their learning outcomes and approaches. This suggests that integrating videos into education can enhance both student and instructor outcomes. Brophy (2003) emphasized the importance of videos in improving learning outcomes, but also highlighted the need for careful planning by teachers. Recommendations included aligning videos with course objectives and clearly communicating their purpose to maximize their effectiveness in teaching. Wong, Oladinrin, Ho, Guilbert, and Kam (2022) advocated for an interactive approach to video-based learning, suggesting that instructors facilitate discussions and encourage student perspectives throughout the course. They emphasized that videos should be viewed as part of a broader academic environment, with their integration impacting both student and instructor learning outcomes. Similarly, Wu, Chang, and Hu (2024) explored how different types of video lectures affect cognitive factors and learning performance. Their findings indicated that Video-Based Learning (VBL) enhances learning effectiveness, especially when incorporating visuals, audio, and maintaining relevance to students.

VBL was also found to motivate students when tailored to their learning needs. However, critics argue that VBL may not engage students as effectively as textual materials, potentially leading to decreased focus. The above literature review emphasizes the value of video lessons in enhancing student engagement and outcomes, underscoring the need for thoughtful integration and careful alignment with course objectives. Citing these literatures, this study strengthens its foundation, demonstrating the effectiveness of multimedia tools and their potential to transform vocational education.

### 3. Materials and Methods

#### 3.1. Research Design

This study utilized a quasi-experimental design (Creswell, 2014) to compare student learning outcomes between two instructional delivery methods: video lessons and traditional approaches, such as live class demonstrations. The development of the video lessons was guided by the ADDIE model, ensuring alignment with the curriculum and addressing the needs of the students. The instructional concepts were carefully tailored to meet both curriculum standards and learner requirements.

#### 3.2. Research Respondents

The study was conducted in selected secondary schools within the Surigao del Sur Division during the academic year 2024-2025, focusing on schools offering TLE-Cookery. The research sites included Gacub Atad S. Iligan Tribal National High School and Esperanza Integrated School. Participants for the evaluation of the developed video lesson in TLE 8-Cookery included the Education Program Supervisor of TLE, Master Teachers specializing in TLE, and TLE teachers from secondary schools in the District of Carmen, Surigao del Sur. These participants evaluated the video lessons using the Learning Resource Management and Development System evaluation tool for printed materials.

To test the efficacy of the developed learning material, 30 students from each of the selected schools offering Cookery participated in the study, resulting in a total of 60 student participants for the experiment. The selection criteria were based on students currently enrolled in the Cookery program, ensuring they had prior exposure to the subject matter. Participants were chosen through purposive sampling to include those who could provide meaningful insights into the effectiveness of the video lessons. Ethical considerations were strictly observed throughout the study. Informed consent was obtained from both students and their guardians, ensuring voluntary participation. Confidentiality and anonymity of participants were maintained, and data collected was used solely for research purposes. Additionally, the study adhered to ethical guidelines to prevent bias, ensuring that all participants had equal access to learning resources and were treated fairly throughout the experimental process.

#### 3.3. Research Instrument

The analysis tool comprised three components: Part I: DepEd Evaluation Rating Sheet for Print Resources The researcher utilized a standardized evaluation rating sheet provided by the Department of Education's Learning Resource Management Section (DepEd, 2017). This tool was employed to assess the acceptability of the developed video lesson for Grade 8 Cookery. The evaluation criteria included content quality, instructional quality, and technical quality, ensuring the resource met the standards for teaching various lessons. Part II: Pre-test and Post-test in TLE 8 – Cookery A 40-item multiple-choice pretest and posttest were administered to evaluate the performance of Grade 8 Cookery students. These tests measured the effectiveness of the developed video lesson in improving student learning outcomes. The pretest and posttest items were pilot-tested on 30 students to ensure their reliability and validity. Cronbach's alpha value was calculated at 0.85, indicating a high level of internal consistency and reliability for the assessment tools.

#### 3.4. Data Gathering Procedure

This study used the ADDIE model – Analyze, Design, Develop, Implement, and Evaluate – as a framework for developing video lessons in TLE 8 Cookery. Based on the approach popularized by Seels and Glasgow (1998), the researcher followed these steps to ensure a structured and effective process for creating and implementing the video lessons.

##### 3.4.1. Analyze Phase

The researcher requested data from the division planning office regarding the consolidated least learned competencies in Grade 8 TLE-Cookery for the school year 2023-2024. The least learned competencies were identified at both the school and division levels, forming the foundation for developing the video lessons. This phase focused on understanding the educational needs and gaps to be addressed through multimedia learning materials.

### 3.4.2. Design Phase

Using the identified competencies, the researcher crafted the video lessons' objectives, learning activities, and content outlines. This process ensured alignment with curriculum standards and instructional goals, creating a blueprint for the lesson content and structure.

### 3.4.3. Development Phase

Approval for the study was sought from the Schools Division Superintendent and principals of selected schools offering TLE-Cookery. The researcher also sent letters requesting participation from respondents, including the TLE Supervisor, Master Teachers, and TLE-Cookery teachers. These participants evaluated the developed video lessons on content, instructional, and technical quality using the DepEd LRMS tool. During this phase, the video lessons were produced and reviewed to ensure quality and effectiveness.

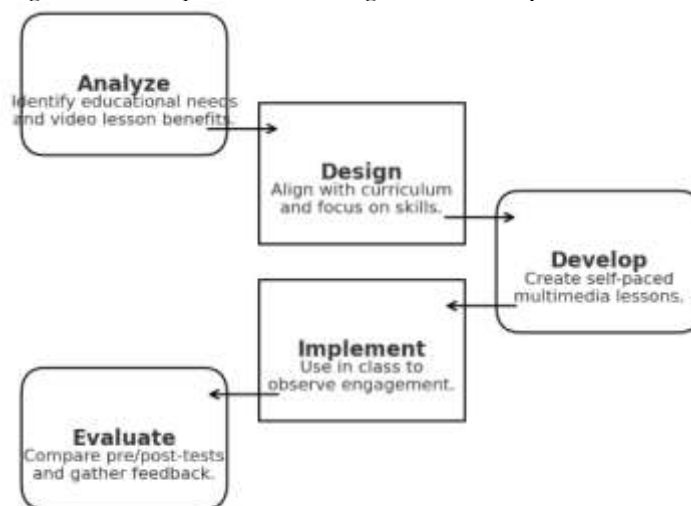
### 3.4.4. Implementation Phase

To test the video lessons' efficacy, the researcher administered pretests and posttests to the research participants, including selected Grade 8 students from the study's target schools. A quality-assured questionnaire was also distributed to facilitate feedback collection. This phase involved using the video lessons in the actual learning environment.

### 3.4.5. Evaluation Phase

The researcher personally collected the answer sheets, checked, tallied, and tabulated the scores. The gathered data were classified and analyzed with the assistance of a statistician to address the research sub-problems. Feedback from teachers and students was also reviewed to assess the effectiveness and usability of the video lessons, completing the iterative process of improvement inherent in the ADDIE model.

Figure 1 below, which illustrates the ADDIE model, summarizes the flow of how the data were gathered and processed throughout the study.



**Figure 1.** ADDIE Model.

### 3.5. Data Analysis

In the analysis and treatment of data, the researcher utilized specific statistical tools to address the research objectives. The Average Weighted Mean was employed to determine the evaluation rating of the developed video lessons for teaching Grade 8 TLE Cookery. Additionally, the Analysis of Covariance (ANCOVA) was used to assess the significant difference between the pre-test and post-test mean scores of Grade 8 TLE Cookery students, accounting for potential covariates to ensure accurate comparison of results.

## 4. Results and Discussion

This section presents the study's findings on the effectiveness of video lessons in TLE 8-Cookery. Results are analyzed based on research objectives, comparing pre- and post-test performance. Key trends, statistical insights, and relevant implications are discussed in relation to existing literature.

Table 1 presents the evaluation rating of the developed video lesson in TLE-8 Cookery using the DepEd LRMS in terms of Content Quality, Instructional Quality, and Technical Quality.

**Table 1.** Evaluation Rating of the Developed Video Lesson in TLE-8 Cookery using the DepEd LRMS.

Indicator	WM	Verbal Description
<b>Factor 1: Content Quality</b>		
1. Content is consistent with topics/skills found in the DepEd Learning Competencies for the subject and grade/year level it was intended.	3.78	Strongly Agree
2. Concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives.	3.64	Strongly Agree
3. Content is accurate.	3.88	Strongly Agree
4. Content is up-to-date.	3.84	Strongly Agree
5. Content is logically developed and organized.	3.90	Strongly Agree
6. Content is free from cultural, gender, racial, or ethnic bias.	3.72	Strongly Agree
7. Content stimulates and promotes critical thinking.	3.78	Strongly Agree
8. Content is relevant to real-life situations.	3.70	Strongly Agree
9. Language (including vocabulary) is appropriate to the target user level.	3.90	Strongly Agree
10. Content promotes positive values that support formative growth.	3.84	Strongly Agree
<b>Mean</b>	<b>3.8</b>	<b>Strongly Agree</b>
<b>Factor 2: Instructional Quality</b>		
1. Purpose of the material is well defined.	3.78	Strongly Agree
2. Material achieves its defined purpose.	3.84	Strongly Agree
3. Learning objectives are clearly stated and measurable.	3.84	Strongly Agree
4. Level of difficulty is appropriate for the intended target user.	3.62	Strongly Agree
5. Graphics / colors / sounds are used for appropriate instructional reasons.	3.78	Strongly Agree
6. Material is enjoyable, stimulating, challenging, and engaging.	3.62	Strongly Agree
7. Material effectively stimulates creativity of target user.	3.76	Strongly Agree
8. Feedback on target user's responses is effectively employed.	3.80	Strongly Agree
9. Target user can control the rate and sequence of presentation and review.	3.80	Strongly Agree
10. Instruction is integrated with target user's previous experience.	3.76	Strongly Agree
<b>Mean</b>	<b>3.76</b>	<b>Strongly Agree</b>
<b>Factor 3: Technical Quality</b>		
1. Audio enhances understanding of the concept.	3.80	Strongly Agree
2. Speech and narration (correct pacing, intonation, and pronunciation) is clear and can be easily understood.	3.76	Strongly Agree
3. There is complete synchronization of audio with the visuals.	3.70	Strongly Agree
4. Music and sound effects are appropriate and effective for instructional purposes.	3.80	Strongly Agree
5. Screen displays (text) are uncluttered, easy to read, and aesthetically pleasing.	3.80	Strongly Agree
6. Visual presentations (non-text) are clear and easy to interpret.	3.76	Strongly Agree

7. Visuals sustain interest and do not distract user’s attention.	3.76	Strongly Agree
8. Visuals provide accurate representation of the concept discussed.	3.80	Strongly Agree
9.The user support materials (if any) are effective.	3.76	Strongly Agree
10.The design allows the target user to navigate freely through the material.		Strongly Agree
11. The material can easily and independently be used.	3.76	Strongly Agree
<b>Mean</b>	<b>3.77</b>	<b>Strongly Agree</b>
<b>Over-all Mean</b>	<b>3.78</b>	<b>Strongly Agree</b>

Legend: 4.0-3.26- Strongly Agree; 2.50-1.76- Disagree; 2.51-3.25- Agree; 1.0-1.75 Strongly Disagree

For content quality, an overall rating of 3.80, indicates that the video lesson is comprehensive and relevant to DepEd competencies in cookery subject. The high scores suggest the content is logically organized, culturally sensitive, and promotes critical thinking, which is essential for vocational education. The high rating for real-life relevance (3.70) implies that the content helps students connect their learning to practical applications, enhancing their understanding of cookery. This finding is consistent with Vu, Hung, Van, and Lien (2019) research on multimedia learning, which indicates that well-structured content enhances cognitive processing. Additionally, Gebre and Polman (2020) highlight the importance of contextualized lessons, suggesting they improve learners’ ability to apply skills practically.

When it comes to instructional quality, a mean rating of 3.76, indicates that the lesson’s instructional design effectively meets educational objectives. High scores for clear objectives (3.84), effective use of graphics and sounds (3.78), and engagement (3.62) suggest that the material is appropriately challenging and accessible for the target audience, essential for maintaining interest and guiding learning. These elements align with constructivist learning theories, which stress the importance of clear objectives and active engagement (Jaiswal, 2019). The strong rating for feedback effectiveness (3.80) supports research by Donkin, Askew, and Stevenson (2019), which indicates that timely feedback in video lessons enhances learning retention. Similarly, the lesson’s allowance for user control (3.80) aligns with learner autonomy principles, which emphasize that self-paced instruction promotes comprehension and motivation in skill-based training (Martinez et al., 2024).

Meanwhile, technical quality was rated with a mean of 3.77, suggesting the video lesson’s technical elements, such as audio clarity, synchronization, and visual appeal, successfully support comprehension without causing distraction. Wu (2024) underscores the importance of technical quality in educational videos, as poor technical elements can hinder learning. High scores for audio quality (3.80) and visual representation (3.80) indicate that clear audio and visuals help students retain complex information, which is essential in vocational education (Nicolaou et al., 2019). The ease of navigation, with a strong rating of 3.76, aligns with usability studies that emphasize that good design in educational technology helps users focus on the content without distraction (Shernoff et al., 2020).

The evaluation ratings presented in Table 2 reflect a high level of effectiveness for the developed contextualized video lesson in dressmaking, based on three major factors: Content Quality, Instructional Quality, and Technical Quality. With an overall mean rating of 3.78 (Strongly Agree), these results imply that the video lesson aligns well with the educational standards and quality benchmarks set by the Department of Education’s Learning Resource Management and Development System (LRMDS). Consistent with studies on multimedia learning and technical education, this research suggests that well-designed video lessons can support competency development, encourage engagement, and improve retention of technical skills.

**Table 2.** Mean scores and standard deviation value of the pre-test and post-test.

Respondents	Pre-test			Post-Test	
	N	Mean	SD	Mean	SD
Using developed video lesson	30	<b>8.14</b>	1.56	<b>19.85</b>	2.21
Traditional method	30	<b>8.21</b>	1.23	<b>15.67</b>	1.83

Table 2 presents the means scores of the students during the conduct of pre-test and

post-test using video lesson and traditional method. The mean scores and standard deviations of students' performance on pre-tests and post-tests when using the developed video lesson compared to the traditional method. These results provide insight into the effectiveness of the video lesson in enhancing students' learning outcomes. For the group using the developed video lesson, the pre-test mean score was 8.14 with a standard deviation of 1.56, indicating a moderate level of variation in students' initial knowledge. After exposure to the video lesson, the post-test mean score significantly increased to 19.85, with a standard deviation of 2.21. This substantial improvement suggests that the video lesson was highly effective in facilitating students' understanding of the content. The increase in standard deviation indicates a slight broadening in score distribution, possibly due to varied levels of engagement and retention across students, but overall, it demonstrates a clear improvement.

In contrast, for the group taught using the traditional method, the pre-test mean score was 8.21 with a standard deviation of 1.23, similar to the video lesson group's initial performance. However, the post-test mean score for this group was 15.67 with a standard deviation of 1.83. While there was a marked improvement from the pre-test, the post-test mean score and its narrower standard deviation relative to the video lesson group suggest that the traditional method, though effective to some extent, may not have been as impactful in enhancing students' understanding as the video lesson.

The higher post-test scores and greater improvement in the video lesson group imply that video-based instruction may be more effective than traditional methods in facilitating deeper comprehension and retention, especially for skill-based subjects. This finding aligns to the findings of Kilag, Dejino, Almendras, Arcillo, Mansueto, and Abendan (2023), which emphasizes the effectiveness of multimedia in enhancing learning by engaging multiple sensory modalities, making abstract concepts more accessible. The standard deviations further illustrate how the video lesson approach allows for individualized pacing and review, which can cater to a broader range of learning needs compared to the more uniform pace of traditional methods. Additionally, the effectiveness of the developed video lesson supports findings from studies in educational technology that suggest multimedia resources can significantly enhance student outcomes, particularly in technical and vocational education (Abdulrahman et al., 2020). This evidence suggests that integrating video-based lessons into teaching practices could be beneficial in achieving higher learning gains, especially in skill-based courses.

**Table 4.** The significant difference in the students' means scores.

Academic performance	F-value	p-value	Conclusion
Using video lesson	.54	.023	Significant
Using traditional method			

Table 4 presents the significant difference in the students' mean scores when taught using video lesson and traditional method. The F-value of 0.54 and p-value of 0.023 indicate that there is a statistically significant difference in mean scores between the two instructional methods. With a p-value below the 0.05 threshold, confirming that the use of video lessons in teaching TLE-8 Cooker concepts significantly impacts students' learning outcomes compared to the traditional approach.

The significant difference observed implies that students who were taught using the video lesson achieved a notably higher performance than those taught using traditional methods. This result supports the integration of multimedia and video-based instruction in educational settings, especially for subjects that benefit from visual and interactive learning approaches like cookery. The video lesson's structured, visually engaging content likely helped students better understand and retain complex concepts, which aligns with Xie, Mayer, Wang, and Zhou (2019), suggesting that combining audio and visual elements can enhance information processing and retention.

Moreover, the significant results add to a growing body of research emphasizing the advantages of digital and multimedia resources in education. Archambault, Leary, and Rice (2022) highlight that well-designed multimedia materials tend to support various learning styles, enhance engagement, and allow for flexible, self-paced learning, factors that are especially important in skill-based subjects. These findings suggest that implementing video lessons as a complementary or alternative approach to traditional methods could lead to improved student performance, particularly in areas requiring hands-on skills and visual demonstration.



## 5. Conclusions

The study concluded that the newly crafted video lesson, developed using the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate), proved to be more effective than traditional methods in teaching TLE 8 Cookery concepts to Grade 8 students at Gacub Atad S. Iligan Tribal National High School and Esperanza Integrated School. The video lesson received high ratings for its content, instructional quality, and technical aspects, resulting in significant improvements in students' post-test scores. These findings highlight the effectiveness of a structured development process, like the ADDIE model, in creating high-quality educational resources. Furthermore, the results emphasize the potential of video-based learning to enhance student engagement, comprehension, and retention, suggesting that multimedia resources could be a valuable tool for teaching TLE and other skill-based subjects. In light of these findings, it is recommended that DepEd consider integrating video-based instructional materials more widely in the curriculum, particularly for technical and vocational subjects. School leaders should support this by investing in the necessary tools, facilitating teacher training, and conducting regular assessments to ensure the quality and alignment of these resources with curriculum goals. Teachers are encouraged to utilize multimedia tools like video lessons, seek feedback from students, and adapt their approaches to improve learning outcomes. Students are advised to embrace video lessons as a resource for self-paced learning, while communities can play a role by supporting initiatives that promote technology integration in education. Future research should explore the long-term impact of video-based instruction across different subjects, grade levels, and multimedia formats to further optimize digital learning tools.

**Author Contributions:** Freddimmie Enguito was responsible for the conceptualization, methodology, data collection, formal analysis, writing of the original draft, and overall project administration. Jose Calipayan Jr. contributed to the literature review, validation of findings, review and editing of the manuscript, visualization, and supervision of the research process. Both authors read and approved the final version of the manuscript.

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**Conflicts of Interest:** The researcher declares no conflict of interest. The study was conducted with impartiality, ensuring that the results and conclusions are based solely on the collected data and objective analysis.

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