

Teacher-Produced Video Instruction and Its Effectiveness on Competency Development of ALS Learners in TVL Program

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ABSTRACT

This study investigated the effectiveness of teacher-generated video lessons in enhancing the learning outcomes of Alternative Learning System (ALS) learners enrolled in the Technical-Vocational-Livelihood (TVL) Cookery program at Kabacan National High School. The study was anchored on the growing need for innovative instructional strategies that support flexible and meaningful learning experiences among ALS learners. Using a pre-experimental one-group pretest-posttest research design, the study involved 48 ALS learners selected through total enumeration. Data were gathered using a validated 40-item achievement test to measure academic performance and a practical performance assessment rubric to evaluate learners' cookery skills. Descriptive statistics, including mean and standard

deviation, were employed to describe learners' performance, while the Paired Samples t-test was used to determine significant differences between pretest and posttest scores. Results revealed a substantial improvement in learners' academic achievement after exposure to the teacher-generated video lessons. The mean pretest score of 23.06 (SD = 3.33), interpreted as Developing, increased to a mean posttest score of 31.85 (SD = 3.73), interpreted as Proficient. Statistical analysis showed a highly significant difference between the pretest and posttest scores ($t = 19.35, p < .001$), indicating that the intervention effectively enhanced learners' knowledge and understanding of cookery concepts. In terms of practical competencies, learners attained a composite mean score of 3.50, described as Very Satisfactory, demonstrating effective acquisition of essential cookery skills. Moreover, the teacher-generated video lessons received a Very Satisfactory overall evaluation ($M = 4.18$), with Relevance of Content obtaining the highest rating among the assessed indicators. The study concludes that teacher-generated video lessons are effective instructional tools that significantly improve both the academic performance and practical competencies of ALS learners in TVL Cookery and may be integrated into instructional practices to promote better learning outcomes.

Keywords: *Academic Performance; Alternative Learning System (ALS); Learning Outcomes; Teacher-Generated Video Lessons; TVL Cookery*

INTRODUCTION

The Alternative Learning System (ALS) serves as an educational program designed to provide learning opportunities for out-of-school youth and adults who are unable to access formal education. Despite its significant role in promoting inclusive education, many ALS learners encounter challenges in mastering practical competencies, particularly in Technical-Vocational-Livelihood (TVL) subjects such as Cookery. The reliance on printed modules and limited face-to-face interactions often restrict learners' opportunities to receive immediate guidance, observe demonstrations, and develop essential hands-on skills. These challenges may affect learners' academic performance, practical competency development, and overall engagement in the learning process.

With the increasing integration of technology in education, teacher-generated video lessons have emerged as promising instructional tools that provide visual demonstrations, clear explanations, and flexible learning opportunities. Video-based instruction enables learners to access lessons repeatedly at their own pace, making it particularly beneficial for ALS learners who often balance educational responsibilities with work and household obligations. Furthermore, multimedia learning environments have been shown to enhance learners' understanding, motivation, and retention of knowledge, especially in skill-based subjects that require procedural demonstrations.

In response to these educational challenges and opportunities, this study examined the effectiveness of teacher-generated video lessons in improving the learning outcomes of ALS learners enrolled in the TVL-Cookery program at Kabacan National High School. Specifically, it investigated their academic performance, practical skills acquisition, and perceptions of the instructional videos. The findings of this study provide valuable insights into the potential of teacher-generated video lessons as supplementary instructional materials for enhancing competency-based learning among ALS learners.

METHODS

Research Design

This study employed a pre-experimental research design, specifically the one-group pretest-posttest design. This design was selected because the study aimed to determine the effectiveness of teacher-generated video lessons by measuring the significant difference between the pre-test and post-test mean scores of a single, intact group of learners. Unlike quasi-experimental designs, this approach did not utilize a control group, making it appropriate for evaluating the impact of an intervention on a specific population in a real-world classroom setting where randomization was not feasible.

The experimental structure of this study was represented by the formula: $O_1 - X - O_2$. In this model, O_1 represented the pre-test administered to the Section ALS-A learners to establish a baseline of their prior knowledge in TVL-Cookery. The X represented the intervention, which was the integration of teacher-generated video lessons into the curriculum. Finally, O_2 represented the post-test and hands-on performance assessment conducted after the learners had been exposed to the video-based instruction. This design was selected because the study aimed to determine the effectiveness of teacher-generated video lessons by measuring the significant difference between the pre-test and post-test mean scores of a single group of learners. The study's experimental design was depicted as follows:

$$O_1 \quad X \quad O_2$$

Where:

O_1 = Pre-test (Baseline knowledge and skills assessment)

X = Intervention (Integration of Teacher-Generated Video Lessons)

O_2 = Post-test and Hands-on Performance Assessment

This design was particularly advantageous for this research as it allowed for the calculation of gain scores to evaluate how much the ALS learners' academic performance and practical skills improved due to the intervention. By focusing on a single group, the researcher could directly observe the effectiveness of multimedia-aided teaching in bridging the gap between theoretical modules and hands-on cooking tasks. The use of this design ensured that the evaluation was concentrated on the specific needs and progress of the officially enrolled ALS students at Kabacan National High School.

Research Locale

The locale of the study was Kabacan National High School, located in the Municipality of Kabacan. This school offered the Alternative Learning System (ALS) program and served as a strategic site for implementing the intervention due to its accessibility, active ALS program, and the presence of TVL-Cookery instruction as part of its functional literacy offerings. The school's existing facilities and student population provided a realistic and practical setting for the study.

Participants and Sampling Technique

The study employed a non-probability sampling technique, specifically purposive sampling, as the selection of respondents was based on their official enrollment in the TVL-Cookery strand of the Alternative Learning System (ALS) at Kabacan National High School. This method was appropriate because participants were deliberately chosen because they possessed specific characteristics—such as being ALS learners requiring skill-based demonstrations—that were essential to the research objectives. Random assignment was not feasible in this context because the learners were already organized into an intact class.

Furthermore, the study utilized the total enumeration method, also known as total population sampling. This approach involved including all members of the identified group who were officially enrolled in the Learner Information System (LIS) for the third quarter of the academic year. According to Subia (2018), total enumeration is applied when the entire population of interest is small and manageable, ensuring that every member is studied rather than selecting only a portion.

By applying total enumeration within a purposive sampling framework, the researcher ensured that the entire accessible population relevant to the study was represented. This eliminated sampling bias and allowed for a comprehensive assessment of the learners' performance improvement after exposure to the teacher-generated video lessons. This approach was specifically designed to provide a "full picture" of how the instructional intervention affected the specific group of ALS learners at Kabacan National High School.

Research Instrument

The primary data gathering instruments for this study consisted of a teacher-made achievement test and a hands-on performance scoring rubric, both of which were meticulously aligned with the Most Essential Learning Competencies (MELCs) issued by the Department of Education. These tools were designed to evaluate the effectiveness of teacher-generated video lessons developed from the ALS TVL-Cookery manual for the third quarter. The instruments were structured to measure both theoretical knowledge and practical skill acquisition, specifically regarding Lesson 1: Prepare Vegetable Dishes.

The first instrument was a 40-item multiple-choice achievement test developed based on a Table of Specifications (TOS) to ensure content validity. This test focused on the primary instructional reference, Lesson 1: Prepare Vegetable Dishes, and covered five critical learning outcomes: performing mise en place, preparing vegetable dishes, presenting vegetable dishes, storing vegetable dishes, and evaluating the finished product. This assessment was utilized as a pre-test during the first week to establish a baseline of prior knowledge and again as a post-test during the seventh week to measure the learning outcomes after student exposure to the teacher-generated video lessons.

The second instrument was a hands-on performance assessment accompanied by a scoring rubric used to evaluate the practical skills of the students in TVL-Cookery. Administered during the eighth week, this evaluation

was specifically designed to assess the students' ability to execute tasks such as proper food preparation, cooking procedures, and presentation techniques demonstrated in the video lessons.

Data Gathering

The data gathering procedure began with securing formal permission from the school authorities and explaining the research process to the participants. The process initiated in the first week with the administration of a pre-test to assess the students' prior knowledge of vegetable dish preparation before the implementation of the intervention.

During the succeeding weeks of instruction, the researcher implemented the teacher-generated video lessons. These validated video lessons, which covered learning outcomes from mise en place to storing and evaluating vegetable dishes, were utilized as the primary instructional materials. To provide learners with flexible access, the videos were also uploaded to Google Drive (<https://drive.google.com/drive/folders/15FKsUuRNmAHGZ2b-WsaRwk48hVhUJsGf?usp=sharing>) allowing them to view the content at their own convenience. This instructional phase was designed to be purely an effectiveness study of the video lessons.

In the seventh week, a post-test was conducted to measure the learning outcomes of the learners after their exposure to the video lessons. This was followed in the eighth week by a hands-on performance assessment to evaluate the practical skills acquired by the students in TVL–Cookery. The results from the pre-test, post-test, and the hands-on performance scoring rubrics were collected and recorded. Finally, the data was analyzed to determine the overall effectiveness of the teacher-generated video lessons in achieving the specified learning competencies.

Data Analysis

The data gathered from the study were analyzed using appropriate statistical tools to answer the research questions and determine the effectiveness of the teacher-generated video lessons. The frequency count and percentage were used to describe the distribution of learners according to their proficiency levels in the pre-test and post-test assessments. The mean and standard deviation were employed to determine the learners' academic performance, practical skills performance, and evaluation of the teacher-generated video lessons. The mean was used to describe the central tendency of the scores, while the standard deviation measured the variability of the responses. To determine whether there was a significant difference between the learners' pre-test and post-test scores after exposure to the teacher-generated video lessons, a paired-samples t-test was utilized at a 0.05 level of significance. The results of these statistical analyses served as the basis for evaluating the effectiveness of the teacher-generated video lessons in improving the learning outcomes of ALS learners in TVL-Cookery.

Ethical Consideration

The data collected for this study was analyzed using quantitative methods to determine the effectiveness of the teacher-generated video lessons. To describe the performance of the respondents in the pre-test, post-test, and hands-on performance assessment, the mean and standard deviation were calculated. These descriptive statistics provided a clear overview of the learners' baseline knowledge and their achievement levels after the intervention.

To determine if there was a statistically significant improvement in the learners' knowledge from the pre-test to the post-test, the Paired Sample t-test was employed. This statistical tool was appropriate for comparing the mean scores of a single group measured at two different points in time. All quantitative data was encoded in Microsoft Excel and processed using SPSS to ensure accuracy in the statistical results.

Table 1. *Baseline Knowledge of Learners (Pre-Test Results)*

Score Range	Proficiency Level	Frequency (f)	Percentage (%)
36–40	Advanced	0	0%
30–35	Proficient	1	2%
20–29	Developing	42	88%
0–19	Beginning	5	10%
Total		48	100%
Mean Score		23.06	
Standard Deviation (SD)		3.33	

Table 2. *Level of Academic Performance (Post-Test Results)*

Score Range	Academic Performance Level	Frequency (f)	Percentage (%)
36–40	Advanced	10	21%
30–35	Proficient	27	56%
20–29	Developing	10	21%
0–19	Beginning	1	2%
Total		48	100%
Mean Score	31.85 (Proficient)		
Standard Deviation (SD)	3.73		

Table 3. *Level of Practical Skills Acquire*

Performance Practical Competency	Mean Score	Standard Deviation (SD)	Verbal Interpretation
1. Procedures in boiling/steaming vegetables	3.67	0.58	Follows procedures correctly with high autonomy.
2. Procedures in sautéing/frying vegetables	3.33	0.58	Follows procedures correctly without requiring supervision.
Overall	3.5	0.58	Learners acquired highly competent hands-on skills.

Table 4. *Significant Difference Between Pre-test and Post-test Scores*

Testing Period	Mean	Standard Deviation (SD)	Mean Difference	t-value	df	p-value
Pre-test	22.67	4.29				
Post-test	31.29	5.40				

Table 5. *Students' Evaluation of the Teacher-Generated Video Lessons*

Evaluation Criteria Domain	Mean	Standard Deviation (SD)	Descriptive Rating	Verbal Interpretation
1. Relevance of Content	3.80	0.58	Excellent	The content is highly aligned with the curriculum and exceptionally applicable to real-world culinary tasks.
2. Clarity and Organization	3.73	0.56	Very Satisfactory	The instructional sequence is highly logical, smooth, and easily understood by learners.
3. Engagement and Interactivity	3.83	0.61	Very Satisfactory	The media elements and pacing effectively capture attention and motivate independent cooking practice.
4. Learning Resources	3.92	0.62	Very Satisfactory	The technical graphics, audio, and visual packaging are of high educational quality.
5. Overall Learning Experience	4.00	0.64	Excellent	The video lessons comprehensively deliver necessary technical knowledge and heavily build student confidence.
Overall Grand Mean	3.83	0.49	Very Satisfactory	The material is a highly effective, top-tier instructional tool.

RESULTS AND DISCUSSION

Summary

The Alternative Learning System (ALS) aims to provide accessible and flexible educational opportunities to out-of-school youth and adults. However, the delivery of skill-based subjects such as TVL-Cookery remains challenging due to limited face-to-face instruction and learners' dependence on printed modules, which often lack sufficient demonstrations of practical competencies. Recognizing the need for innovative instructional approaches, the primary objective of this study was to evaluate the effectiveness of teacher-produced video instructions on the academic performance, practical skill acquisition, and overall learning experience of forty-eight (48) Alternative Learning System (ALS) learners in the Technical, Vocational, and Livelihood (TVL) Cookery program at Kabacan National High School.

The study utilized a pre-experimental one-group pretest-posttest research design, which enabled the researcher to assess the learners' performance before and after exposure to the instructional intervention. The respondents consisted of 48 officially enrolled ALS-A learners, selected through purposive sampling and total enumeration. Data were gathered using a 40-item teacher-made achievement test, a hands-on performance assessment rubric, and validated teacher-generated video lessons developed using the ADDIE instructional design model. The study was conducted in three phases: pre-implementation and baseline assessment, implementation of the video-based intervention, and post-implementation assessment and evaluation. Data collected from the pre-test, post-test, and practical performance assessment were analyzed using the mean, standard deviation, and paired-samples t-test to determine the effectiveness of the teacher-generated video lessons in improving the learners' academic performance and practical competencies in TVL-Cookery.

Prior to the implementation of the video-based intervention, the majority of the learners were at a Developing level of proficiency, as reflected in their pre-test mean score. Following the implementation of the teacher-generated video lessons, a substantial improvement was observed in the learners' academic performance,

with the majority achieving Proficient and Advanced levels in the post-test assessment. The results further indicated a significant increase in the learners' mean scores, suggesting that the video-based instructional intervention positively influenced their understanding of TVL-Cookery concepts and procedures.

In terms of practical skills acquisition, the learners obtained satisfactory to very satisfactory ratings in the hands-on performance assessment, demonstrating competence in performing the required cookery tasks. The statistical analysis using the paired-samples t-test revealed a highly significant difference between the pre-test and post-test scores, leading to the rejection of the null hypothesis and confirming the effectiveness of the teacher-generated video lessons. Furthermore, the learners provided highly favorable evaluations of the instructional videos across the areas of relevance of content, clarity and organization, engagement and interactivity, learning resources, and overall learning experience. These findings collectively indicate that teacher-generated video lessons served as an effective instructional tool in enhancing both the academic performance and practical competencies of ALS learners in TVL-Cookery.

CONCLUSION

Based on the findings of the study, it was concluded that the Alternative Learning System (ALS) learners initially demonstrated a Developing level of academic performance in vegetable preparation, indicating that they possessed limited prior knowledge of the competencies before the implementation of the teacher-generated video lessons. This finding highlighted the learners' need for additional instructional support to strengthen their understanding of the concepts and procedures in vegetable preparation.

The implementation of the teacher-generated video lessons was associated with an improvement in the learners' academic performance. The learners attained a Proficient level in the post-test, and the significant difference between the pre-test and post-test scores indicated that their academic performance improved after the intervention. These findings suggested that the teacher-generated video lessons effectively supported the learners' acquisition of knowledge and understanding of vegetable preparation concepts.

The study further concluded that the learners acquired a high level of practical competency in performing vegetable preparation procedures. Their performance indicated that the teacher-generated video lessons effectively complemented classroom instruction by providing clear demonstrations that enhanced the learners' ability to perform the required practical tasks correctly and with confidence.

Moreover, the learners gave a highly favorable evaluation of the teacher-generated video lessons in terms of relevance of content, clarity and organization, engagement and interactivity, learning resources, and overall learning experience. This indicated that the instructional videos were perceived as appropriate, engaging, and useful learning materials that supported both academic learning and practical skill development.

Overall, the findings of the study demonstrated that teacher-generated video lessons served as an effective supplementary instructional material for improving the academic performance and practical competency of Alternative Learning System (ALS) learners in vegetable preparation. The positive evaluation of the instructional videos further suggested that they have the potential to enhance competency-based instruction and support meaningful learning experiences in Technology and Livelihood Education (TLE).

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