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LECTURE-DEMO VIDEO ON TEACHING GRADE-12 ELECTRICAL INSTALLATION AND MAINTENANCE CONCEPTS

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ABSTRACT

Technology application in the 21st Century teaching and learning setting substantially promotes quality education. The study determined the acceptability and efficiency of the developed lecture demo video as a learning material in teaching Grade-12 EIM in selecting electrical materials and supplies and their specifications. The analysis sought to investigate the outcomes of the assessment rating of the prepared lecture-demo video and the impact of implementation. Teacher experts, student experts, and regular students from secondary schools in Surigao Del Sur Division were the study subjects. The study's tool was the DepEd standard evaluation rating tool for non-print materials obtained from the Surigao del Sur Division Learners Resource Management and Development Office, the developed lecture demo video, and the pretest and posttest questionnaires adopted from Project PPE (Portfolio Predicate on Exemplar) on EIM. The study employed a developmental-quasi experimental design. The developed lecture-demo video was rated Very Satisfactory in content, instructional and technical quality. Analyses found that students who utilized the created lecture-demo video with learning activity sheets outperformed those who used the learning activity sheets on the posttest. The study concluded that the developed lecture-demo video has a positive learning outcome in learners' competency mastery. Likewise, it is widely accepted and recommended for learning purposes as experts evaluate content, instructional, and technical quality.

KEYWORDS: localized, lecture-demo, electrical installation and maintenance, contextualized, video lesson

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INTRODUCTION

One of TVL's Industrial Arts strand specializations requires solid fundamental skills in Electrical Installations and Maintenance or EIM. Teaching EIM subjects requires a teacher's demonstration or model of the teacher's skills. As a result, to support the learners' skill development, the instructor should have extensive knowledge and abilities in the subject area. However, the COVID-19 outbreak made education considerably more challenging. Because of the pandemic, the DepEd chose distant learning as a mode of instruction to comply with the regulations set by the Inter-Agency Taskforce on Immerging Infectious Diseases to prevent the spread of the virus.

There were gaps and obstacles observed during the deployment of modular remote learning in secondary schools in the Philippines. Secondary schools of Balbalayang in San Gabriel's pastoral area and Baguio, which is located in a civic area of Baguio City, Benguet, shared in the study that self-studying, inadequate internet connection, lack of sleep, and time to answer all modules owing to a large number of activities, distractions, and lack of focus are the main obstacles that the students have encountered (Pe Dangle and Sumaoang 2020).

Despite the numerous challenges it causes, the emergence of COVID-19 forced educators to reconsider not just the tools for providing education (Kim, 2020) but also the fundamental essence of education itself. Many advocated for smartphones and short message service (SMS) messaging technologies to boost literacy (Flores, 2018). Some even advocate for non-internet media like TV shows, radio programs, and other forms of media that require no internet (Punzalan, 2020).

According to Fawareh and Jusoh (2017), owning a smartphone is like having a miniature computer in your pocket. Using the students' smartphones, they can save video tutorials made by their subject teachers to facilitate learning on a modular distance learning. When students are taught via video-assisted education, it is safe to assume that the training is presented correctly and the concepts are well absorbed. Furthermore, it shows that using a video to teach Science is helpful, as evidenced by the increase in results (Abragan and Hambre 2017).

This study would pave the way to address the least-learned competency in Electrical Installations and Maintenance. The learners greatly benefit from this study because the creativity applied in the learning material will help them master the skill or competency. The developed learning material will give teachers a perspective that creative technology integration in teaching will enhance the learning process and improve students' performances.

Statement of the Problem

The study sought to ascertain the efficiency of lecture-demo video in EIM on Module Remote Learning to the Senior high school student of Madrid National High School, Cantilan National High School and

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San Miguel National High School, Division of Surigao del Sur. Specifically, this study seeks to answer the following questions:

1. What is the evaluation rating on the developed Lecture-Demo Video in Teaching Grade – 12 EIM of the:
   1.1. Teachers-Experts and Students-Experts in terms of:
      1.1.1. Content Quality
      1.1.2. Instructional Quality
   1.2. ICT Experts on the Technicality Quality
2. What was students' performance in Electrical Installations and Maintenance in the pretest and posttest when the lecture-demo videos were utilized as supplemental instructional learning material on modular distance learning?
3. Is there a significant difference in the assessment rating on the developed lecture-demo video as evaluated by teachers and students?
4. Is there a significant difference in students' pretest and posttest scores in Electrical Installations and Maintenance when lecture-demo videos are used?
5. What proposals can be made to maximize lecture-demo video in EIM?

Hypotheses

At 0.05 level, it is hypothesized that:

H_{O1}: There is no significant difference between the pre-test and post-test scores of students in Electrical Installation and Maintenance when using the lecture-demo videos.

H_{O2}: There is no significant difference in the evaluation rating on the developed lecture-demo videos as evaluated by teachers and students.

Research Design

This study employed a developmental-quasi experimental design. It is a developmental design because it concentrates on developing and evaluating the instructional material, a lecture-demo video. It is also a quasi-experimental design since it requires a pretest and posttest for a treated and comparison group. Then, the said instructional material has undergone evaluation and validity by the expert in terms of content, instructional and technical quality.

Research Locale

The development of the Lecture-Demo Video was done at Madrid National High School. Validation and utilization were conducted in the selected secondary schools of Surigao Del Sur Division, offering TVL-

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IA Electrical Installations and Maintenance for 2021-2022. The following secondary schools are: San Miguel National School, Madrid National High School, and Cantilan National High School.

Research Respondents

The researcher selected the Grade 12 students with subjects in TVL whose specialization is Electrical Installations and Maintenance in Cantilan National High School, Madrid National High School, and San Miguel National High School. Students enrolled in these schools are the subjects of the study.

The chosen respondents in determining the acceptability and validity of the developed lecture-demo video were the Division Education Program Supervisor in TVL, Division ICT Coordinator, School ICT Coordinators, Master Teachers, Teachers with Trainers Methodology Level 1, and EIM NC II holders since they can validate and evaluate locally-developed learning materials used in teaching. Hence the respondents' insight into the developed instructional material helped improve its quality.

TABLE 1 Distribution of Respondents by School

Experts	Number of Respondents	Students	Number of Respondents
Division TVL Coordinator - Education Program Supervisor	1	Cantilan National High School	40
ICT Division/ School Coordinator	4	Madrid National High School	26
Master Teachers/TMC/NC II Holders	8	San Miguel National High School	12
Total	13	Total	78

Research Instruments

To determine the acceptance and validity of the developed lecture-demo video, the researcher used a DepEd standard evaluation rating tool for Non-Print Materials obtained from the Surigao del Sur Division's Learner Resource Management and Development Office. The instrument was adopted from DepEd because the produced learning material must be matched with curricular standards, and the respondents are students and teachers of the institution. The lecture-demo video itself was used as a research instrument since it is the highlight of the study that would help generate the result on how efficient instructional videos are in increasing the learners' performance. The researcher administered a pretest and

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posttest using the adopted questions from a Project PPE (Portfolio Predicate on Exemplar) on EIM that is streamlined in a teacher-and-learner-friendly format to cater to the new classroom set up in light of the COVID-19 health crisis. Experts also validated the questions from these exemplars.

Data Gathering Procedure

The researcher followed the following steps in the conduct of the study:

First, the researcher asked for the data from the division planning office on the consolidated least learned competencies in TVL-IA EIM 12 for the school year 2020-2021. Then, he selected the least learned competency for both school and division. The identified least learned competency gave way to developing the Lecture-Demo Video considering the specific objectives, specific learning activity, and the crafting of the content outline to be attained.

Second, the researcher obtained permission from the Schools Division Superintendent and Principals of the selected secondary schools in Surigao del Sur Division offering TVL-IA EIM to conduct this study and a letter requesting the respondents, the Grade 12 TVL EIM students, to take part in the study.

Third, to administer and promote information collection, the researcher conducted pretest and posttest on the respective respondents. A quality assured questionnaire was utilized by the researcher.

Then, the researcher personally collected the answer sheets from the respondents. He then grouped the retrieved answer sheets by the school, then checked, tallied, tabulated, scored, and classified the gathered data with the assistance of his statistician.

Finally, the findings were assessed and interpreted with the help of a statistician by the study's goal, as stated in the sub-problem.

Statistical Treatment

In the analysis and treatment of data, the researcher used the following statistical tools to answer:

Weighted Mean. This statistical technique assessed the teachers'- experts' evaluation rating on the produced Lecture-Demo Video in teaching Grade 12 TVL EIM on content, instructional and technical quality.

T-test. This statistical method was used to examine whether there was a substantial difference between the pretest and posttest scores of TVL EIM 12 students who used the Lecture-Demo Video. Simultaneously, this instrument calculated the significant difference in assessment ratings on the developed Lecture-Demo Video as evaluated by teachers and students.

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RESULTS AND DISCUSSIONS

TABLE 2 Evaluation Rating of Lecture-Demo Video in terms of Content Quality and Instructional Quality as evaluated by teacher-experts

Factor 1. CONTENT QUALITY	Weighted Mean	Verbal Description
1.Content is consistent with topics/skills found in the DepED Learning Competencies for the subject and grade/year level it was intended.	4.00	Very Satisfactory
2. Concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives.	4.00	Very Satisfactory
3. Content is accurate.	4.00	Very Satisfactory
4. Content is up-to-date.	4.00	Very Satisfactory
5. Content is logically developed and organized.	4.00	Very Satisfactory
6. Content is free from cultural, gender, racial, or ethnic bias	3.87	Very Satisfactory
7. Content stimulates and promotes critical thinking.	3.87	Very Satisfactory
8. Content is relevant to real-life situations.	4.00	Very Satisfactory
9. Language (including vocabulary) is appropriate to the target user	3.87	Very Satisfactory
10. Content promotes positive values that support formative growth.	4.00	Very Satisfactory
Average Weighted Mean	3.96	Very Satisfactory
Factor 2. INSTRUCTIONAL QUALITY	Weighted Mean	Verbal Description
1. Purpose of the material is well defined.	4.00	Very Satisfactory
2.Material achieves its defined purpose.	4.00	Very Satisfactory
3. Learning objectives are clearly stated and measurable.	4.00	Very Satisfactory
4. Level of difficulty is appropriate for the intended target user.	4.00	Very Satisfactory
5. Graphics / colors / sounds are used for appropriate instructional reasons.	4.00	Very Satisfactory
6. Material is enjoyable, stimulating, challenging, and engaging.	4.00	Very Satisfactory

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7. Material effectively stimulates creativity of target user.	4.00	Very Satisfactory
8. Feedback on target user's responses is effectively employed.	3.87	Very Satisfactory
9. Target user can control the rate and sequence of presentation	3.87	Very Satisfactory
10. Instruction is integrated with target user's previous experience.	4.00	Very Satisfactory
Average Weighted Mean	3.98	Very Satisfactory

ADJECTIVAL RATING EQUIVALENCIES	
RANGE	**ADJECTIVAL RATING**
3.25-4.00	Very Satisfactory
2.25-3.24	Satisfactory
1.25-2.24	Unsatisfactory
1.24 and below	Poor

Table 2 presents the evaluation rating of teacher experts on the developed Lecture-Demo Video using the DepEd standard evaluation rating tool for non-print materials in terms of content quality and instructional quality.

As reflected in the table in Factor 1 Content quality, all of the indicators are perceived to be very satisfactory. The average weighted mean score of the developed lecture-demo video based on the DepEd standard evaluation rating tool for non-print materials in quality of content is 3.96 and has a verbal description of very satisfactory. Thus, it implies that the developed lecture-demo video promotes positive values that support formative growth. Furthermore, the learning content helps enhance, strengthen, or master the defined learning goals where contents are logically developed, organized, and relevant to their daily lives.

The result relates to the study of A.D. Greenberg et al. (2012) and Giannakos (2016), who stressed that using videos increases and improves students' learning. The evaluation associated with the video offers substantial encouragement for students to view the videos and be ready for the class's instructional activities. Additionally, Moreno & Mayer (2007) pointed out that video-based learning benefits include increased motivation and enjoyment and excellent retention.

As to Factor 2 Instructional Quality, all indicators were rated very satisfactorily. The average weighted mean score in terms of instructional quality is 3.98 and has a verbal description of very satisfactory. The outcome shows that the prepared learning material had a clear purpose, and the learning goals were provided clearly and measurably. The learning material also achieved appropriateness as to the end-user level of learning capacity, and graphics, colors, and sounds were also suited to instructional requirements.

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Moreover, the developed learning material was enjoyable yet challenging, stimulating, and engaging where creativity and previous experience of learners were integrated.

Acedo and Robles (2019) stated that the videos should represent the proper application concept for the students' level. Because the generated instructional video tutorials were authentic, relevant, and helpful to both students and instructors, it is recommended that videos were viewed as an important tool for supporting the mentors' teaching.

Table 3 depicts the evaluation rating of students-experts on the developed Lecture-Demo using the DepEd standard evaluation rating tool for non-print materials in terms of content and instructional quality.

As reflected in the table on Factor 1 Content Quality, with a total weighted average of 3.64 (Very Satisfactory), the result shows that the lecture-demo video is relevant and well accepted as evaluated by the student experts in terms of content quality. This could also mean that the developed instructional material can be a potential resource in the educational process.

In connection to the study of Espinosa (2017), evaluating instructional materials aids in creating high-quality content for learners to utilize. It detects mistakes and enhances their efficacy. It also offers practical design, layout, illustrations, and content suggestions. As a result, assessing instructional materials is essential in every educational system. Also, Nathan (2015) emphasized that the simplicity of the language should be of utmost importance in developing instructional materials. If the language is too difficult to understand, it will take time to understand it. The language and the illustration used while producing materials must be related to the day-to-day life of the learners and should be presented in an organized way.

TABLE 3 Evaluation Rating of Lecture-Demo Video in terms of Content Quality and Instructional Quality as evaluated by student-experts

Students Experts		
Factor 1: Content Quality	Weighted Mean	Verbal Interpretation
1.Content is consistent with topics/skills found in the DepED Learning Competencies for the subject and grade/year level it was intended.	3.70	Very Satisfactory
2. Concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives.	3.60	Very Satisfactory
3. Content is accurate.	3.55	Very Satisfactory
4. Content is up-to-date.	3.50	Very

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		Satisfactory
5. Content is logically developed and organized.	3.85	Very Satisfactory
6. Content is free from cultural, gender, racial, or ethnic bias.	3.65	Very Satisfactory
7. Content stimulates and promotes critical thinking.	3.70	Very Satisfactory
8. Content is relevant to real-life situations.	3.60	Very Satisfactory
9. Language (including vocabulary) is appropriate to the target user level.	3.75	Very Satisfactory
10. Content promotes positive values that support formative growth.	3.55	Very Satisfactory
Average Weighted Mean	3.64	Very Satisfactory
Factor 2: Instructional Quality		
1. Purpose of the material is well defined.	3.50	Very Satisfactory
2.Material achieves its defined purpose.	3.40	Very Satisfactory
3. Learning objectives are clearly stated and measurable.	3.60	Very Satisfactory
4. Level of difficulty is appropriate for the intended target user.	3.50	Very Satisfactory
5. Graphics / colors / sounds are used for appropriate instructional reasons.	3.50	Very Satisfactory
6. Material is enjoyable, stimulating, challenging, and engaging.	3.45	Very Satisfactory
7. Material effectively stimulates creativity of target user.	3.35	Very Satisfactory
8. Feedback on target user's responses is effectively employed.	3.25	Very Satisfactory
9. Target user can control the rate and sequence of presentation and review.	3.15	Satisfactory
10. Instruction is integrated with target user's previous	3.65	Very

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experience.		Satisfactory
Average Weighted Mean	3.43	Very Satisfactory

ADJECTIVAL RATING EQUIVALENCIES	
RANGE	**ADJECTIVAL RATING**
3.25-4.00	Very Satisfactory
2.25-3.24	Satisfactory
1.25-2.24	Unsatisfactory
1.24 and below	Poor

As to factor 2, Instructional Quality, it got an average weighted mean of 3.43 with a verbal description of Very satisfactory. This indicates that the instruction in the developed material is integrated with the target user's previous experience. This also signifies that learner find the instruction relevant because the content employed in the developed learning material incorporates common learning experiences of the students, which are also evident in their daily lives. Backed by the study of Rasi and Poikela (2016) and Schneps et al. (2010), videos can demonstrate real-life methods and visibly emphasize information that may be difficult to convey verbally or in writing. It could alleviate the intellectual burden of seeking to bring ideas to life.

Table 4 depicts the evaluation rating of ICT Experts on the developed lecture-demo video regarding technical quality using the DepEd standard evaluation rating tool for non-print materials.

The table shows that all of the indicators in technical quality are considered very satisfactory with a weighted mean of 4 except for indicator four, which has a rating of 3.6, which left a space for improvement on sound effects. Regarding technical quality, the created lesson video has an average weighted value of 3.96 and a verbal description of very satisfactory. Thus, it implies that the instructional video enhances understanding of the concept. Moreover, the result shows that the visual presentations of the video are synchronized with the audio, screen displays are aesthetically understandable, sustain interest, provide an accurate representation of the concept, and are user friendly.

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TABLE 4 Evaluation Rating of the ICT Experts on the developed Lecture-Demo video in terms of Technical Quality

Factor 1. TECHNICAL QUALITY	Weighted Mean	Verbal Description
1.Audio enhances understanding of the concept.	4.00	Very Satisfactory
2. Speech and narration (correct pacing, intonation, and pronunciation) is clear and can be easily understood.	4.00	Very Satisfactory
3. There is complete synchronization of audio with the visuals.	4.00	Very Satisfactory
4. Music and sound effects are appropriate and effective for instructional purposes.	3.60	Very Satisfactory
5. Screen displays (text) are uncluttered, easy to read, and aesthetically	4.00	Very Satisfactory
6. Visual presentations (non-text) are clear and easy to interpret.	4.00	Very Satisfactory
7. Visuals sustain interest and do not distract user's attention.	4.00	Very Satisfactory
8. Visuals provide accurate representation of the concept discussed.	4.00	Very Satisfactory
9.The user support materials (if any) are effective.	4.00	Very Satisfactory
10.The design allows the target user to navigate freely through the material.	4.00	Very Satisfactory
11. The material can easily and independently be used.	4.00	Very Satisfactory
Average Weighted Mean	3.96	Very Satisfactory

ADJECTIVAL RATING EQUIVALENCIES	
RANGE	**ADJECTIVAL RATING**
3.25-4.00	Very Satisfactory
2.25-3.24	Satisfactory
1.25-2.24	Unsatisfactory
1.24 and below	Poor

Backed by the study of Schreiber et al. (2010) emphasized that video's visual and audio characteristics boost the dual processing systems, enhancing comprehension; the flexibility to hold, replay, and view

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video repeatedly alleviates mental processing constraints; and finally, audiovisual material helps learners to engage with interesting content by focusing on media content that can be organized and linked to existing knowledge. In addition, Gatbonton (2019) pointed out that learning can be more easily personalized to students' unique learning styles than other technologies because video includes multiple sources of information (pictures, motion, sounds, and text) in a complementary manner.

Table 5 displays how students performed in the EIM pretest and posttest when the lecture demo video was utilized. As shown in the table, students in the control class during the pretest had a slightly higher mean than those in the experimental class. The outcome implies that learners have previous knowledge of selecting electrical materials and supplies. It indicates that students acquire the lesson's prerequisite abilities before the conduct of the study.

TABLE 5 Performance of Students in Electrical Installation and Maintenance in the pre-test and post-test when the lecture demo video was utilized

Group	N	Pretest		Posttest	
		Mean	S.D.	Mean	S.D.
Control	39	15.92	5.78	18.20	4.98
Experimental	39	13.95	5.49	21.38	3.02

As exposed in the table, students in the experimental class who used the developed lecture-demo video in conjunction with learning activity sheets scored significantly better on the posttest, with a mean value of 21.38, than students who used the learning activity sheets with a mean value of 18.20. It can be shown that the difference in outcomes has a significant impact on the students' achievement. This might also imply that students did well while using the lecture-demo video. They learned more about the concepts and abilities required to master the learning competency.

These results can be attributed to the study of Acedo and (Robles 2019) that Video tutorials resulted in a considerable boost in the level of performance of those students who observed them; the slight gain in their results may be due to the students' greater attention and retention, allowing them to be more productive and engaged. This conclusion supports the findings of Llagas et al. (2016), who discovered that millennial teaching that incorporates video into the teaching-learning process produces more productive learners, resulting in improved learner performance.

Table 6 presents the significant difference in the evaluation rating of the teacher-experts and students on the content and instructional quality of the developed lecture-demo video.

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TABLE 6 Significant difference in the evaluation rating of the teacher-experts and students-experts on the Content Quality and Instructional Quality of the developed lecture-demo video

Group	Mean	S.D.	t-value	p-value	Decision	Interpretation
Student	3.563	0.160	- 10.63	0.000	Reject Null Hypothesis	There is a significant difference
Teacher	3.969	0.037				

It can be gleaned from the table that the computed p-value is less than the critical value at the 0.05 level resulting in null hypothesis rejection. This implies that the evaluation rating of student-experts and teacher-experts on the developed lecture-demo video using the DepEd evaluation rating sheet for audio and video recording differ significantly. Further, the result could mean that teachers are much more equipped, trained, and oriented toward the learning competencies and content standards than the students. The student's understanding of the evaluation tool and the material to be evaluated manifests how well they rate a certain learning material. It could mean that there are parts in the evaluated material which are not noticed by the students as required in the evaluation tool where in fact, it is evident as rated by the teachers.

This may lead to an initiative that students must be oriented about the evaluation tool, especially what each indicator would mean, since they are slightly knowledgeable in evaluating content and instructional quality. However, though the rating of the students is slightly lower than the teachers, students' results on the posttest manifest that the lecture-demo video has a favorable effect on their attitude and comprehension; it is only that the indicator in the evaluation tool was not clearly understood by the students that resulted to a slightly lower rating.

The above finding is related to Nabayra's (2020) research, which underlined that instructors must have created a pre-recorded video lecture or module anchored on students' various forms of intelligence to realize and cater to today's diverse learners fully. This implies that traditional educational approaches must be transformed since today's learners want to be active partakers in the learning progression rather than passive observers. Moreover, Espinosa (2017) pointed out that evaluation of instructional resources is very important because it helps build quality guaranteed materials for learners' consumption. It identifies errors and improves their effectiveness.

Table 7 shows the substantial difference in students' pretest and posttest scores in EIM when lecture-demo videos were used.

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TABLE 7 Significant difference in pre-test and post-test scores of students in Electrical Installation and Maintenance when lecture-demo videos was used

Group	N	Pretest						Posttest					
		Mean	S.D.	t-value	p-value	Decision	Interpretation	Mean	S.D.	t-value	p-value	Decision	Interpretation
Control	39	15.92	5.79	1.55	0.126	Accept Null Hypothesis	There is no significant difference	18.205	4.99	-3.41	0.001	Reject Null Hypothesis	There is significant difference
Experimental	39	13.95	5.49					21.385	3.02				

It revealed that the computed p-value in the pretest is larger than the critical value at the 0.05 level resulting in the accepted null hypothesis. It implies no substantial difference in the students' pretest scores. In addition, based on table 5, the evidence implies that the mean scores in the pretest from the control class, which is 15.92 and the experimental class, which is 13.95, do not differ significantly. This could also mean that students in both groups have the same prior knowledge regarding selecting electrical materials and supplies.

On the other hand, it can be gleaned from Table 7 that the computed p-value in the posttest is less than the critical value at the 0.05 level; thus, the null hypothesis is rejected. It implies a significant difference in the students' posttest scores. In addition, it is evidenced in Table 5 that the mean scores in the posttest from the control group, which is 18.205, and the experimental group, which is 21.385, differ significantly. The outcome indicates that the developed lecture demo video-assisted the learners in correctly understanding the concept. Furthermore, the results demonstrate that supplementing learning activity sheets with lecture-demo videos is an effective instructional resource that may benefit learners in grasping the contents compared to utilizing learning activity sheets alone. The supplemental video became significant because the learners' dual channels for learning, the auditory and visual, were enhanced.

The outcome can be supported by the study of Chang (2004) that video's combination of visuals and audio makes it an effective medium for conveying concepts and guiding learners with information that caters to multiple senses. In addition, Rasi and Poikela (2016) reveal that video outperforms textual materials when

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teaching "how-to visually," It may also function as a prompt in problem-based lessons by conveying realities.

Summary of Findings

Based on the analysis of the data gathered, the following findings were found. The evaluation rating of teacher-experts on the developed Lecture-Demo Video using the DepEd standard evaluation rating tool for non-print materials, the content quality has an average weighted mean of 3.96. It has a verbal description of very satisfactory. In terms of instructional quality, all of the indicators were rated very satisfactorily with an average weighted mean of 3.98 and a verbal interpretation of very satisfactory.

As to the evaluation rating of student-experts on the developed Lecture-Demo Video, in quality of content, it has an average weighted mean of 3.645 with a verbal interpretation of very satisfactory. While in quality of instruction, it has an average weighted mean of 3.435 with a verbal interpretation of very satisfactory.

As to the evaluation rating of ICT experts on the developed Lecture-Demo Video, all of the indicators in the technical quality were rated very satisfactory with an average weighted mean of 3.96 and has a verbal interpretation of very satisfactory.

Findings revealed that students in the control class during the pretest had a slightly higher mean than those in the experimental class. Meanwhile, students in the experimental group who used the developed lecture-demo video in conjunction with learning activity sheets scored significantly better on the posttest, with a mean value of 21.38, than students who used the learning activity sheets with only a mean value of 18.20.

Furthermore, findings depict that the computed p-value in the pretest is greater than the critical value at the 0.05 level, resulting in null hypothesis acceptance. It implies no substantial difference in the students' pretest scores.

The evidence implies that the mean scores in the pretest from the control class, which is 15.92 and the experimental class, which is 13.95, do not differ significantly. On the other hand, the computed p-value in the posttest is less than the critical value at the 0.05 level; thus, the null hypothesis is rejected. It implies a significant difference in the students' posttest scores. In addition, findings revealed that the posttest mean scores from the control class, 18.205, and the experimental class, 21.385, differ significantly.

CONCLUSION

Based on the findings, it could be asserted that the developed lecture-demo video is widely accepted and recommended for learning purposes as evaluated by experts in terms of content, instructional, and technical quality. In addition, the instructional material is very appropriate for learners since both teachers and learners showed a positive attitude towards the developed lecture-demo video.

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Moreover, both teachers, students, and ICT experts concluded that the instructional material is efficient & practical for students' consumption since both rated very satisfactory for the technical, content, and instructional quality.

Finally, students who used the developed lecture-demo video in conjunction with learning activity sheets performed better than those who used only the learning activity sheets.

Recommendations

Based on the conclusions, the researcher forwards the following recommendations. For educational purposes, lecture-demo video is encouraged as it is appropriate and commendable, as experts evaluate it. In this pandemic, learners with difficulty mastering the skill of selecting electrical materials or supplies and their specifications can use this as a supplementary learning material to better understand the lesson.

Teachers are encouraged to produce more lecture-demo videos as supplementary learning material for learners to master the complex competencies, particularly in the Senior high school TVL subject, where actual performance skills are required. Cascading this material in the DepEd Division through the LR portal can be utilized in the TVL – Electrical Installations and Maintenance 12.

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