



Developing Learning Media of Denim Upcycle to Improve Creativity in Making Children's Clothing

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ABSTRACT

In today's digital era, students must develop their creativity to get used to pouring their brilliant ideas. Media is beneficial for them in critical thinking apart from material presentation. In developing tutorial videos as a learning media of denim upcycling in the Children's Clothing Making Technique course, this research was to open and share knowledge and train students' creativity to utilize their used clothes to be upcycled into newer models and wearable children's clothing. This research was developmental research or Research and Development [R&D] using the ADDIE model. Based on the experts' validation results continued by trial assessment in students as the users, the media display achieved 92.5% result. Through the assessment analysis, the displayed text received 89.29%, and the displayed images got 97.14%. As many as 88.57% deemed the video interesting, 90.71% saw it easy to learn, 96.43% stated the video gave knowledge, and 92.86% deemed it opened their creativity. Thus, this research was feasible and valid for use as a medium. The displayed video was exciting and supported students' knowledge to upcycle their clothes and motivated and helped them apply to the related course. Future research could develop tutorial videos on upcycling techniques in merging two fabrics, changing the clothing model, and upcycling by adding decorations.

Keywords: *Denim Upcycle, Children's Clothing, Tutorial Video, Students' Creativity.*

1. INTRODUCTION

Media is a teaching tool that helps teachers convey the material. Besides being helpful in teaching, the right choice of media can also increase student motivation to learn. In producing clothes, it is also essential to increase their creativity besides knowing the techniques of making clothes.

In the Children's Clothing Making Techniques course from Fashion Design Education Study Program, students must be creative, making clothes from textile sheets and upcycling them. Upcycle is transforming items that are no longer used into something more useful [1]. Clothing made of denim fabric is strong, so it is still strong and beautiful, but sometimes it is not used and piles up at home. This kind of clothing can be reused into new goods with value and could be sold. Throwing away and burning cloth waste results in more and more waste circulating and causing air pollution from the smoke [2]. Recycling and sustainability are buzzwords today for stakeholders in the apparel supply chain, from

producers to consumers are working towards this goal [3].

Concerning the waste problem, as a teacher of practical materials, it is necessary to make learning videos of tutorials on using recycled clothing, such as denim. The developed media in the video tutorial is a technique for upcycling skirts and shirts that almost everyone has. Clothing that does not fit, is defective, and is outdated will only be stored and not used anymore and accumulates as waste, so it is better to reuse it for children's clothing or other items.

Through video tutorial media, students can upcycle these clothes, become more open-minded in creating fashion designs from denim material, make children's clothing with a new look, minimize textile waste, and reduce budget spending. The concept of sustainability and recycling comes with sustainability and aims to improve Health, Wealth, Economy and Environment aspects. [4].

1.1. Learning Media

Rapid developments in science and technology impact the human mindset at a macro level and education area, which has also experienced changes. This is a challenge for educators who must be prepared for the changes and use them to facilitate learning activities. Media is a teaching tool that helps the teacher in conveying the material. Media usage makes learning more effective in various situations, especially with access to technology. Hence, video tutorials can be an efficient choice for long-distance learning [5]. Besides being very helpful in teaching, the right choice of media can also increase student motivation to learn. Learning media can enhance the process and results of teaching concerning the level of students' thinking [6]. Various media uses, among others, can generate enthusiasm for learning, more direct interaction between students and learning resources, and allow children to learn independently according to their talents [7].

During learning, media functions as information from sources such as teachers or lecturers to recipients or students who act as a complement or tool for teachers or lecturers. The learning media is a tool to optimize learning following the learning objectives. According to Leive and Lenzt, there are three functions of learning media, especially visual media: (a) attentional function (attract students' concentration), (b) cognitive function (images are easy to remember, and (c) compensatory function (visual media to help students who are weak in reading) [8].

Educational progress in Indonesia always keeps up with time; hence, improving the media from manual to more sophisticated technology is also necessary with today's rapid technological advances. Gradually, higher education provides learning media to support the smooth teaching and learning process.

1.2. Multimedia Video Learning

In multimedia learning, an application is used for the learning process that conveys messages, both knowledge, attitudes and skills and can stimulate with advantages because it attracts attention, improves the quality of information delivery, and is reinforced by text, images, audio and video, as well as animation, [9].

Various learning technologies are currently very diverse and can be used in learning, for example, video/film. The effectiveness of video learning depends on providing interactivity. Students in e-

learning environments that provide interactive videos achieve significantly better learning performance and higher levels of student satisfaction than students in other environments [10]. As the initial solution when online learning is established, multimedia is a new learning model and system that is more creative and fun because it provides a display that follows developments in science and technology [11]. As a medium, video/film is a learning technology with good advantages for implementing learning [12]. This media can display elements of sound (audio) and images (visual) simultaneously in the form of moving images [13].

In making learning videos, several criteria need to be considered, such as:

- a. The material, because video media is suitable for illustrative lessons of a particular process, demonstration flow, a concept or describing something.
- b. Duration for just about 20-40 minutes. Human memory and concentration abilities are pretty limited between 15-20 minutes.
- c. The video presentation format for learning videos prioritizes clarity and mastery of the material, including narrative, interview, presenter, and combined format.
- d. Technical provisions, video media in its production cannot be separated from technical aspects, such as cameras, shooting techniques, lighting techniques, editing, and sound. Learning places more emphasis on message clarity. Thus communicative presentations need technical support.

Based on the above criteria, it is necessary to consider various aspects starting from the material, video duration, attractive video presentation formats, and specific technical provisions so that learning videos are easy to understand and students can absorb the material.

1.3. Tutorial Videos

Video is pictured in frames, which are mechanically projected through a projector lens, making the screen look alive. The video can depict live images and sound and has its charm. Videos can present information, describe processes, explain complex concepts, and teach skills. Videos containing tutorials can be an alternative to practical learning without having to demonstrate offline. [14].

Furthermore, video tutorials are videos to assist teachers in conveying material or replace teachers in conveying subject matter through videos, where videos have several advantages. One of these advantages is conveying information clearly, step by step and in detail.

1.4. Children's Clothing-Making Techniques Course in the Fashion Education Study Program

Children's Clothing Making Techniques in the Fashion Design Education Study Program is presented in odd semesters with three credits and 6 JS [15]. One of the Course's Learning Outcomes is that students can create models and understand the concept of sewing techniques for children's clothing according to the child's age effectively. This course contains theory presented at the beginning of learning and then practice making children's clothing for various ages and occasions. Among the materials is an upcycle of denim clothing, in which students are required to make children's clothing from upcycling denim clothing, be it skirts and shirts.

1.5. Research Purposes

The research aimed to:

1. Establish appropriate media for overcoming learning problems in the teaching implementation of teaching, to open and provide insight and increase student creativity in upcycling unused denim clothing into children's clothing.
2. Create video-based interactive learning media models to increase creativity and skills in making children's clothing from upcycling denim skirts and shirts
3. Knowing the assessment results related to experts and teachers on video-based interactive learning media models to increase the creativity and skills of making children's clothing.
4. Implementing interactive media in the Children's Clothing Making Techniques course, a learning medium that can be used for independent study.

2. RESEARCH METHOD

Developing learning innovation development plans for students in the course with video media. The steps followed the development model adapted from the ADDIE model (Analysis-Design-Development-Implementation-Evaluation) [16]. The development step began with a needs analysis of the courses being developed. The next stage was drafting, following the

characteristics of the courses in the field so that the material to be developed could be focused and follow learning objectives. Development of teaching materials by making videos, developing products, and revising products. The next stage was implementing innovative products by testing learning media by researchers on student groups, material experts and media experts. The product feasibility evaluation stage was carried out after obtaining the assessment score results. Calculation of product feasibility using a Likert scale with weighted instruments using intervals of 1 to 4. Data analysis techniques were carried out in a quantitative descriptive manner. The steps of this research follow the development model adapted from the ADDIE model [16] described in the following chart.

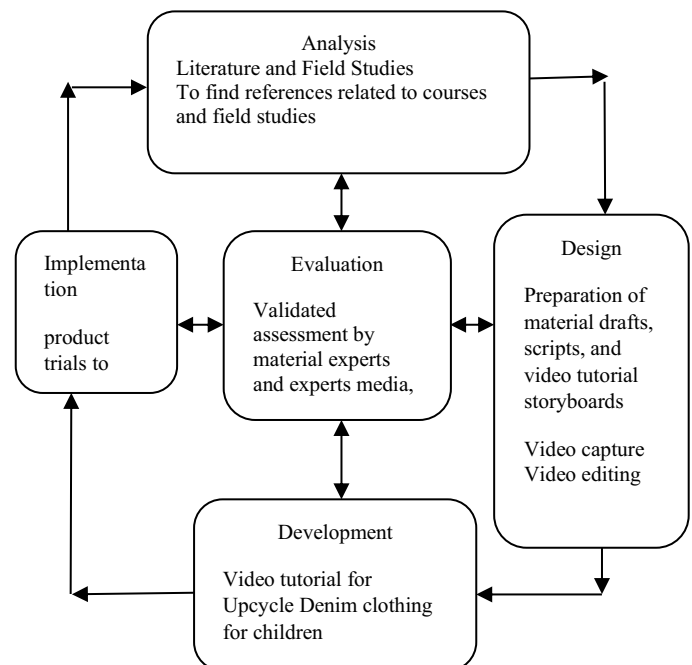


Figure 1 Research and Development Research Stages

The steps begin with determining the courses to be developed. The next stage is to prepare scenarios according to the characteristics of the courses in the field so that the material that will be delivered through the learning media that will be developed can be focused and follow the learning objectives.

2.1. Product Validation

Assessment guidelines are used to collect data on (1) material expert assessment, (2) media expert assessment, and (3) user assessment. After obtaining input from material and media experts, revisions were made to the media, and then product trials were carried

out on S1 Fashion Design Education students. The data analysis technique used in quantitative data is an assessment questionnaire score by calculating the percentage of answers.

Instruments obtained from sources determined during validation are processed using Arikunto's formula (1996) as follows:

1. The formula for processing data per item

$$\frac{\text{QUOTE } x}{100\%}$$

In which:

- P : Percentage
- x : Respondent's answer in one item
- xi : The ideal value in one item
- 100% : Constant

2. The formula for processing the data as a whole

$$\frac{\text{QUOTE } x}{100\%}$$

- P : Percentage
- x : Respondent's answer in one item
- xi : The ideal value in one item
- 100% : Constant

Success criteria are set with the results interpretation guidelines in Table 2 to determine the conclusions that have been reached.

Table 1. Criteria for Results of Data Analysis

Test Results			Follow-up
Category	Percentage	Qualification	
4	85%–100%	Very Feasible	Implementation
3	75%–84%	Feasible	Implementation
2	55%–74%	Quite Feasible	Revision
1	<55%	Less Feasible	Revision

2.2. Test Results Presentation

The results of the small group trial on upcycling shirts and denim skirts from video tutorials using Adobe Premiere Pro software were obtained from respondents from the 2017 Fashion Design Education S1 class students who had taken the Children's Clothing Making Techniques course. A total of 35 students responded to a questionnaire showing the tutorial video from 16 question items to assess the overall Upcycle Denim Learning Media for children's clothing.

2.3. Expert Validation Results

Data from expert instrument validation results were obtained through a questionnaire containing aspects related to the feasibility of video tutorials to be used as a medium in teaching Children's clothing-making techniques and upcycle clothing.

Based on the calculation from the material presentation aspect, a total score ($\sum x$) of 630 is obtained with an ideal score ($\sum xi$) of 700, so a percentage level calculation of 90% is obtained, which is in the very feasible category. Regarding appearance from media experts, a total score of ($\sum x$) 777 was obtained with an ideal score of ($\sum xi$) 840, so from the calculation results, an average percentage level of 92.50% was obtained, which was also in the very decent category. Based on the calculation of test data analysis on students, a score of 92% was obtained, which meant that the upcycle denim tutorial video learning media in children's fashion-making engineering courses is included in the very feasible category. Regarding the criteria for the feasibility analysis results, the presentation of the upcycle video tutorial material was very feasible to use.

3. DISCUSSION

Advances in teaching technology need to be balanced with media that will help teachers and students. Multimedia in learning is expected to improve the experience of teaching and can motivate students. This interest can later increase students' enthusiasm for creativity, as Kustandi, C. said that the media must show something that can attract the attention of all students [17].

A video currently has a vital role in the new education trend because it approaches modern teaching, where teaching that was initially traditional instructional shifts to video-based learning. The upcycle denim tutorial video in the Children's Clothing Making Techniques course was developed as

a learning medium that contains the process of utilizing clothing that is still of good quality but is no longer used and needs to be upcycled into children's clothing that can be used and has a sale value. Video shows are made with text, sound and images, arranged from preparation to the manufacturing process within a predetermined time. As for upcycling, several YouTube shows the tutorial, but the stages of making are not coherent. For example, in learning for students in completing assignments in the Children's Clothing Making Techniques course, lecturers must develop videos that can provide examples, broaden horizons, and inspire creativity to achieve learning objectives.

The research results from the material and media experts are included in the valid category, and the feasibility test, which all included in the very feasible category. The material experts calculated and obtained a percentage of 90%; this showed that the material presented followed the expected objectives. Video tutorials benefited students because they could see the upcycle process from preparing materials and tools, how to design, cut, and work steps to models of children's clothing. At the same time, the results of the media experts concluded that the broadcast aspect, with a percentage of 92%, was included in the valid criteria. It can be interpreted that the video is easy to operate, accompanied by exciting writing and precise dubbing, and suitable as a medium for making children's clothing. Upcycle material through video will make it easier for students because they get examples that match the actual situation. The more senses are used to receive and process information, the more likely that information can be understood and retained in memory [18].

The video tutorial on making upcycle denim begins with a making purpose explanation, the tools and materials, marking the seam, the steps for making techniques, and the technique for forming decorations. The appearance was arranged coherently and intended to help students learn, be easy to follow and develop upcycle products into attractive children's clothing. To realize and increase teachers' creativity, they must be able to choose learning media suitable for students so that teaching materials or lessons can be understood and absorbed by students correctly [19]. The advantages of learning videos include the ability to communicate, explain something in-depth and complex, be repeated, and learn independently [20]. Apart from being able to receive messages from video displays, students are encouraged not only to receive messages from videos that are displayed but also to develop their creativity and improve a variety of products with upcycled denim products.

4. CONCLUSION

Video tutorial media is suitable as a delivery material for upcycle denim practice to open students' insights to increase creativity in making children's clothing. This development research produced two products of video tutorials with the material of upcycling shirts and skirts into children's clothes. Video tutorials contain the purpose of compiling upcycle material, the tools and materials, the design of children's clothing models, the process, and the finished clothing for 20 minutes.

Based on the material experts, media experts, and users, the video was included in the valid category and is suitable for use as an appropriate media tutorial in delivering denim upcycle material. Future research could develop tutorial videos on upcycling techniques in merging two fabrics, changing the clothing model, and upcycling by adding decorations. Students could also store the video on their cellphones or laptops so that it would be easier to access or look back if they experience difficulties when upgrading clothes.

AUTHORS CONTRIBUTION

This study contributed to educators and related parties in the fashion teaching practice of making children's clothing by upcycling denim shirts and skirts.

For fashion teachers, this research tutorial video can enrich interactive learning media in teaching fashion how to upcycle denim clothes into children's clothing.

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