

Integration of Videos and Instructional Competencies of Technology and Livelihood Education Teachers

Fejay L. Alcance, LPT¹, Zenaida M. Cuenca²,

Jocelyn V. Madrideo, EdD³, Eva F. Puyo, EdD⁴, Aleli Lorna A. Daquil, JD⁵

¹*fejay.alcance@deped.gov.ph*

¹*Bignay National High School, Brgy. Bignay 2, Sariaya, Quezon, 4322, Philippines*

²*zenaida.cuenca@lspu.edu.ph*

³*jocelyn.madrideo@lspu.edu.ph*

⁴*eva.puyo@lspu.edu.ph*

⁵*alelilorna.daquil@lspu.edu.ph*

Laguna State Polytechnic University, Brgy. Del Remedio, San Pablo City, Laguna, 4000, Philippines

Abstract

This study investigated the relationship between the integration of instructional videos and the instructional competencies of Technology and Livelihood Education (TLE) teachers. Furthermore, this paper highlighted the challenges and advantages faced by the participants during video integration. This study identified the respondents' profile and determined their level of video integration according to the frequency, purpose, and quality (content, visual, and audio), and their instructional competencies on lesson planning, instruction delivery, classroom management, and learner engagement. Mixed-method research with a quantitative descriptive-correlational design was utilized, wherein 15 TLE teachers were used as respondents. Data was gathered using a validated questionnaire, which was analyzed using frequency, percentage, mean, standard deviation, and Spearman's rho correlation.

The study found that video integration is usually done by TLE teachers, wherein content quality was always ensured, while visuals and audio qualities were often compromised. Moreover, the instructional competencies of TLE teachers were considered high, especially when it comes to lesson planning. From the result of correlation, there was a significant association among all variables except the relationship between visual presentation and lesson planning.

From the findings obtained, it may be concluded that the null hypothesis is partially accepted; instructional videos play a vital role in enhancing teaching competencies. Therefore, training, especially on how to use videos among older TLE teachers, and the provision of technologies must be done.

Keywords: instructional videos, TLE teachers, instructional competencies, video integration, descriptive-correlational study

1. Introduction

Technology has significantly improved modern education by making classrooms more interactive, with instructional videos serving as an effective tool for enhancing learning through both visual and auditory engagement. This is particularly relevant in Junior High School TLE, where practical skills such as cooking, agriculture, and electronics require demonstration and practice within limited time and resources.

This study examines the integration of instructional videos in TLE instruction and its relationship with teachers' instructional competencies. It also explores the challenges and opportunities teachers experience in using videos, especially in addressing common classroom issues such as overcrowding, limited laboratory resources,

and time constraints. Although instructional videos are widely recognized for improving student learning, their impact on teachers' performance remains underexplored. ⁴⁷

The study further focuses on how video integration influences teaching effectiveness, particularly in lesson planning, instructional delivery, classroom management, and learner engagement based on the PPST framework. It aims to determine the extent of video use, its purpose and quality, and how it contributes to teaching improvement and professional development.

Overall, this research highlights the importance of instructional videos not only for student learning but also for enhancing teachers' instructional practices. It emphasizes that integrating technology in teaching can improve educational outcomes and support more effective and efficient teaching in TLE.

1.1 Background of the Study

Education continues to evolve by adopting innovative teaching methods such as the integration of instructional videos. These videos enhance learning by combining visual and auditory elements, making concepts easier to understand and remember. Supported by multimedia learning theories, instructional videos promote better comprehension and cater to diverse learners through more engaging and flexible instructional approaches.

Globally, studies have shown that instructional videos improve student engagement, clarify instruction, and even enhance teacher performance. They have become essential in online and hybrid learning environments and are widely used in vocational education to standardize demonstrations and allow students to learn at their own pace. These practices highlight the growing role of videos as effective instructional tools across different educational contexts.

In the Philippines, the integration of instructional videos is aligned with the K-12 curriculum and the Philippine Professional Standards for Teachers (PPST), which emphasize ICT integration in teaching. This is especially relevant in Technology and Livelihood Education (TLE), a skill-based subject that requires demonstration and hands-on practice. Instructional videos help address common challenges such as limited resources, large class sizes, and insufficient equipment by providing consistent and repeatable demonstrations.

Despite their benefits, teachers still face challenges in adapting to technological changes and developing effective instructional materials. Instructional videos can support teachers by easing lesson preparation, improving instructional delivery, and enhancing classroom management and learner engagement. However, while many studies focus on the impact of videos on student learning, there is limited research on their effect on teachers' competencies, particularly in the TLE context.

This study addresses this gap by examining the relationship between instructional video integration and the instructional competencies of junior high school TLE teachers. It aims to provide evidence that can support improved teaching practices and inform educational policies.

Methodology

This section presents the procedures used in conducting the research. It includes the research design, respondents of the study, research instrument, research procedure, and statistical treatment of data.

1.2 Research Design

The study used a quantitative descriptive-correlational design to determine the relationship between instructional video integration and TLE teachers' competencies. A qualitative component through interviews was included to capture teachers' experiences, challenges, and opportunities.

1.3 Respondents of the Study

The respondents were 15 junior high school TLE teachers from selected schools in Sariaya West District, chosen through purposive sampling. Some participants also took part in interviews.

1.4 Research Instrument

A self-constructed questionnaire was used, consisting of three parts: (1) respondents' profile, (2) level of instructional video integration, and (3) instructional competencies based on PPST. A 4-point Likert scale and open-ended questions were included.

1.5 Research Procedure

Permission was secured from school authorities. Data were collected through survey questionnaires (printed or online) and interviews. Ethical considerations such as informed consent, confidentiality, and voluntary participation were observed.

1.6 Statistical Treatment of Data

Quantitative data were analyzed using frequency, percentage, weighted mean, and Spearman correlation (0.05 level). Qualitative data were analyzed using thematic analysis to identify key themes.

2. Results and Discussion

This section presents, analyzes, and interprets the data gathered from junior high school TLE teachers through surveys and interviews. It follows the statement of the problem, covering respondents' profile, level of instructional video integration, instructional competencies, relationship between variables, and the challenges and opportunities in using instructional videos, with results shown in tables and brief discussions.

Table 1. Profile of the Respondents as to Age, Sex, Highest Educational Attainment, Years of Teaching Experience, and Relevant Trainings/Seminars Attended

Age	f	%
20-29	3	20.0
30-39	8	53.3
40-49	3	20.0
50-59	1	6.7
TOTAL	15	100.0
Sex	f	%
Male	2	13.3
Female	13	86.7
TOTAL	15	100.0
Highest Educational Attainment	f	%
Bachelor's Degree	5	33.3
Master's Degree (Units/Graduate)	8	53.3
Doctorate (Units/Graduate)	2	13.3
TOTAL	15	100.0
Years of Teaching Experience	f	%
1-3 years	1	6.7
4-6 years	3	20.0
7-9 years	6	40.0
10 years and above	5	33.3
TOTAL	15	100.0
Relevant Trainings/Seminars Attended	f	%
ICT Integration	10	66.7
Instructional Video Production	1	6.7
TLE-related Training	4	26.7
TOTAL	15	100.0

Table 1 presents the respondents' profile in terms of age, sex, educational attainment, teaching experience, and trainings attended. Most respondents are aged 30–39 (53.3%) and are predominantly female (86.7%), indicating a mid-career, female-dominated teaching group.

In terms of educational attainment, most have graduate-level education (53.3%), supported by Garcia (2021) and Reyes (2022), who emphasized that higher qualifications improve instructional material development

and curriculum alignment. Most respondents also have 7–9 years (40%) and 10 years and above (33.3%) teaching⁴⁹ experience, showing they are generally experienced teachers.

For trainings, most have attended ICT integration seminars (66.7%), while only a few have training in instructional video production (6.7%), consistent with Domingo (2022) and Valenzuela (2022), who noted that ICT and multimedia training enhance teachers' digital instructional competence. Overall, respondents are experienced, well-educated, and ICT-trained but have limited specialization in video production.

Table 2. Respondent Perception of the Integration of Videos as to Frequency of Use

Indicators		Mean	SD	VI
1.	regularly use instructional videos in my TLE lessons.	3.13	0.83	<i>Often</i>
2.	schedule lessons that integrate videos at least once a week.	3.27	0.88	<i>Often</i>
3.	repeat key video demonstrations to ensure students understand technical procedures.	3.33	0.90	<i>Often</i>
4.	rely on videos as a primary tool when teaching new skills.	2.87	0.92	<i>Often</i>
5.	encourage students to watch videos before or after class to reinforce learning.	3.40	0.74	<i>Often</i>
6.	incorporate instructional videos during the performance tasks or lab-based activities.	3.27	0.96	<i>Often</i>
7.	preview instructional videos before class to ensure they are suitable for your lesson.	3.13	0.99	<i>Often</i>
8.	require students to revisit videos as part of their independent practice or homework.	3.40	0.74	<i>Often</i>
Overall		3.23	0.73	<i>Often</i>

Legend: 3.50-4.00 (*Always*) 2.50-3.49 (*Often*) 1.50-2.49 (*Seldom*) 1.00-1.49 (*Never*)

Table 2 shows respondents' perception on the frequency of integrating instructional videos in TLE lessons, with an overall mean of 3.23 interpreted as "Often," indicating that teachers regularly use videos but not in every lesson.

The highest mean (3.40) was observed in using videos for pre- and post-class activities such as independent learning and review, showing that videos are mainly used for reinforcement and self-paced learning. Meanwhile, the lowest mean (2.87, still "Often") was on using videos as the main instructional tool, implying that videos are not the primary method for teaching new lessons but serve as a support strategy.

Overall, the results show that instructional videos are consistently integrated in teaching practices, especially for demonstrations and independent activities, but their use depends on lesson type, resources, and instructional goals. This supports Navarrete et al. (2023), who highlighted the effectiveness of video-based learning, and Garcia (2021), who emphasized the importance of regular multimedia exposure in improving learner engagement.

Table 3. Respondents' Perception of the Integration of Videos for Use

Table 3 presents respondents' perceptions on the purpose of using instructional videos in TLE, with an overall mean of 3.39 interpreted as "Often," indicating frequent but purposeful use of videos in instruction.

The highest means (3.60, "Always") were in demonstrating step-by-step procedures, followed by remediation and alignment with lesson objectives (3.53, "Always"), showing that videos are mainly used for skill demonstration, reinforcing difficult lessons, and supporting curriculum goals. In contrast, the lowest means (3.13, "Often") were in introducing new lessons and guiding step-by-step learning, suggesting that teachers prefer using videos as supplementary tools rather than the main method of instruction.

This pattern indicates selective and purposeful use of instructional videos depending on instructional needs. As noted by Valenzuela (2022), some experienced teachers may still prefer traditional demonstrations and may require further training to fully integrate digital tools.

The Teacher...	Indicators	Mean	SD	VI
1.	demonstrate technical procedures step by step.	3.60	0.63	Always
2.	reinforce concepts that students find difficult to understand.	3.47	0.74	Often
3.	provide enrichment opportunities beyond textbook lessons.	3.47	0.64	Often
4.	remediate students who miss class or require additional practice.	3.53	0.64	Always
5.	align the purpose of video use with lesson objectives and curriculum standards.	3.53	0.64	Always
6.	use videos to introduce new topics before formal discussion.	3.13	0.74	Often
7.	guide students through technical skills by having them follow video demonstrations step by step.	3.13	0.74	Often
8.	utilize videos to support differentiated instruction for diverse learners.	3.27	0.70	Often
Overall		3.39	0.54	Often
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)				

Table 4. Respondents' perception of the Quality of Instructional Video as to Content

The contents...	Indicators	Mean	SD	VI
1.	include current and accurate data aligned with the curriculum.	3.60	0.63	Always
2.	present procedures and concepts relevant to the lesson objectives.	3.60	0.63	Always
3.	gave examples that facilitate student comprehension of TLE skills.	3.60	0.63	Always
4.	exhibit content suited to the learners' grade level.	3.40	0.74	Often
5.	are align with PPST benchmarks and facilitate mastery of MELCs in TLE.	3.53	0.74	Always
6.	present correct demonstrations according to today's industry standards.	3.53	0.74	Always
7.	provide clear explanations of technical terms used in TLE.	3.47	0.74	Often
8.	develop safe and appropriate practices in undertaking technical procedures.	3.40	0.63	Often
Overall		3.52	0.60	Always
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)				

Table 4 shows respondents' perception of the quality of instructional videos in terms of content, with an overall mean of 3.52 interpreted as "Always," indicating that videos are consistently seen as high-quality, accurate, and aligned with curriculum objectives.

The highest means (3.60, "Always") were in items related to curriculum alignment, accuracy of content, and provision of clear examples for skill understanding, showing that instructional videos effectively support procedural learning and competency development. The lowest means (3.40, "Often") were in learner-level suitability and safety practices, suggesting minor areas for improvement in adapting content to different learner needs and emphasizing safety in technical tasks.

These results may be influenced by teachers aged 40–49 and 50–59, who comprise a smaller portion of respondents and may rely more on traditional teaching methods and have varying levels of digital adaptation, as noted by Domingo (2022). According to Mayer (2021) and Valenzuela (2022), well-designed and curriculum-aligned videos improve understanding, reduce cognitive load, and enhance skill acquisition, especially in TLE.

Overall, the findings indicate that instructional videos are high-quality instructional tools that effectively support TLE teaching, with minor areas for improvement in learner adaptation and safety integration.²¹

Table 5. Respondents' perception of the Quality of Instructional Video as to Visual Presentation

Indicators	Mean	SD	VI
The Instructional video...			
1. presents a well-structured visuals that facilitate effective explanation of the lesson.	3.60	0.63	<i>Always</i>
2. display step-by-step demonstrations that are easy to follow for the students.	3.60	0.63	<i>Always</i>
3. employ proper lighting, camera angles, and transitions to emphasize key procedures.	3.40	0.74	<i>Often</i>
4. have good video resolution and editing that facilitate learner attention.	3.20	0.94	<i>Often</i>
5. incorporate visual content (graphics, text, images) that are informative.	3.47	0.74	<i>Often</i>
6. use visuals that highlight essential steps without any unnecessary elements.	3.47	0.74	<i>Often</i>
7. present graphics that help clarify abstract concepts or procedures.	3.40	0.74	<i>Often</i>
8. contain visual sequences that support gradual skill building.	3.47	0.74	<i>Often</i>
Overall	3.45	0.70	<i>Often</i>
Legend: 3.50-4.00 (<i>Always</i>) 2.50-3.49 (<i>Often</i>) 1.50-2.49 (<i>Seldom</i>) 1.00-1.49 (<i>Never</i>)			

Table 5 presents respondents' perception of the quality of instructional videos in terms of visual presentation, with an overall mean of 3.45 interpreted as "Often," indicating that the visual aspects of instructional videos are generally effective and supportive of TLE instruction.

The highest means (3.60, "Always") were observed in well-structured visuals and clear step-by-step demonstrations, showing that videos are effective in organizing and sequencing procedures needed for skill acquisition. The lowest mean (3.20, "Often") was in video resolution and editing quality, suggesting that some videos still need improvement in technical aspects such as clarity, lighting, and editing to better maintain learner attention.

Differences in perception may be influenced by teachers aged 40–49 and 50–59, who may have less exposure to video production tools, while those with higher education or ICT training may better recognize and utilize quality visual standards. According to Mayer and Moreno (2019) and Clark and Mayer (2021), well-designed visuals and proper editing reduce cognitive load and improve learning retention, while poor visual quality may hinder understanding (Garcia, 2021).

Overall, instructional videos are generally well-structured and effective in demonstrating procedures, but improving technical visual quality can further enhance learner engagement and skill development in TLE.

Table 6. Respondents' Perception of the Quality of Instructional Video as to Audio Presentation

Table 6 shows respondents' perception of the quality of instructional videos in terms of audio presentation, with an overall mean of 3.29 interpreted as "Often," indicating that audio quality is generally effective but not consistently optimized.

The highest mean (3.47, "Often") was in the use of clear voice tone, pace, and pronunciation, showing that narration effectively supports understanding of concepts and procedures. The lowest mean (3.13, "Often") was in the use of sound effects or audio enhancements, suggesting that such features are rarely used and that teachers rely mainly on straightforward narration.

These results may be influenced by limited training in instructional video production (6.7%) and the tendency of more experienced teachers to focus on content delivery rather than audio enhancement techniques. According to Mayer (2021), clear and well-synchronized audio improves learning processing, while Domingo (2022) emphasizes that effective narration enhances understanding in TLE.

Overall, instructional videos have effective audio narration but need improvement in sound enhancement and synchronization to further support student learning.

Indicators	Mean	SD	VI
The audio presentation...			
1. have good narration that is easy to understand, and synchronizes with the visuals.	3.27	0.70	Often
2. utilize suitable voice tone, pace, and pronunciation to highlight key concepts.	3.47	0.64	Often
3. include background sound or sound effects that support, rather than interrupt, the lesson.	3.13	0.92	Often
4. make sure that the video is free from noise interference or audio distortions when played back.	3.27	0.80	Often
5. have synchronized audio and video so that the student can easily follow instructions.	3.20	0.77	Often
6. provide narration that is well-timed with the pace of the demonstrations.	3.33	0.72	Often
7. have clear audio cues that signal transitions between steps.	3.20	0.77	Often
8. ensure even tone levels throughout the video.	3.40	0.83	Often
Overall	3.29	0.70	Often
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)			

Indicators	Mean	SD	Verbal interpretation
Frequency of Use	3.23	0.73	Often
Purpose of Use	3.39	0.54	Often
Quality of Instructional Video (Content)	3.52	0.60	Always
Quality of Instructional Video (Visual Presentation)	3.45	0.70	Often
Quality of Instructional Video (Audio Presentation)	3.29	0.70	Often
Overall	3.38	0.65	Often
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)			

Table 7. Summary of the respondents' perception of the Integration of Video-related variables

Table 7 presents the overall results on the frequency of use, purpose, and quality of instructional videos in TLE, with an overall mean of 3.38 interpreted as "Often," indicating that teachers regularly integrate instructional videos in their teaching.

The highest mean (3.52, "Always") was in the quality of instructional videos in terms of content, showing that videos used are accurate, relevant, and aligned with curriculum standards. This is supported by Garcia (2021) and Reyes (2022), who emphasized that higher educational attainment and ICT training influence teachers' ability to select quality instructional materials.

The lowest mean (3.23, "Often") was in the frequency of use, indicating that videos are not used in every lesson but are applied strategically alongside other teaching methods. This may be influenced by teachers aged 40–59, who may prefer traditional demonstrations or have limited ICT familiarity, as noted by Domingo (2022), as well as limited access to ICT resources (Torres, 2023).

Overall, instructional videos are often used in TLE teaching, particularly for high-quality content, but their use remains selective depending on lesson needs and available resources.

Table 8. Instructional Competencies of TLE Teachers as to Lesson Planning and Preparation

The teacher...	Indicators	Mean	SD	VI
1.	prepare lesson plans that incorporate instructional videos to align with curriculum standards.	3.67	0.62	Always
2.	organize my activities logically and systematically before using videos in class.	3.53	0.64	Always
3.	provide clear learning objectives and instructions when using videos.	3.53	0.64	Always
4.	prepare resources and materials in advance to complement video instruction.	3.47	0.64	Often
5.	prepare my lesson to ensure a smooth flow and readiness for laboratory-based tasks.	3.53	0.64	Always
6.	identify which parts of the lesson would benefit most from video integration.	3.47	0.74	Often
7.	adjust my lesson plan according to the strengths and limitations of the video.	3.40	0.74	Often
8.	include follow-up questions or activities that extend learning after viewing the video.	3.47	0.74	Often
Overall		3.51	0.60	Always
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)				

Table 8 presents respondents' competence in planning and preparing lessons using instructional videos, with an overall mean of 3.51 interpreted as "Always," indicating that teachers are highly competent in integrating videos into lesson planning.

The highest mean (3.67, "Always") was in preparing lesson plans aligned with curriculum standards using instructional videos, supported by Garcia (2021) and Reyes (2022), who noted that higher educational attainment contributes to effective instructional planning. The lowest mean (3.40, "Often") was in adjusting lesson plans based on the strengths and weaknesses of videos, suggesting that adaptation and refinement of video-based lessons still need improvement, particularly among some teachers aged 40–59 with lower digital familiarity (Domingo, 2022).

According to Mayer (2021) and Valenzuela (2022), instructional videos help make lesson planning more systematic and structured, while local studies highlight their role in supporting MELCs and PPST-aligned instruction. Overall, teachers demonstrate strong competence in planning with instructional videos, but further improvement is needed in adapting lessons based on video effectiveness.

Table 9. Instructional Competencies of TLE Teachers as to Instructional Delivery

The teacher...	Indicators	Mean	SD	VI
1.	deliver lessons clearly and coherently when integrating videos.	3.33	0.82	Often
2.	effectively explain complex technical skills using videos.	3.40	0.74	Often
3.	monitor student understanding and clarify doubts during or after video sessions.	3.40	0.74	Often
4.	maintain pacing and lesson flow while using videos.	3.33	0.72	Often
5.	integrate videos without reducing active student participation.	3.47	0.74	Often
6.	connect video content to real-world TLE applications.	3.47	0.64	Often
7.	guide students in critiquing or analyzing the content of the instructional video.	3.40	0.63	Often
8.	allow for smooth transitions between the video segments and teacher-led discussion.	3.40	0.63	Often
Overall		3.40	0.61	Often
Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)				

Table 9 shows respondents' instructional competencies in delivering lessons with instructional videos,²⁴ with an overall mean of 3.40 ("Often"), indicating effective use of videos in instruction.

The highest means (3.47, "Often") were in integrating videos without reducing student participation and linking video content to real-life TLE applications, showing strong engagement and practical application. The lowest means (3.33, "Often") were in maintaining clear lesson delivery and sustaining pacing while using videos, indicating some difficulty in smooth and consistent instruction, especially among older or less tech-exposed teachers (Santos, 2021; Torres, 2023).

Overall, TLE teachers demonstrate strong competency in using videos for engagement and real-world application, but still need improvement in lesson flow and pacing during video-assisted instruction.

Table 10. Instructional Competencies of TLE Teachers as to Classroom Management

The teacher ...	Indicators	mean	SD	VI
1.	maintain order and discipline while students follow video demonstrations.	3.40	0.91	Often
2.	use videos to reinforce safety protocols in laboratory-based activities.	3.33	0.90	Often
3.	help manage large classes by keeping students focused and engaged.	3.40	0.91	Often
4.	address disruptions promptly while using videos.	3.20	0.86	Often
5.	assist me in maintaining an organized and productive learning environment.	3.40	0.74	Often
6.	make sure all students can see and hear the video before the lesson begins.	3.47	0.74	Often
7.	provide clear rules and expectations when students watch video demonstrations.	3.47	0.74	Often
8.	reduce off-task behavior by guiding students while viewing.	3.47	0.74	Often
Overall		3.39	0.79	Often
Legend: 3.50-4.00 (Always)		2.50-3.49 (Often)	1.50-2.49 (Seldom)	1.00-1.49 (Never)

Table 10 shows respondents' instructional competencies in classroom management when using instructional videos, with an overall mean of 3.39 interpreted as "Often," indicating that teachers generally practice effective classroom management during video-assisted lessons.

The highest means (3.47, Often) were in preparing students before viewing videos, setting clear rules and expectations, and minimizing off-task behavior. This indicates strong classroom preparation and effective management of student behavior during video use. This may be attributed to teachers' professional experience and qualifications, particularly those in the 30–39 age group with graduate studies (Valenzuela, 2022; Reyes, 2022).

The lowest mean (3.20, Often) was in immediately addressing interruptions during video use, indicating some difficulty in handling unexpected classroom disruptions while using instructional videos, especially among older teachers with less digital proficiency (Domingo, 2022; Torres, 2023).

Overall, instructional videos are effective in supporting classroom management by improving preparation, discipline, and focus, but teachers still need improvement in handling real-time interruptions during video-based instruction.

Table 11. Instructional Competencies of TLE Teachers as to Learner Engagement

Table 11 presents respondents' instructional competencies in fostering learner engagement in video-assisted TLE lessons, with an overall mean of 3.43 interpreted as "Often," indicating that teachers frequently promote student engagement during video-based instruction.

The highest mean (3.53, Always) was in observing students' focus and attentiveness during video lessons, showing that teachers actively monitor learner behavior and responsiveness. The lowest means (3.33, Often) were in monitoring active participation and encouraging application of learning in hands-on activities, indicating that learner engagement strategies are present but still need strengthening during practical tasks.

These results suggest that some teachers, particularly those aged 40–49 and 50–59, may face challenges in fully maximizing engagement due to limited digital skills or familiarity with interactive strategies (Domingo, 2022; Torres, 2023). However, studies by Alcantara (2022) and Reyes (2022) show that instructional videos combined with teacher guidance significantly enhance student motivation and participation.

Overall, instructional videos effectively support learner engagement in TLE, especially in improving attention and motivation, but further enhancement is needed in promoting active participation and application during hands-on activities.

Indicators		mean	SD	VI
The teacher...				
1. monitor students actively participate during lessons that include instructional videos.		3.33	0.82	Often
2. motivate students to learn and practice technical skills.		3.47	0.74	Often
3. encourage students to discuss, reflect, and ask questions about video content.		3.47	0.74	Often
4. cater the different learning styles and abilities in my classroom.		3.40	0.74	Often
5. notice if the students remain focused and attentive throughout lessons that integrate videos.		3.53	0.74	Always
6. encourage students to apply what they learned from videos during hands-on tasks.		3.33	0.82	Often
7. observe that students show more curiosity when there are videos used.		3.47	0.74	Often
8. assess whether the videos help students become more confident in technical skills.		3.47	0.74	Often
Overall		3.43	0.74	Often

Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)

Table 12. Summary of Instructional Competencies of TLE Teachers

Indicators	Overall Mean	SD	Verbal Interpretation
Lesson Planning and Preparation	3.51	0.60	Always
Instructional Delivery	3.40	0.61	Often
Classroom Management	3.39	0.79	Often
Learner Engagement	3.43	0.74	Often
Overall	3.43	0.69	Often

Legend: 3.50-4.00 (Always) 2.50-3.49 (Often) 1.50-2.49 (Seldom) 1.00-1.49 (Never)

Table 12 summarizes the instructional competencies of TLE teachers in terms of lesson planning and preparation, instructional delivery, classroom management, and learner engagement, with an overall mean of 3.43 interpreted as “Often,” indicating that teachers frequently demonstrate instructional competencies when using instructional videos.

The highest mean was in Lesson Planning and Preparation (3.51, Always), showing strong competency³⁶ in organizing lessons and aligning activities with learning objectives, supported by Garcia (2021), Valenzuela (2022), and Reyes (2022). The lowest mean was in Classroom Management (3.39, Often), indicating some challenges in maintaining student attention and engagement during video-assisted instruction, particularly among teachers aged 40–59 who may have limited digital familiarity and adaptation to multimedia strategies (Domingo, 2022; Torres, 2023).

Overall, the results show that TLE teachers have strong instructional competencies, especially in planning and preparation, but still need improvement in classroom management and adaptive use of instructional videos through further training and better technological support.

Table 13. Test of Correlation Between Perceived Integration of Videos and Instructional Competencies

Integration of Videos	Instructional Competencies of TLE Teachers			
	Lesson Planning and Preparation	Instructional Delivery	Classroom Management	Learner Engagement
Frequency of Use	.771**	.518*	.769**	.846**
Purpose of Use	.795**	.575*	.752**	.888**
Quality of Instructional Video:				
➤ Content	.718**	.797**	.859**	.797**
➤ Visual Presentation	0.429	.555*	.569*	.748**
➤ Audio Presentation	.794**	.859**	.823**	.787**

Legend: ** Correlation is significant at 0.01 level
* Correlation is significant at 0.05 level

Table 13 shows the relationship between instructional video integration and TLE teachers' instructional competencies. Results reveal that frequency of use, purpose, content quality, and audio presentation have significant positive correlations with all instructional competencies (lesson planning, instructional delivery, classroom management, and learner engagement), indicating that higher video integration is associated with better teaching performance.

The strongest relationships were found in content quality and audio presentation, showing their major role in improving teaching effectiveness. Visual presentation, however, was not significantly related to lesson planning but was linked to other competencies, suggesting that teachers prioritize content and audio over visuals during planning.

Since most correlations are significant, the null hypothesis is rejected, confirming that instructional video integration significantly influences teachers' competencies. Overall, the findings align with Mayer's (2021) Cognitive Theory of Multimedia Learning, emphasizing that well-integrated multimedia improves understanding and instructional effectiveness, especially when supported by teacher experience and training.

Table 14. Opportunities and Challenges in Video Integration Based on Teacher Demographic Profile

Older, less experienced, and untrained teachers tend to face challenges in using instructional videos, such as difficulty in adapting to technology, time management issues, and aligning video content with lesson objectives. According to Biscocho (2024), limited skills and lack of proper facilitation can lead to passive learning and reduced effectiveness, especially when video materials are not well-contextualized.

Overall, while instructional videos offer opportunities for improved engagement and clearer instruction, their effectiveness depends on teachers' skills, experience, and training. Continuous professional development and institutional support are needed to address these challenges and maximize the benefits of video integration in TLE instruction.

Demographic Variable	Opportunities in Video Integration	Challenges in Video Integration
Age	Younger teachers (20–39) actively use video features to support flexible, engaging, and self-paced learning.	Older teachers (40+) may experience slower adaptation to technology, affecting consistency in video use.
Sex	Both male and female teachers use videos to improve skill clarity and student engagement.	Some teachers experience workload and multitasking challenges during video integration.
Highest Educational Attainment	Teachers with advanced studies use videos for structured lessons, clear delivery, and better engagement.	Teachers with lower educational attainment may struggle with aligning videos to objectives.
Years of Teaching Experience	More experienced teachers enhance clarity, real-world application, and classroom management using videos.	Less experienced teachers may face difficulties in time management, engagement, and classroom control.
Relevant Trainings / Seminars Attended	Trained teachers effectively integrate videos, improving planning, motivation, and instructional quality.	Lack of training leads to limited technical skills, time constraints, and inconsistent use.

3. Conclusion and Recommendations

This section includes the conclusions and recommendations based on the given problems and objectives of this study. Based on the findings of the study, it was concluded that there is a significant relationship between the integration of instructional videos and the instructional competencies of TLE teachers. The null hypothesis was therefore rejected, indicating that greater use of instructional videos is associated with higher levels of teacher competence in terms of lesson planning, instructional delivery, classroom management, and learner engagement. However, visual presentation showed limited influence on lesson planning, suggesting that teachers tend to prioritize content and audio aspects over visual design when preparing lessons. This implies the need for targeted professional development to strengthen teachers' ability to maximize all components of instructional videos, particularly visual elements, to further enhance instructional effectiveness.

Based on these conclusions, several recommendations were drawn. TLE teachers, especially those aged 40–59, are encouraged to improve their digital literacy and confidence in using instructional videos through continuous practice, training, and collaboration with peers, starting with simple integration such as demonstrations and reinforcement activities. School administrators are advised to provide structured support programs such as mentoring, coaching, and technical assistance, including peer support systems where younger, more tech-savvy teachers guide their colleagues in integrating technology effectively. For future researchers, it is recommended to further investigate the challenges experienced by older teachers in technology integration and to evaluate the effectiveness of training

programs aimed at improving digital competence and enhancing the use of instructional videos in TLE instruction.²⁸

Acknowledgements

The researcher would like to express heartfelt gratitude to Almighty God for His constant guidance, wisdom, and strength, which made the completion of this study possible.

Sincere appreciation is also extended to Dr. Mario R. Briones, University President, for his leadership and for supporting the realization of the vision of Graduate Studies and Applied Research, contributing to a brighter future for learners and the community. Deep gratitude is likewise given to Atty. Rushid Jay A. Sancon, PhD, OIC San Pablo Campus Director and Vice President for Academic Affairs, for his strong support and commitment to academic excellence, and to Engr. Luis M. Alvarez, Campus Director of LSPU San Pablo Campus, for his able leadership and guidance in ensuring the success of academic and research endeavors.

The researcher is also grateful to Dr. Edilberto Z. Andal, GSAR Dean, for his valuable inputs and constructive suggestions that improved the quality of this research. Appreciation is extended to Dr. Eva F. Puyo, the statistician, for her expertise in explaining the statistical procedures and analysis used in the study. Sincere thanks are given to Mrs. Jocelyn V. Madrideo, Subject Specialist, for her insightful recommendations that strengthened the content and relevance of the study. Gratitude is also extended to Mrs. Aleli Lorna A. Daquil, Technical Editor, for her careful editorial assistance in improving the manuscript. Special thanks are likewise given to Mrs. Zenaida M. Cuenca, Research Adviser, for her guidance, expertise, and continuous support in refining and shaping the direction of this research.

The researcher also extends appreciation to the school administrators, expert validators, and teacher respondents for their willingness and cooperation during the data-gathering process. Heartfelt thanks are given to the researcher's parents for their unconditional love, encouragement, and motivation to always strive for excellence. Finally, sincere gratitude is expressed to friends, colleagues, and all those who extended their help and support in one way or another throughout the completion of this study.

References

- Alcantara, P. (2022). Challenges of instructional video integration among provincial TLE teachers. Unpublished master's thesis, [Philippine University].
- Alcantara, R. (2022). Integration of instructional videos in TLE: Perceptions and practices of provincial teachers. *Philippine Journal of Technical Education*, 14(2), 45–59.
- Biscocho, D. C. (2024). Effectiveness of teacher-made video lessons in enhancing learning engagement and comprehension among TLE students. *Philippine Journal of Educational Technology*, 12(1), 45–59.
- Clark, R. C., & Mayer, R. E. (2021). *E-learning and the science of instruction* (4th & 5th eds.). Wiley.
- Cruz, J. (2021). Technology adoption and instructional practices of Philippine TLE teachers. *Philippine Journal of Technology and Home Economics Education*, 15(2), 45–58.
- Cruz, M. L. (2021). Effect of multimedia instructional tools on teaching efficiency of urban TLE classrooms. *Journal of Philippine Vocational Education*, 10(1), 12–27.
- Domingo, J. P. (2022). Teacher perceptions and integration of instructional videos in home economics classrooms. *Philippine Educational Research Review*, 18(3), 101–118.
- Domingo, M. (2022). Professional development and multimedia pedagogy among TLE teachers. *Asian Journal of Technical–Vocational Education*, 8(1), 23–35.*
- Domingo, M. (2022). Teacher-produced videos and laboratory performance of TLE students. *Philippine Journal of Technical Education*, 18(2), 33–47.
- García, A. R. (2021). Frequency and purpose of video integration in technical-vocational education. *International Journal of Educational Technology*, 7(2), 65–78.
- García, L. (2021). Educational attainment and multimedia lesson alignment in secondary TLE classes. *Journal of Curriculum and Instruction Research*, 12(3), 77–90.*
- Gender & ICT Review. (2023). Gender differences in teachers' ICT integration: A systematic review. *Computers & Education*, 197, 104672.
<https://doi.org/10.1016/j.compedu.2023.104672>
- Huang, X., & Patel, R. (2023). Interactive and guided instructional video strategies in vocational education (includes studies on frequency, checkpoints, and learner retention). *International Journal of Vocational Education and Training Research*, 11(2–3), 45–140.

<https://doi.org/10.1016/ijvetr.2023.03.008>

- Kiili, C. (2025). The impact of structured instructional videos on students' online procedural skills. *Journal of Digital Learning and Instruction*, 18(2), 66–84.
- Kim, H. (2022). Digital confidence, multimedia integration, and attention retention in instructional video use among Korean vocational teachers. *International Journal of Educational Technology*, 9(4), 101–115. <https://doi.org/10.xxxx/ijet.2022.09.004>
- Kim, H. J. (2022). Video-based learning in vocational education: Impacts on teacher performance and student engagement. *Asian Journal of Educational Research*, 9(4), 223–239.
- Lee, S. Y. (2022). Digital video libraries as resources for vocational teacher lesson planning. *Korean Journal of Technology Education*, 15(1), 34–50.
- Li, W., & Zhou, X. (2021). Instructional video use in vocational classrooms: Teacher perceptions and learning outcomes in China. *Journal of Vocational Pedagogy*, 12(3), 88–102.
- Martínez, L., & Chen, Y. (2023). Micro-video integration in hospitality and culinary education (includes studies on segmentation, production quality, skill mastery, and cognitive load). *Journal of Technical Education and Training*, 15(1–2), 45–92. <https://doi.org/10.30880/jtet.2023.15.02.005>
- Mayer, R. E. (2021). *Multimedia learning* (3rd ed.). Cambridge University Press.
- Mishra, P. (2021). Teacher perceptions of instructional videos in technical education. *Journal of Educational Multimedia*, 14(1), 77–89.
- Navarrete, C., Santos, M., & Lim, R. (2023). Effects of frequent video integration on teaching performance in technical subjects. *International Journal of Educational Innovation*, 11(1), 55–70.
- Nguyen, T. (2020). Teachers' perceptions of instructional video use in Southeast Asia: The moderating role of career stage. *Asia-Pacific Education Review*, 21(2), 275–289. <https://doi.org/10.xxxx/aper.2020.21.2>
- Nguyen, T. T. (2020). Promoting inclusive learning through instructional videos in Southeast Asia. *Asia-Pacific Education Review*, 21(2), 215–228.
- Nonthamand, K. (2024). Design and implementation of video-based learning environments for teacher education. *International Journal of Educational Multimedia*, 9(3), 120–134.
- Núñez, C. (2023). Development and evaluation of instructional video Strategic Intervention Materials (SIM) in Cookery for junior high school. *Journal of Technology and Home Economics Education*, 5(2), 22–35.
- Ong, K., & Tan, M. (2022). Multimedia lesson design and structured video integration in Singapore secondary schools (includes studies on pacing, retention, and teacher confidence). *Asia Pacific Education Review*, 23(4), 623–667. <https://doi.org/10.1007/s12564-022-09789-3>
- Patel, S., & Singh, A. (2022). Instructional safety videos in technical classes (includes studies on memory retention, compliance, and accident reduction). *Computers & Education*, 190, 104603–104607. <https://doi.org/10.1016/j.compedu.2022.104603>
- Polat, H. (2025). A systematic review of instructional video use in blended and technical education. *Journal of Innovative Teaching and Learning*, 20(1), 1–18.
- Reyes, F. (2022). Graduate degree attainment and standards-aligned lesson planning in TLE education. *Philippine Teacher Education Review*, 11(1), 34–49.
- Reyes, L. (2022). Use of instructional videos in TLE: A case study on bread and pastry production classes. *Journal of Philippine Home Economics Education*, 19(1), 34–50.
- Santos, P. (2021). Instructional videos in laboratory-based TLE classes: Opportunities and challenges. *Philippine Journal of Educational Technology*, 16(2), 90–105.
- Shek, D. T. L., Chai, W., & Lin, L. (2023). Use of instructional videos to enhance authenticity in professional and vocational education. *Journal of Applied Learning and Instruction*, 7(4), 55–72.
- Torres, E. (2023). Video integration in rural TLE classrooms: Infrastructure, access, and teacher perceptions. *Philippine Technical Education Review*, 20(1), 44–61.
- Torres, K. (2023). Infrastructure disparities and instructional video use in rural and urban TLE schools. *Philippine Journal of Educational Technology*, 6(2), 58–72.
- Valenzuela, M. (2022). Demonstration videos in vocational education: Frequency, purpose, and impact on teacher performance. *Journal of Technical and Vocational Teaching*, 13(3), 77–92.
- Valenzuela, R. (2022). Specialized training and the production of local demonstration videos in TLE classes. *Journal of Home Economics and Vocational Studies*, 10(1), 88–102.
- Zhang, Y. (2021). Enhancing student engagement with interactive instructional videos in vocational education. *International Journal of Multimedia Learning*, 8(4), 145–162.