



Development of Learning Media on Fantasy Embroidery by Fashion Design Students, Faculty of Engineering, Universitas Negeri Medan

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Abstract. This study aimed to create a learning medium utilizing Adobe Flash CS 6 and evaluate its suitability for teaching fantasy embroidery techniques within the Fashion Design program at Universitas Negeri Medan. Fashion Design students participated in the research, which followed a research & development methodology and implemented the 4-D development model (define, design, develop, disseminate). The primary objective was to produce Adobe Flash CS 6-based educational media tailored for fantasy embroidery instruction. Six experts participated in the validation process: three material experts and three media experts. We gathered data through questionnaires addressing student and lecturer needs, validated by both material and media experts, and then conducted a descriptive analysis. Results indicated that material experts rated the media as very good, achieving an average score of 93.7%, while media experts provided a similarly high score of 91.3%. The small group trial produced an average score of 92.5% (very good), and the large group trial received a comparable rating of 91.5% (very good). These findings suggest that the Adobe Flash CS 6-based learning media for fantasy embroidery is highly effective and suitable for use in the Fashion Design program at Universitas Negeri Medan.

Keywords: Adobe flash CS6, Fantasy embroidery, Fashion decoration creation.

1 Introduction

Education empowers individuals to unlock their potential, equipping them to adapt to the ongoing changes driven by scientific and technological advancements [1]. A lecturer's ability to deliver material in a way that students find comprehensible reflects high-quality education [2]. Instructional methods, which are very important to the learning process [3–8], need to be carefully planned and developed in order to improve the learning experience by making it more effective, interesting, and powerful.

The learning process can be interpreted as an activity where learning material is delivered from a lecturer to his students. The Department of Fashion Design at Medan State University is an educational institution that develops knowledge and skills.

Learning media are tools used by educators to present instructional content to students. These tools are essential in improving the learning process by simplifying how instructors explain concepts and aiding students in understanding the material [9-17]. As noted in [18], incorporating media plays a significant role in the effectiveness of teaching, making the learning process more interactive and enjoyable. One of the primary benefits of using learning media is its capacity to clarify teaching content.

Delivering information solely through verbal communication may pose a challenge for students, particularly if the instructor lacks experience in explaining complex ideas. In this context, learning media becomes a critical asset in ensuring clear communication. Furthermore, these media contribute to more efficient lesson planning, improve teaching quality, reduce misunderstandings, and provide cost savings due to their reusability.

Based on the findings from initial interviews with lecturers in the embroidery appreciation course, it was discovered that some students faced challenges in understanding, particularly in selecting the appropriate decorative stitches for each motif. This difficulty arose because, during the learning process, the lecturer only provided textbooks as the learning medium. In this regard, of course, the lecturer hopes that the learning objectives will be achieved so that students really understand how to make fantasy embroidery, not just to complete their education, but more than that, students are able to apply the knowledge gained from learning according to their respective creativity.

To attain the best possible learning results, lecturers must cultivate a stimulating educational atmosphere that encourages students to engage actively while ensuring their understanding of all course content. In this context, lecturers should adopt creative and diverse teaching methods, with one highly effective strategy being the integration of learning media. Among the various media options well-suited for today's fast-evolving technological landscape, Adobe Flash CS6 emerges as an ideal tool, particularly for subjects that focus on the creation of fantasy embroidery.

The assessment of Adobe Flash CS6-based learning media for colored embroidery by material experts yielded an average score of 89.37%, placing it in the "very good" category. Media experts, on the other hand, awarded an average score of 93.5%, also categorized as "very good" [5]. Considering the challenges previously mentioned by students, it is crucial to carry out research on the "development of fantasy embroidery learning media for fashion design students" at Universitas Negeri Medan.

2 Research Methodology

This study employs research and development (R&D) as its methodology. R&D, as defined by [19], employs a systematic approach to explore, design, develop, and assess the effectiveness of a product [19-20]. This study utilizes the 4-D development model. As outlined by [21], the 4-D development model involves four phases: (1) define, (2) design, (3) develop, and (4) disseminate.

After the data is obtained, then analyze it. To analyze the data through questionnaires and practice questions contained in the Adobe Flash CS 6 media for

making fantasy embroidery, which will be filled in by respondents. The steps in analyzing data are as follows:

- a. Completed questionnaires will be checked for completeness of answers.
- b. Quantify questions by giving scores according to previously determined weights.
- c. Tabulate the data.
- d. Media criteria are converted into values using a Likert scale which is analyzed descriptively in percentages with the following formula [19].
- e. The gathered percentages are subsequently arranged into a table, facilitating a clearer understanding of the research results. You can utilize the style palette included in the template to format your work. To access it, press Ctrl+Shift+S. Select the style that best suits the content and context of your material. (It is recommended to refrain from using yellow highlights on your text.)

3 Results and Discussion

The results of using Adobe Flash CS6 media in the embroidery appreciation course are clear from the quality of the material and how well the media works. This is especially true when teaching how to create fantasy embroidery on a product. This effort to integrate Adobe Flash CS6 into fantasy embroidery instruction follows the 4-D model development process, which consists of Define, Design, Develop, and Disseminate phases.

Based on the results of the needs analysis from the questionnaire given to students and lecturers, the student needs were found to have an average score of 86.94%, while the lecturers' needs had an average score of 84%. This indicates that the use of media in fantasy embroidery learning still requires further development of learning media.

3.1 Product Eligibility Validation

Once the material is created using Adobe Flash CS 6, the following step involves validating both the content and the Adobe Flash CS 6 media. This validation process was conducted by a team of 3 content experts and 3 media experts.

3.2 Material Expert Validation

The validation of the material and media was conducted by 3 material experts who assessed the content on the Adobe Flash CS 6 media that had been developed. This was done to obtain valid evaluation criteria, ensuring that the material presented in the Adobe Flash CS 6 media is appropriate for use as a learning tool. Material validation was performed twice due to several shortcomings identified during the initial assessment.

The assessment by material experts focused on three key aspects: the appropriateness of the material, which earned a score of 95.5%; the preparation of the material, which scored 93.3%; and the presentation of the material, also receiving a score of 93.3%. In general, the evaluations from these three aspects are categorized as

"Very Good." The average percentage of the material expert evaluations is displayed in the Fig. 1.

3.3 Media Expert Validation

The validation by media experts was conducted by 3 material experts who assessed the content within the Adobe Flash CS6 media that had been developed. The validation process involved evaluating the media based on coverage aspects, which were assessed through a questionnaire using a 1-5 scale, with the respondents marking their choices (✓) on the form. The questionnaire for the material experts contained 20 assessment indicators.

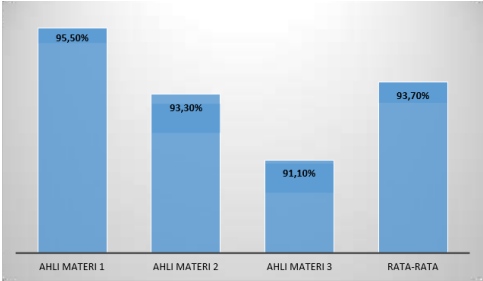


Fig. 1 Feasibility Percentage Diagram by Material Experts

According to the average percentage score from the media validation results across all aspects by 3 material experts, the score is 91.3%, which falls into the "Very Good" category (See Fig.2)

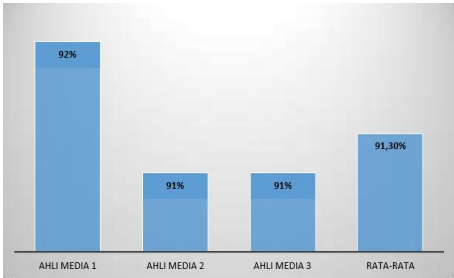


Fig. 2 Percentage Diagram of Media Validity Test Results by Media Experts.

The last phase in the media development process is the dissemination phase. At this stage, the product, which has undergone revisions during the development phase, is implemented on the intended target audience to assess its effectiveness. This includes evaluating the feedback provided by media and material experts regarding the appropriateness of the Adobe Flash CS 6 media.

3.4 Small group trials

A series of small group trials were conducted with 8 students. The average score from these trials was 92.5, which falls into the "Very Good" category.

3.5 Large group trials

Comprehensive trials were conducted involving 32 students. The average score achieved during these trials was 91.5, which is classified as "Very Good".

Therefore, based on the validation results conducted by material and media experts, as well as trials with small and large groups, the Adobe Flash CS 6 media for creating fantasy embroidery can be categorized as "Very Good." It can be concluded that this media is appropriate for use in the learning process of the Embroidery Appreciation course, focusing on creating fantasy embroidery on fashion products.

4 Conclusion

In the process of learning Embroidery Appreciation, specifically on the topic of creating fantasy embroidery for fashion products, Adobe Flash CS6 plays a crucial role as it allows students to use the media both offline and online. This media enables students to revisit the material on creating fantasy embroidery independently, enhancing their understanding of the subject. Adobe Flash CS6 presents step-by-step instructions in fantasy embroidery material. This guide helps students during practical sessions, allowing them to review and follow the procedures for creating fantasy embroidery effectively.

By utilizing Adobe Flash CS6 media in the learning process, it is expected to assist students in quickly understanding the material and enhancing their knowledge, which will subsequently impact their grades. The Adobe Flash CS6 media includes content on creating fantasy embroidery as well as video tutorials, making it easier for students to grasp the lesson. Additionally, the media features quizzes designed to assess students' understanding of fantasy embroidery. These quizzes are programmed to display scores immediately after completion, allowing students to identify areas they find challenging and revisit the material until they fully comprehend it.

The use of Adobe Flash CS6 media has significant potential to encourage students to respond positively to learning. This media supports lecturers in delivering learning resources that enhance students' knowledge and understanding. Thus, Adobe Flash CS6 media is highly suitable for students in the Embroidery Appreciation course, particularly for learning materials on creating fantasy embroidery for fashion products.

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