

Development of an Instructional Video on Nail extension Using Nail tips with the Rubber base Technique for Eleventh-Grade Beauty Program Students at SMKN 3 Bogor

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KEYWORDS	ABSTRACT
Keywords: Instructional Video; Nail extension; Nail tip; Rubber base; ADDIE; Copyright ©2026 Vifada Journal of Education. All rights reserved	This study aimed to develop an instructional video on nail extension using nail tips with the rubber base technique that is valid, practical, and effective in improving the knowledge of eleventh-grade Beauty Program students at SMKN 3 Bogor. The study was motivated by the limited learning media available for the nail extension topic, which made it difficult for students to understand the practical procedures in detail, particularly during classroom demonstrations. This study employed the Research and Development (R&D) method using the ADDIE model, which consists of the Analysis, Design, Development, Implementation, and Evaluation stages. The product developed was an instructional video containing theoretical materials and a step-by-step demonstration of the nail extension procedure using nail tips with the rubber base technique. The product's validity was evaluated by subject matter experts and a media expert, followed by practicality and effectiveness testing involving students. The results showed that the first subject matter expert's validation score increased from 50% to 96%, while the second subject matter expert's score improved from 60% to 100%, both of which were categorized as highly valid. The media expert's validation score also increased from 88% to 94.67%, which was categorized as highly valid. The one-to-one evaluation obtained a score of 87.69%, indicating that the product was highly feasible. The practicality test results indicated that the instructional video was highly practical, with percentages of 90.89% in the small-group trial and the field test using the effectiveness test showed an increase in student knowledge, indicated by an average pre-test score of 60.44 which increased to 95.97 in the post-test, with an N-Gain score of 0.90 falling into the high category. Based on these findings, it can be concluded that the developed instructional video is valid, practical, and effective for use as a learning medium for teaching nail extension to eleventh-grade Beauty Program students at SMKN 3 Bogor.

1. Introduction

The rapid advancement of information and communication technology in the digital era has significantly transformed various sectors, including education. The integration of digital technology into learning has shifted educational practices from conventional teacher-centered instruction toward more interactive and technology-supported learning environments. Education is no longer viewed merely as a process of knowledge transmission but as a planned effort to facilitate students in developing their competencies, critical thinking, self-control, and practical skills required for personal and social development (Hidayat & Abdillah, 2019). Consequently, educational institutions are encouraged to adopt digital learning media that promote flexible, engaging, and student-centered learning experiences.

Digital learning media play an essential role in improving the quality of classroom instruction. Teachers are expected to design learning environments that are interactive, motivating, and responsive to technological developments. Therefore, selecting appropriate instructional media

should consider learning objectives, student characteristics, and the nature of the subject matter. According to Yaumi (2018), instructional media function as tools for delivering information from educators to learners, while Briggs (1977) describes learning media as physical instruments used to stimulate students' learning processes. In vocational education, particularly in beauty and cosmetology programs, appropriate instructional media are crucial for helping students master practical competencies.

One of the practical competencies taught in the Skin and Hair Beauty Department at SMK Negeri 3 Bogor is nail extension, which is included in the Hand, Foot, and Nail Care course. However, the learning process is still predominantly conducted through lectures and direct classroom demonstrations. Although demonstration is appropriate for practical instruction, it has several limitations, particularly when students are required to observe detailed procedures involving small working objects such as fingernails. Students seated farther from the instructor often experience difficulty observing each procedural step, reducing their understanding of the technique. Moreover, nail extension using the rubber base technique represents a relatively new competency in the beauty industry that has not yet been optimally integrated into classroom instruction.

To address these limitations, the development of instructional video media offers a promising solution. Compared with printed materials or verbal explanations, instructional videos provide dynamic audiovisual demonstrations that allow students to observe practical procedures in greater detail. Based on the Cognitive Theory of Multimedia Learning, integrating visual and auditory information can improve comprehension while reducing learners' cognitive load (Mayer, 2024). Furthermore, instructional videos support self-paced learning because students can pause, replay, and review learning materials whenever necessary. They are also accessible through various digital devices, including smartphones, tablets, and laptops, allowing students to learn independently beyond classroom hours. In addition, instructional videos can integrate text, images, animations, demonstrations, and interactive components that enhance students' understanding of procedural skills (Hanifah et al., 2023).

The need for developing instructional videos is supported by field findings. Interviews with the teacher responsible for the Hand, Foot, and Nail Care subject at SMK Negeri 3 Bogor revealed that classroom demonstrations are constrained by limited student visibility during practical sessions. Because the nail area is relatively small, many students cannot clearly observe detailed procedures demonstrated by the instructor. The teacher also emphasized that the rubber base technique has become increasingly relevant in professional beauty practice but has not yet been adequately supported by suitable instructional media.

These findings are reinforced by a preliminary survey involving 17 eleventh-grade students in the Beauty Department. The survey revealed that 70.6% of students had difficulty understanding the nail tip installation procedure, while 76.5% reported limited understanding of the rubber base application process due to its procedural complexity. More importantly, all respondents (100%) expressed the need for instructional videos demonstrating nail extension using nail tips with the rubber base technique as supplementary learning resources. These findings indicate a substantial demand for learning media that enable students to repeatedly observe detailed procedures and independently review practical skills outside classroom instruction.

Based on these findings, this study aims to develop an instructional video for nail extension using nail tips with the rubber base technique for eleventh-grade Beauty Department students at SMK Negeri 3 Bogor. The study seeks to produce learning media that are valid, practical, and effective in supporting vocational learning while aligning with current developments in the beauty industry. The development process follows systematic stages, including needs analysis, instructional design, product development, implementation, and evaluation. The resulting instructional video is expected to improve students' practical competence, facilitate independent learning, and serve as an innovative digital learning resource for vocational beauty education.

2. Research Design and Methodology

This study employed a Research and Development (R&D) approach using the ADDIE instructional design model, which consists of five stages: Analysis, Design, Development, Implementation, and

Evaluation. The R&D approach was selected because it is designed to develop and validate educational products systematically (Sugiyono, 2019), while the ADDIE model provides a structured framework for producing effective instructional media (Branch, 2009). The research was conducted at SMK Negeri 3 Bogor, Indonesia, from February to July 2026. The participants consisted of 32 eleventh-grade students in the Beauty Department who were selected through purposive sampling because they were studying the competency of nail extension in the Hand, Foot, and Nail Care course.

The development process began with a needs analysis through classroom observations, interviews with the subject teacher, and preliminary surveys to identify students' learning difficulties. Based on the findings, an instructional video on nail extension using nail tips with the rubber base technique was designed and produced following multimedia learning principles. The product was subsequently validated by subject matter and media experts before being revised and implemented. Product practicality was evaluated through one-to-one, small-group, and field testing involving students to determine the usability and feasibility of the instructional video.

Data were collected through observations, interviews, questionnaires, and learning achievement tests. Questionnaires using a five-point Likert scale were administered to experts and students to evaluate the validity and practicality of the developed media (Sugiyono, 2019). Qualitative data from comments and suggestions were used for product revision, while quantitative data were analyzed descriptively using percentage scores (Purwanto, 2017). The effectiveness of the instructional video was determined by comparing students' pre-test and post-test scores using the Normalized Gain (N-Gain) formula, with gain scores categorized as high (≥ 0.70), moderate (0.30 – 0.69), and low (< 0.30) according to Hake (1999).

3. Findings and Discussion

3.1. Findings

Product Development Results

This study produced an instructional video entitled "Nail Extension Using Nail Tips with the Rubber Base Technique" as a learning medium for the Hand, Foot, and Nail Care course. The research was conducted at SMK Negeri 3 Bogor, Indonesia, from February to July 2026, involving eleventh-grade students in the Beauty Department. The instructional video was developed using the ADDIE model, consisting of five stages: Analysis, Design, Development, Implementation, and Evaluation. The product was designed to overcome the limitations of conventional classroom demonstrations by providing detailed close-up visualizations of each practical procedure, facilitating self-paced learning, reducing procedural errors, and improving students' understanding of nail extension techniques.

Analysis

The analysis stage focused on identifying instructional needs through classroom observations, teacher interviews, and student questionnaires. The findings revealed that nail extension instruction was primarily delivered through lectures, PowerPoint presentations, demonstrations, and classroom practice. However, students experienced difficulties observing detailed procedures because the working object was relatively small, making demonstrations difficult to follow, especially for students seated farther from the instructor. In addition, the rubber base technique had not yet been integrated into classroom instruction. The preliminary survey showed that 70.6% of students did not fully understand the correct procedure for applying nail tips, while 76.5% had difficulty understanding the use of the rubber base technique. These findings confirmed the need for instructional media that could present detailed practical procedures and be accessed repeatedly for independent learning.

Design

Based on the needs analysis, an instructional video was systematically designed using a storyboard containing narration, visual sequences, presentation flow, and estimated duration for each segment. The video consisted of a cover page, introduction, pre-test, learning outcomes, learning objectives, theoretical explanations of nail extension, nail tips, and rubber base, nail anatomy, contraindications, required tools and materials, workplace preparation, practitioner and client preparation, step-by-step demonstrations, final results, maintenance procedures, common application errors, summary, post-test, references, and closing credits. Learning materials and assessment questions were developed

based on reliable academic references to ensure content accuracy and alignment with curriculum objectives.

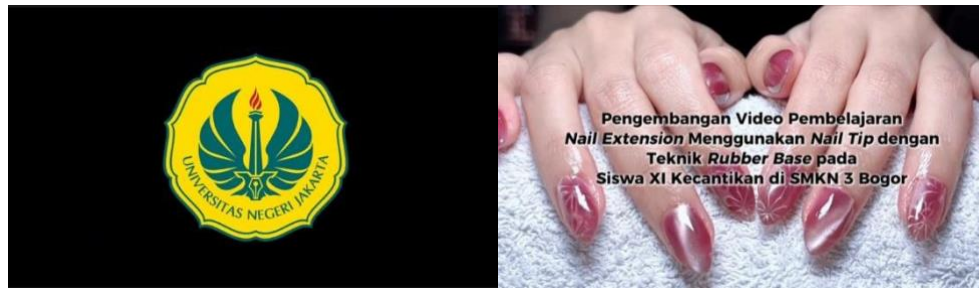


Figure 1. Cover of the Learning Video



Figure 2. Learning Outcomes and Learning Objectives



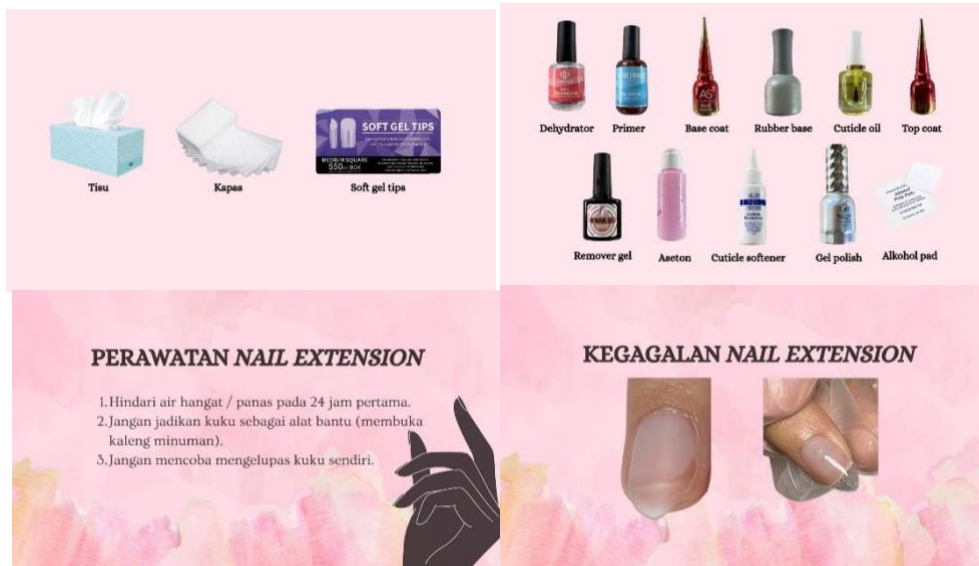


Figure 3. Nail Extension Learning Materials

Development

The development stage involved video recording, editing, expert validation, and product revision. The practical demonstration was recorded using a smartphone camera in several locations, while presentation materials were designed using Canva and the final video was edited using CapCut. The instructional video combined practical demonstrations, presentation slides, narration, voice-over, background music, and animation to enhance students' engagement and understanding.

After production, the instructional video underwent expert validation involving one media expert and two subject matter experts. Media validation was conducted by Dr. Dede Kurnia Adiputra, S.Pd., M.Pd., while content validation was conducted by Dra. Mari Okatini Armandari, M.K.M. and Maya Agustina, S.Pd. The validators assessed the product using Likert-scale questionnaires covering instructional quality, content accuracy, visual design, language, and technical aspects. During the first validation stage, both major and minor revisions were recommended. After revisions were completed, the second validation demonstrated an improvement in the overall feasibility of the instructional video, indicating that the product met the required standards for classroom implementation.



Figure 4. Recording the Opening and Closing Scenes

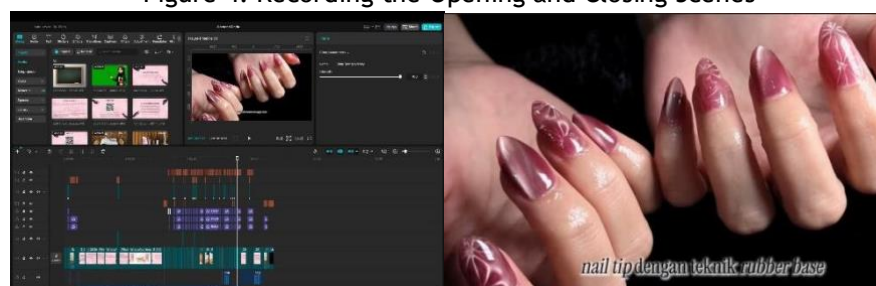


Figure 5. Learning Video Editing Process

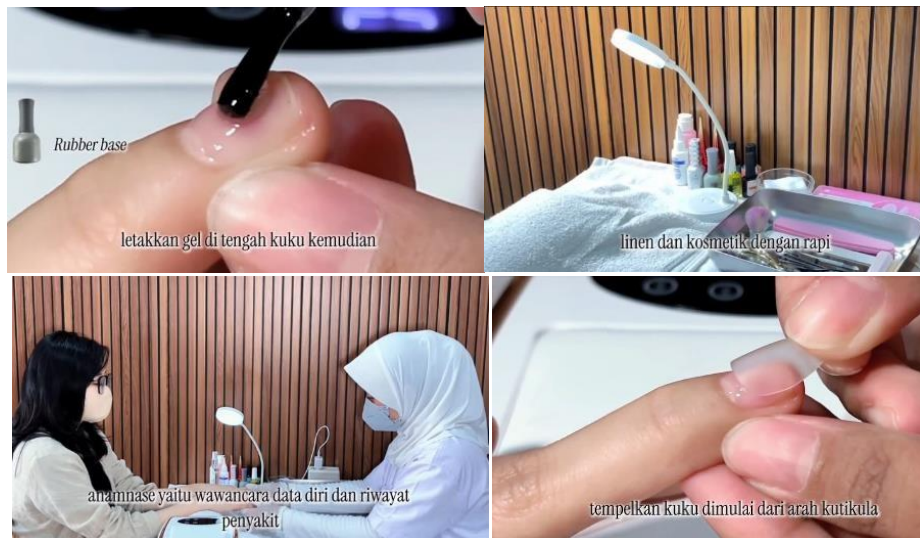


Figure 6. Recording the Nail Extension Procedure

Implementation

The implementation stage consisted of classroom trials involving 32 eleventh-grade Beauty Department students at SMK Negeri 3 Bogor. Product effectiveness was evaluated through field testing using a pre-test and post-test design. Students completed the pre-test before watching the instructional video and the post-test after completing the learning session. This procedure was conducted to determine the effectiveness of the instructional video in improving students' cognitive understanding of nail extension using nail tips with the rubber base technique.

Evaluation

The evaluation stage involved formative evaluation throughout the development process. Product revisions were carried out based on recommendations from expert validators and feedback obtained during student trials. Practicality was assessed through student response questionnaires, while effectiveness was determined by comparing pre-test and post-test results. The overall evaluation indicated that the instructional video fulfilled the criteria of validity, practicality, and effectiveness, suggesting that it is suitable for supporting both classroom instruction and independent learning in vocational beauty education.

Product Feasibility (Theoretical and Empirical Evaluation)

The feasibility of the developed instructional video was determined through expert validation involving subject matter experts and a media expert. The validation process employed Likert-scale questionnaires and was conducted in two rounds to allow revisions based on the validators' recommendations. The iterative validation process ensured that the instructional video met the required standards before being implemented in classroom learning.

Subject Matter Expert Validation

The content validation was conducted by two subject matter experts: Dra. Mari Okatini Armandari, a lecturer in the Cosmetology Education Program at Universitas Negeri Jakarta, and Maya Agustina, S.Pd., a teacher of Hand, Foot, and Nail Care at SMK Negeri 3 Bogor. The first validation by Subject Matter Expert I resulted in a feasibility score of 50%, categorized as fairly feasible, which increased to 96% (highly feasible) after revisions. Similarly, Subject Matter Expert II awarded 60% (fairly feasible) in the first validation and 100% (highly feasible) in the second validation. These improvements indicate that revisions successfully addressed the identified weaknesses and that the instructional video achieved a high level of content validity, making it suitable for instructional use.

Media Expert Validation

Media validation was conducted online by Dr. Dede Kurnia Adiputra, S.Pd., M.Pd., an expert in Educational Technology. The media expert evaluated the instructional video in terms of visual appearance, technical quality, presentation, and usability. The first validation yielded a feasibility score of 88%, categorized as highly feasible, which increased to 94.67% after revisions while remaining

within the highly feasible category. These findings demonstrate that the instructional video satisfied the required media quality standards and was considered appropriate for classroom implementation.

One-to-One Evaluation

Following expert validation, a one-to-one evaluation was conducted with three twelfth-grade Beauty Department students who had previously studied nail extension. This stage aimed to identify potential usability issues before larger-scale implementation. The instructional video obtained a practicality score of 87.69%, indicating that it was highly feasible and easy for students to understand and use independently.

Product Effectiveness

After being declared feasible by both experts and individual users, the instructional video proceeded to practicality and effectiveness testing involving eleventh-grade Beauty Department students at SMK Negeri 3 Bogor.

Small-Group Evaluation

The small-group trial involved 12 eleventh-grade students who had completed the nail extension competency. Student responses indicated a practicality score of 90.89%, which falls within the highly practical category. These results suggest that the instructional video was easy to use, engaging, and effective in supporting students' learning activities, thereby justifying its implementation on a larger scale.

Field Testing

The final evaluation was conducted through a field test involving 32 eleventh-grade Beauty Department students. Product effectiveness was measured using a pre-test and post-test design followed by Normalized Gain (N-Gain) analysis. The average pre-test score was 60.44, while the average post-test score increased substantially to 95.97. The calculated N-Gain score was 0.90, which is classified as high ($g \geq 0.70$). These findings demonstrate that the instructional video effectively improved students' cognitive understanding of nail extension using nail tips with the rubber base technique. Therefore, the developed instructional video can be considered an effective instructional medium for vocational beauty education.

3.2. Discussion

The expert validation results indicate that the instructional video on nail extension using nail tips with the rubber base technique achieved a high level of feasibility in terms of both content and media quality. The content validation score from Subject Matter Expert I increased from 50% in the first round to 96% after revisions, while Subject Matter Expert II's evaluation improved from 60% to 100%. These improvements demonstrate that revisions to the instructional content, organization, and completeness successfully enhanced the quality of the learning material. This finding is consistent with the Cognitive Theory of Multimedia Learning, which emphasizes that integrating visual and auditory elements facilitates meaningful learning and reduces students' cognitive load (Mayer, 2024). Furthermore, the alignment of the instructional content with curriculum standards and learning objectives supports the principles of instructional material development proposed by Lestari and Yudhanegara (2017), who emphasize the importance of content accuracy and competency-based learning materials.

The media validation score also improved from 88% to 94.67% following revisions suggested by the media expert. The improvements included refining the visual layout, correcting captions and text errors, enhancing background music, and optimizing animation and visual effects. These revisions contributed to a more attractive and effective instructional video, consistent with the instructional media design principles proposed by Kustandi and Darmawan (2020), who argue that effective learning videos should present instructional messages clearly while maintaining consistency with learning objectives. The high practicality scores obtained during the one-to-one evaluation (87.69%) and the small-group evaluation (90.89%) further indicate that the developed instructional video is easy to use and supports independent learning. These findings are in line with Septiana (2024), who states that practical learning resources should be flexible, durable, and easily accessible for learners. Similarly, Munadi (2022) explains that instructional videos effectively overcome limitations of time and space,

clarify abstract concepts, and demonstrate practical procedures realistically, thereby supporting independent and meaningful learning experiences.

The effectiveness of the instructional video was confirmed through the field test, in which students' average scores increased from 60.44 on the pre-test to 95.97 on the post-test, resulting in an N-Gain score of 0.90, which falls into the high category. These findings indicate that the developed instructional video significantly improved students' cognitive understanding of nail extension using nail tips with the rubber base technique. The results support Mayer's (2024) multimedia learning theory, which suggests that the integration of text, images, narration, and animation facilitates information processing, particularly when learning procedural skills. Moreover, the findings are consistent with previous research conducted by Nurjanah (2024), which reported that audiovisual instructional videos significantly improved students' motivation and learning outcomes in practical learning contexts. Overall, the results demonstrate that the developed instructional video is valid, practical, and effective as a learning medium, indicating its potential to support vocational beauty education and enhance students' mastery of practical competencies.

4. Conclusion

This study aimed to develop an instructional video on nail extension using nail tips with the rubber base technique to address the learning needs of eleventh-grade Beauty Department students at SMK Negeri 3 Bogor. The instructional video was designed to overcome the limitations of conventional classroom demonstrations, particularly students' restricted visibility during practical sessions. The quality of the developed product was evaluated through expert validation, practicality testing, and effectiveness testing to determine its suitability as a learning medium.

The validation results demonstrated that the instructional video achieved a high level of feasibility. The content validation score from Subject Matter Expert I increased from 50% to 96%, while Subject Matter Expert II's score improved from 60% to 100% after revisions. Likewise, the media validation score increased from 88% in the first validation to 94.67% in the second validation. The one-to-one evaluation also produced a feasibility score of 87.69%, indicating that the instructional video was highly feasible for instructional use. These findings confirm that the developed video meets the required standards in terms of content quality, instructional design, and media presentation.

Furthermore, the small-group evaluation involving 12 students yielded a practicality score of 90.89%, which was categorized as highly practical. The field test involving 32 students demonstrated a substantial improvement in learning outcomes, with the average pre-test score increasing from 60.44 to 95.97 on the post-test. The N-Gain score of 0.90 falls within the high category, indicating that the instructional video was highly effective in improving students' knowledge of nail extension using nail tips with the rubber base technique. Overall, the findings demonstrate that the developed instructional video is valid, practical, and effective, making it a suitable learning medium for vocational beauty education and an effective resource for enhancing students' learning outcomes.

Statement on the Use of Generative Artificial Intelligence(AI)

During the preparation of this manuscript, the authors used generative artificial intelligence (AI) tools solely to support the scientific writing process. Specifically, Grammarly was used to improve grammar, language quality, readability, and writing clarity. The AI tools were not used to generate research ideas, analyze data, interpret findings, or draw scientific conclusions. All study design, data collection, analysis, interpretation of results, and conclusions were conducted and verified entirely by the authors. The authors take full responsibility for the accuracy, integrity, and originality of the content presented in this manuscript.

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