

The Effectiveness of Using Instructional Videos on Learning Outcomes in Creative Evening Hairstyling Practice Among Grade XI Beauty Cosmetology Students at SMK Negeri 3 Tangerang

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KEYWORDS	ABSTRACT
Keywords: Beauty cosmetology education; Creative evening hairstyle; Experimental study; Instructional video; Learning outcomes; Psychomotor skills Conflict of Interest Statement: The author(s) declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. Copyright © 2026 EDU. All rights reserved.	This study aims to examine the effectiveness of instructional video usage on learning outcomes in creative evening-style bun hairstyling practice among Grade XI Beauty Cosmetology students at SMK Negeri 3 Tangerang. Instructional videos are implemented as a learning medium to support students' understanding of procedural steps in practical competencies that require high psychomotor skills. The research employed a quantitative approach using a pre-experimental design with a one-group pretest-posttest model. The sample consisted of 29 valid students selected through purposive sampling from a population of 31 students. Data were collected using cognitive tests (pretest and posttest) and psychomotor performance assessments based on structured rubrics covering preparation, technique, cleanliness, time accuracy, and final result. The cognitive data were analyzed using descriptive statistics, normality tests, and Wilcoxon Signed-Rank Test, followed by effect size analysis. The results showed that there was no statistically significant difference between pretest and posttest scores ($p = 0.315$), with a small effect size ($r = 0.186$), indicating that the video functioned mainly as a reinforcing medium for theoretical understanding. However, psychomotor assessment results demonstrated a high level of student achievement, with a mean score of 89.14 and 100% of students achieving competency above the minimum mastery criteria ($KKM \geq 80$). The findings indicate that instructional video usage is highly effective in improving students' practical skills in hairstyling practice, although its impact on cognitive improvement is limited due to already high baseline knowledge levels. This study highlights the importance of integrating video-based learning to enhance vocational skill mastery in Beauty Cosmetology education.

Introduction

Education is an essential component in improving the quality of human resources in any country, particularly through structured and well-directed learning processes. According to Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, education aims to develop learners' potential to become individuals who are faithful and devoted to God Almighty, possess noble character, are healthy, knowledgeable, competent, creative, independent, and become democratic and responsible citizens (Arsyad, 2017). Vocational education is designed to prepare students as skilled workers who are ready to enter the industrial workforce. In the Beauty Cosmetology program at vocational high schools, mastery of practical competencies constitutes a core element in ensuring students' professional readiness (Pagarra et al., 2022).

One of the practical competencies that must be mastered by Grade XI Beauty Cosmetology students is creative evening-style bun (sanggul kreatif evening style) hairstyling, which is a modern bun technique used for formal events, parties, bridal occasions, and stage performances. This competency requires precision, creativity, advanced technical skills, and a systematic understanding

of procedural steps. Mastery of such skills cannot rely solely on theoretical explanation but requires practical learning supported by effective instructional videos to enable students to clearly and accurately understand each stage of the process (Hasan et al., 2021).

Based on observations conducted during teaching practice (PKM) and interviews with Beauty Cosmetology subject teachers on September 24, 2025 at SMK Negeri 3 Tangerang, it was found that students still experience difficulties in understanding the complex stages of bun hairstyling practice. The learning process has predominantly used conventional methods, in which the teacher demonstrates the procedure in front of the class and students imitate it. This approach has several limitations, including the inability of all students to clearly observe detailed procedures due to viewing distance, the inability to replay the learning process when difficulties arise, and limited instructional time that restricts repetition of explanations. These conditions result in unequal comprehension among students regarding hairstyling techniques (Cahyadi, 2019).

In addition, students face challenges when practicing independently outside classroom hours due to the absence of accessible learning media that can serve as a practical guide. Consequently, students' practical learning outcomes have not yet reached optimal levels, and not all students have achieved the expected competency standards, particularly in the psychomotor domain, which emphasizes real skill performance.

Along with advancements in educational technology, the use of video-based learning media has become one of the alternatives to support practical learning processes. Instructional videos allow students to repeatedly observe procedural steps, slow down specific sections, and understand technical details more clearly. Hasan et al. (2021) state that learning media are tools used by educators to support the effectiveness of the learning process and stimulate students' learning interest. With instructional videos, students can learn procedures in a more systematic and independent manner, which is expected to improve their practical learning outcomes.

Instructional videos also function to clarify message delivery and overcome limitations of space and time in the learning process. This is consistent with Maulida et al. (2020), who state that learning media are tools or stimuli used to convey instructional messages. Through instructional videos, students can directly observe practical stages according to correct operational standards, thereby strengthening their understanding and skills in bun hairstyling practice.

However, in practice, student learning outcomes remain uneven, and not all students have achieved the expected competencies, particularly in the psychomotor domain. This indicates the need for more effective learning interventions through the appropriate use of instructional videos to optimize the learning process.

Based on the above description, this study aims to examine "The Effectiveness of Instructional Video Use on Learning Outcomes in Creative Evening-Style Bun Hairstyling Practice Among Grade XI Beauty Cosmetology Students at SMK Negeri 3 Tangerang" in order to determine the extent to which instructional videos can support the improvement of students' practical learning outcomes.

Methodology

Education plays a fundamental role in enhancing the quality of human resources in any nation through systematically planned and well-structured learning processes. According to Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, education is intended to develop learners' potential so that they become individuals who are faithful and devoted to God Almighty, possess noble character, maintain physical and mental health, are knowledgeable and competent, demonstrate creativity and independence, and ultimately contribute as democratic and responsible citizens. Within vocational education, the primary objective is to equip students with practical competencies that prepare them for direct entry into the industrial workforce, emphasizing skill mastery as a core requirement of employability (Sugiyono, 2017).

In the context of vocational high school Beauty Cosmetology programs, one of the essential competencies that must be mastered by Grade XI students is creative evening-style bun hairstyling (*sanggul kreatif evening style*). This technique is widely applied in formal, bridal, stage, and ceremonial contexts, requiring a high level of precision, creativity, and systematic procedural understanding. Such competencies cannot be effectively developed through theoretical instruction

alone, but require structured practical learning supported by appropriate instructional media. In this regard, video-based learning is considered an effective tool to facilitate clearer visualization of procedural steps, enabling students to understand each stage of the hairstyling process in a more accurate and structured manner.

Based on observations conducted during teaching practice (PKM) and interviews with Beauty Cosmetology instructors on September 24, 2025 at SMK Negeri 3 Tangerang, it was identified that students still encounter difficulties in mastering the complex stages of creative bun hairstyling practice. The conventional instructional approach—where teachers demonstrate procedures while students observe and imitate—has several limitations. These include restricted visibility of detailed techniques due to classroom positioning, the inability for students to revisit learning materials when difficulties arise, and limited instructional time that reduces opportunities for repetition. Consequently, these constraints contribute to uneven levels of student understanding in practical hairstyling competencies. Furthermore, students experience challenges in independent practice outside classroom hours due to the absence of accessible learning media that can function as a procedural guide, which ultimately affects the achievement of optimal psychomotor learning outcomes (Sastramiharja et al., 2021).

In response to these challenges, the integration of video-based learning media has emerged as a relevant pedagogical alternative in vocational education. Instructional videos enable learners to repeatedly observe procedural demonstrations, pause or slow down specific steps, and better comprehend technical details, thereby supporting independent and self-paced learning. Hasan et al. (2021) emphasize that learning media serve as instructional tools designed to enhance the effectiveness of the learning process and stimulate students' learning motivation. Similarly, Maulida et al. (2020) state that learning media function as stimuli or tools for delivering instructional messages. However, despite the potential advantages of video-based instruction, current learning outcomes in practical hairstyling remain inconsistent, indicating the need for more effective instructional strategies. Therefore, this study investigates the effectiveness of instructional video usage on learning outcomes in creative evening-style bun hairstyling practice among Grade XI Beauty Cosmetology students at SMK Negeri 3 Tangerang.

Findings and Discussion

Findings

Description of Cognitive Pretest and Posttest Data

This study was carried out to determine the effectiveness of the use of learning videos on students' learning outcomes in the material for arranging creative evening style buns "braided up do". The data from the research results were obtained from the cognitive pretest and posttest scores given to students before and after the use of learning videos, which were positioned as supporting data to measure theoretical readiness before implementing the practice (Darma et al., 2025).

The subjects in this study are students of class XI Beauty Discipline of SMK Negeri 3 Tangerang. The total number of students in the class studied was 31 students, but there were 2 students who were unable to attend and did not participate in the entire series of research activities from the beginning to the end. Therefore, the data analyzed in full in this study was sourced from 29 valid students.

The data from the research results of the cognitive domain were first analyzed statistically descriptively to find out the initial picture of students' understanding of concepts before and after being given treatment. This descriptive statistical analysis includes the calculation of minimum values, maximum values, mean, and standard deviations. The results of the descriptive analysis are presented in Table 1 as follows:

Table 1 Results of Cognitive Descriptive Analysis (Pretest-Posttest)

Data	N	Minimum	Maximum	Mean	Standard Deviation
<i>Pretest</i>	29	90	100	96,72	3,069
<i>Posttest</i>	29	85	100	97,41	3,924

Based on Table 1 above, it can be seen that from a total of 29 valid samples, the average score in the pretest was 96.72 with the highest score reaching 100 and the lowest score being 90. After students were given treatment in the form of a learning process using video learning, the average score of students in the posttest increased to 97.41 with the highest score still reaching 100.

However, there was a shift in the minimum score to 85 at the time of the posttest, overall the accumulated average score of the group still showed a positive increase. These results indicate that there is a strengthening of students' cognitive learning outcomes after being treated in the form of the use of learning videos in the Evening Style Creative Buns Arrangement material "Braided Up Do".

Normality Test of Cognitive Data

The normality test was carried out to find out whether the supporting cognitive data in this study was normally distributed or not. This test serves as the basis for determining the type of statistics to be used in the hypothesis test, whether using parametric statistics or non-parametric statistics.

Considering that the number of samples in this study is small, namely $N < 50$ ($N = 29$ students), the testing method used is Shapiro-Wilk with the help of the SPSS program. The results of the calculation of the normality test of pretest and cognitive posttest data are presented in Table 2 below:

Table 2 Results of Cognitive Data Normality Test (Pretest-Posttest)

Variabel	N	Say.	Remarks
<i>Pretest</i>	29	<0.001	Abnormal
<i>Posttest</i>	29	<0.001	Abnormal

Based on the results of the normality test in Table 2, it is known that the significance value (Sig.) for pretest and posttest cognitive data is < 0.001 . Because both significance values are smaller than the required significance level, which is $\alpha = 0.05$ ($p < 0.05$), it can be concluded that cognitive learning outcome data is not normally distributed.

Therefore, the prerequisites for the use of parametric statistics are not met so comparative hypothesis test analysis cannot use the Paired Sample t-test. The analysis of this supporting data was continued using a non-parametric statistical test, namely the Wilcoxon Signed-Rank Test.

Uji Wilcoxon Signed-Rank Test

The hypothesis test was carried out to find out whether there was a difference in the cognitive learning outcomes (knowledge supporting practice) of students before (pretest) and after being given treatment (posttest) in the form of learning videos on the arrangement material of the Creative Evening Style bun "Braided Up Do". Since the data is not normally distributed, the test is carried out using non-parametric statistics, namely the Wilcoxon Signed-Rank Test with the help of the SPSS program. The test results are presented in the following Table 3:

Table 3 Wilcoxon Test Results of Cognitive Data

Total N	29
Total Statistics	96,000
Standard Error	19,397
Statistical Test Standards	1,005
Asymp Sig. (2-sided test)	0,315

Based on Table 3, the results of the Wilcoxon Test show an Asymp Sig. (2-sided test) value of 0.315. Since the significance value is greater than the significance level of $\alpha = 0.05$ ($0.315 > 0.05$), H_0 is accepted and H_a is rejected.

This statistic shows that there is no significant difference in the cognitive domain of students between before and after the use of learning videos. This happens because the students' pretest scores have been very high since the beginning (average 96.72), so the use of learning videos in the cognitive realm is a medium to strengthen theoretical concepts to support the readiness of the psychomotor aspects (practice) of students.

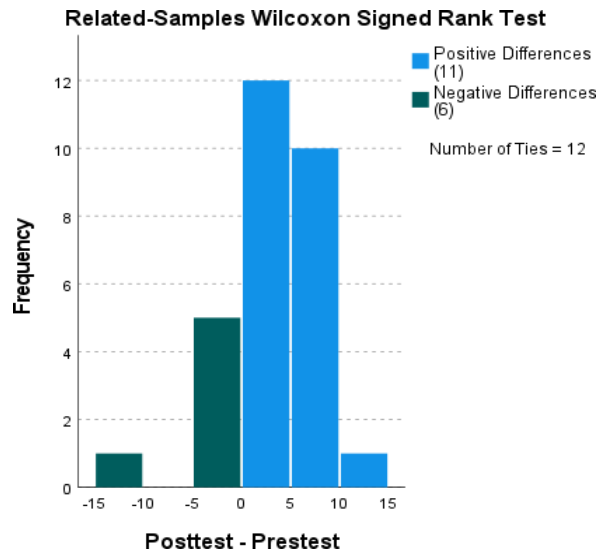


Figure 1 Wilcoxon Signed-Rank Test Histogram

Effect Size r

Effect Size r is used to determine the magnitude of the influence or level of effectiveness of a treatment given in the study. In the non-parametric statistics of the Wilcoxon Test, the Effect Size measurement is performed by calculating the value-based value (r) obtained from the SPSS output through the following formula: rZ

$$r = \frac{|Z|}{\sqrt{N}}$$

$$r = \frac{1,005}{\sqrt{29}}$$

$$r = \frac{1,005}{\sqrt{5,385}}$$

$$r = 0,186$$

Based on the results of the calculation from the cognitive data of this study, the Effect Size r value was obtained of 0.186. The value is in the range of 0.10 - 0.29, it can be concluded that the use of learning videos in the cognitive realm has the power of influence or effectiveness in the small (low) category.

The low results on this cognitive aspect are very logical and consistently reinforce the results of the previous hypothesis test (Wilcoxon Test) which showed no statistically significant difference in values. This again proves that the function of video learning on the purely cognitive aspect is to support theoretical stabilization, because the initial score (pretest) of students is indeed very high.

Descriptive Analysis of Psychomotor Practice

Data on learning outcomes in the psychomotor domain were obtained from the practice assessment sheet of the Evening Style Creative Braided Buns Arrangement "Braided Up Do" after using learning videos on 29 valid students. Based on the results of data processing using descriptive statistics, a summary of the results of the calculation of students' practice achievements is obtained as presented in Table 4 below:

Table 4 Results of Descriptive Analysis of Psychomotor Practices

No	Calculation Type	Calculation Results
1.	Mean	89,14
2.	Median	90,00
3.	Standard Deviasi	2,37
4.	Varian	5,623
5.	Minimum	85,00
6.	Maximum	93,00
	N	Valid = 29

Missing = 0

Based on Table 4 above, it can be seen that the average score (*mean*) of students' psychomotor practice achievement is at 89.14 with a median score of 90.00. The distribution of student skill data is homogeneous as shown by a small standard deviation value, which is 2.37. The highest score achieved by students in making a creative bun is 93, while the lowest score is 85.

To see the psychomotor scores of students in more detail, the following is presented a table of frequency distribution in Table 5 below:

Table 5 Frequency Distribution of Psychomotor Practice

Value	Frequency	Percent
85	1	3,4%
86	4	13,8%
87	4	13,8%
88	4	13,8%
89	1	3,4%
90	6	20,7%
91	3	10,3%
92	4	13,8%
93	2	6,9%

Based on the minimum completeness criteria (KKM) that have been set for the realm of creative bun arrangement practice, which is ≥ 80 , the results of the frequency distribution in Table 5 show that 100% of students (29 people) were declared complete and competent in the practice of Evening Style Creative Braided Buns "Braided Up Do". The lowest score of students (85) has exceeded the minimum graduation limit standard. This proves descriptively that the use of learning videos is very effective in guiding and improving students' psychomotor skills.

To provide a clearer visualization of the data on the learning outcomes of these skills, the following is presented a histogram graph of the frequency of students' psychomotor practice scores in Figure 2 below:

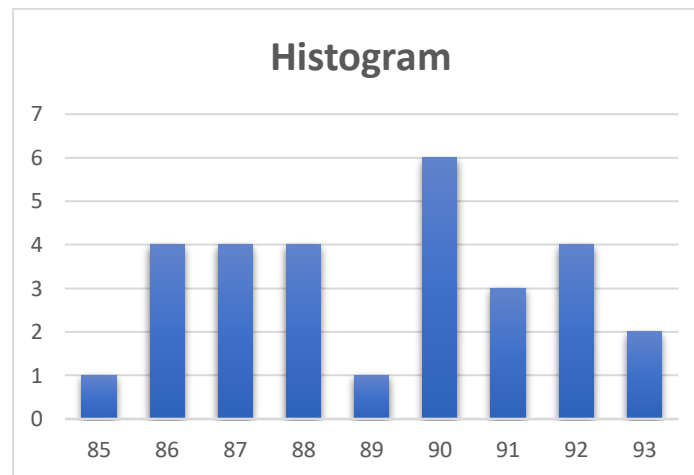


Figure 2 Histogram of Frequency Distribution of Psychomotor Practice

Based on Figure 2 above, the histogram graph shows that the distribution of students' psychomotor scores as a whole is dominated by the acquisition of scores in a high range of grades. The most common score (*mode*) in this bun arrangement practice is 90, which was successfully achieved by 6 students. Furthermore, there was a balanced and stable frequency distribution at scores of 86, 87, 88, and 92 with 4 students achieving each of them.

The visualization of the graph that accumulates in the right area emphasizes that the psychomotor abilities of all students after learning using learning videos are in the category of very good and are concentrated far above the minimum graduation standard (KKM)

Discussion

This study aims to determine the effectiveness of the use of evening style creative bun arrangement learning videos in grade XI students of Beauty Discipline SMK Negeri 3 Tangerang. Based on the data analysis that has been carried out, two main findings are obtained that are interrelated

First, in the cognitive realm (supporting knowledge), the results of the Wilcoxon Test showed a significance value of 0.315 ($p > 0.05$) with an effect strength (Effect Size r) of 0.186 which was included in the small category. Statistically, there was no significant difference in theoretical values between before (pretest) and after (posttest). This happens because of the Ceiling Effect, where the average score of the students' initial pretest from the beginning is very high (96.72). Because students' theoretical understanding is mature from the beginning, the space for improving cognitive scores becomes very limited, so the statistical test does not read any contrasting differences.

Second, although the cognitive aspect showed a significant spike due to the ceiling effect, this learning video proved to be very effective in the psychomotor realm (practice) which is the main focus of research competence. The results of the descriptive analysis showed that the average value of students' practice reached 89.14 with a graduation completion rate of 100% competent above the KKM (≥ 80). The characteristics of learning at the Beauty Vocational School focus more on mastery of practical skills (psychomotor). Thus, the main effectiveness of learning videos in this study has been realistically fulfilled through the achievement of very satisfactory student practice results.

This study has limitations on the relatively small sample count ($N = 29$) and homogeneous subject conditions, so that the variation in cognitive data does not appear dynamic inferentially. However, the integration between the strengthening of theory at the beginning and the visualization of concrete work steps in the learning video has proven to be successful in leading all students to achieve competent qualifications in the final practical skills.

Conclusion

Based on the findings and discussion, it can be concluded that instructional videos are effective in improving students' knowledge and supporting the acquisition of practical skills in creating evening-style creative hair buns. This effectiveness is demonstrated by the students' practical performance after participating in video-assisted learning, with the majority achieving the competent category. Therefore, instructional videos can serve as an effective supplementary medium by providing clear visual demonstrations, facilitating independent learning, and helping students understand each stage of the hairstyling process.

In light of these findings and the limitations identified during the study, several recommendations are proposed. The Cosmetology Education Study Program should facilitate training or workshops on developing educational and innovative videos for makeup and creative hairstyling practices, particularly evening-style creative hair buns. Teachers should optimize instructional videos as practical troubleshooting guides when students encounter difficulties during independent practice. Students of SMK Negeri 3 Tangerang are encouraged to use various learning resources and engage in regular practice rather than relying exclusively on instructional videos. Future researchers should employ a more rigorous research design involving a control group, a larger sample, and more diverse learning settings to strengthen the empirical evidence regarding the effectiveness of instructional videos in improving students' learning outcomes.

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