



# The Effectiveness of Video Tutorials on Textile and Fashion Design Learning

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## ABSTRACT

Using media throughout the learning process helps enhance interactions between teachers and students as well as students and their learning environment. Media use is intended to enhance the learning process, impacting student achievement. This study aims at 1) developing video tutorial learning media, 2) finding out the feasibility of the developed video tutorial media, and 3) knowing the effectiveness of the developed video tutorial media. This research employed Research and Development stages, including Define, Design, Development, and Dissemination. The subjects in this study were media experts, material experts, and students for the implementation test. Data collection techniques were observation, questionnaires, and performance assessment. The content validity and reliability were tested using Cronbach's alpha with the result of 0.659, declared reliable. The data analysis technique used descriptive analysis. The results of this study showed that 1) the realization of 5 video tutorials was developed with Define, Design, Development, and Dissemination stages, 2) the video tutorials obtained 92.66% for its appropriateness aspect based on the material expert, 91% for its feasibility aspects according to the media experts, and 96 % of students stated that the media is feasible for learning because it can help them to enhance their materials understanding, 3) the developed media has proven effective in case of implementation and users' response with three indicators in the high category above 65%, while the learning outcomes with 57% in the Very Good category and 43% in Good category, respectively. It means video tutorials are proven effective for digital textile and fashion learning.

**Keywords:** *Textile, Fashion, Digital, Video Tutorial.*

## 1. INTRODUCTION

Rapid advancements in information and technology have altered how learning media are utilized to help interact between teachers and students, including physical and non-physical forms of learning media [1]. Using appropriate learning resources will support both the intended learning objectives and process. Learning tools and resources that can pique students' interests, thoughts, and attention are used as an intermediary by learning media to transmit messages/information, learning objectives and to facilitate the communication process so that learning can occur. It indicates the significant role of learning media in the learning process. [2]. The critical component in improving the relationship between teachers, students, and their learning environment is using media in the classroom. It serves as a teaching tool by supporting lecturers' preferred instruction techniques. It is anticipated that using these resources will enhance learning, impacting student accomplishment. Students that use media in their learning may find it simpler to comprehend the material and achieve successful learning outcomes. The learning

objectives can be best met with satisfactory learning outcomes [3].

The digital textile and fashion course is a hands-on, theoretically-based program that teaches students how to create fashion and textile designs. It starts with a lesson on drawing proportions in Corel Draw and moves on to teach students how to present their concept using various presentation methods. Face-to-face instruction employing lecture and direct demonstration approaches has been used for the Digital Textile and Fashion course. Students find learning how to use Corel Draw's drawing tools, fundamental drawing skills, and design processes challenging. The primary barrier to finishing assignments during lectures is that students do not comprehend the Corel Draw drawing tools because they are not included in the introductory material and the lecturer cannot demonstrate them frequently.

The demonstration method refers to presenting materials by demonstrating and showing students about a particular process, situation or object, either real or just an imitation [4]. This method's purpose is to show an event's occurrence under the learning contents. It shows the procedure and makes it easy for students to

understand. Students are encouraged to actively observe, apply theory to reality, and attempt to do it themselves, which is one benefit of the demonstration method. Many pieces of literature prove the effectiveness of the demonstration method in learning, including making learning effective [5], enhancing students' learning outcomes [6],[7],[8],[9], and developing students' psychomotor aspects [10]. This method is beneficial to be implemented in the learning process [11], since it positively affects the student's ability to write complex procedural texts [17], and improves their learning results [12].

In several related reviews, several initial conditions influence learning success with the demonstration method, including learning readiness, discipline, motivation, attention, etc. Theoretically, the demonstration method makes it easier for students to learn learning material. Still, it is less effective in Digital Textile and Fashion learning due to low learning readiness and discipline. It can be seen from their lack of punctuality which many students are coming late, even absent during the demonstration session. It forces the lecturers to explain the materials several times, so the learning is getting longer than scheduled occasion As a result, they are failed to achieve the academic target and are unable to complete their assignments.

To address this situation, instructional media, in the form of video tutorials, are required to support the teaching and learning of digital textiles and fashion. Students can comprehend the material independently and complete their assignments using this video. The video tutorial allows the material to be played repeatedly, so they can learn more about problematic materials that need deeper comprehension. Video is considered as one of the most helpful learning tools today [15]. Both students and lecturers can benefit from this media and will find the learning process more straightforward with video tutorials.

### **1.1 LEARNING EFFECTIVENESS**

Effectiveness comes from the base word effective. It means effect, consequence, or something that can bring results [18]. Effectiveness means usability and suitability in an activity or situation that shows how far the plan can be achieved. The word effectiveness can also be interpreted as the level of success that can be accomplished in a certain way or effort in accordance with the goals to be achieved. The effectiveness of a particular learning process can be seen from two aspects, namely, 1) empirical evidence of student learning outcomes produced by the learning system and 2) how much the media contributes to learning success [2]. This claim agrees with Sudjana, i.e., assessing the success of the learning process can be seen from 1) changes in knowledge, attitudes, and behavior after completing the

learning experience; 2) quality and quantity of knowledge mastery among students; 3) several students who achieve learning objectives are at least 75% of the total learning target; and 4) long-lasting learning experiences [19].

Effectiveness primarily aims to respond to how far students can fulfill the learning objectives. [20]. Student engagement during instruction, student reactions to it, and conceptual mastery are all indicators of learning success. [21]. Effective learning strategies are essential for long-term learning outcomes and good academic achievement [22]. Technology-based media is one of the crucial components that may be utilized to create successful learning, in addition to choosing learning methods and approaches. Technology's application to support online learning requirements has produced efficiency in terms of time, distance, and location. [23]. Media use in the teaching and learning process can drive new desires and interests, generate motivation and stimulate learning activities, and even psychologically influence students. [2]

### **1.2 TUTORIAL VIDEO**

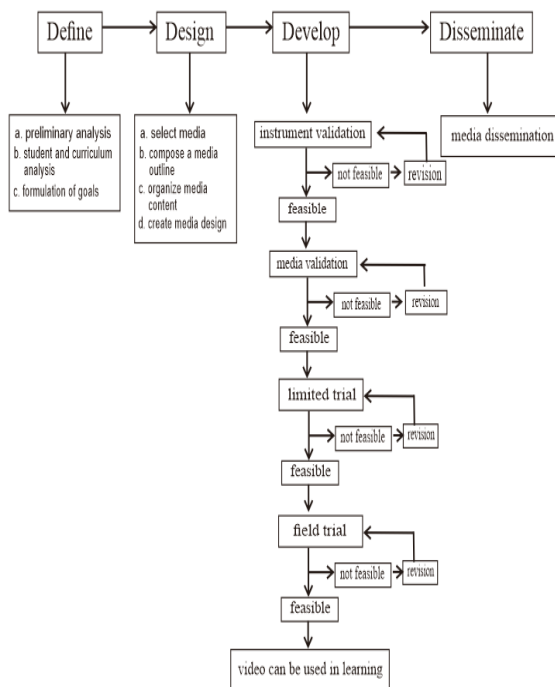
An effective learning process is inseparable from the role of learning resources. Independent learning resources include playing tools to provide information and various skills to students through reference books, story books, pictures, resource persons, video tutorials, and other cultural objects. [24]. Multimedia refers to the combination or integration of two or more integrated media formats, such as text, images, animation, and video to generate information rules into a computer system. Those elements can be used to describe video tutorials. To deliver psychomotor learning material, an audio-visual combination must meet the following criteria: 1) being able to explain actual conditions from processes and phenomena; 2) combining text and image media; 3) allowing users to repeat the crucial part to be played back; 4) delivering psychomotor learning material; 5) conveying messages effectively and efficiently with audio-visual; and 6) showing the procedure with pictures or animations [25]

Media offers an essential role in learning because it can avoid verbalization. Using appropriate media will facilitate the achievement of learning objectives [26]. The ability of the media to guide students toward the learning objectives can be used to gauge the efficacy of the media. Both students and lecturers will benefit from and find the learning process more understandable through video instructional learning media. Considering the efficiency of using video tutorials, numerous studies have found that media help students acquire content and serve as a valuable resource to support their autonomous learning. [27]. Video tutorials are significantly effective in increasing students' learning outcomes with high and

moderate levels of learning independence. Still, it will be complicated for those with low levels of learning independence [28]. Student learning outcomes using video tutorial media indicate an average percentage of 85.8%. It is much more effective than those using textbooks, 78.5%, respectively [29]. Video media can improve student abilities and is very effective in online learning [30]. Referring to the benefit of video tutorials, it is necessary to develop video tutorials to help students understand digital textile and fashion material and reveal this media's effectiveness in classroom learning.

**2. METHOD**

This research employed Research and Development (R&D) design using the Thiagarajan 4D development model. The process of making video tutorial media used the screen recording technique of Camtasia. The subjects in the study were material and learning media experts. At the same time, the subjects for testing the developed video tutorial were the Fashion Design Study Program students. Data collection techniques in this study were observation and questionnaires. The development procedure consisted of four steps: define, design, develop, and disseminate. The stages of the research can be seen in Figure 1.



**Figure 1.** The flow of the 4D development model

The effectiveness of the developed media is reviewed based on the implementation aspects, users' response, and assessment of student's task performance. The data

analysis technique uses descriptive statistics with percentages accompanied by pie and bar charts visualization to clarify the research results' presentation [31]. Meanwhile, the criteria for determining the feasibility aspects of the developed product are based on 1.

**Table 1.** Feasibility categories

Percentage (%)	Categories
76-100	Very Feasible
56-75	Feasible
40-55	Infeasible
00-39	Very Infeasible

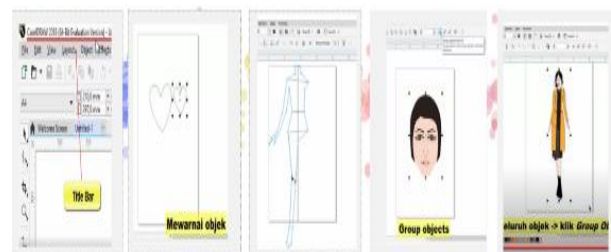
Meanwhile, the following formula categorises the implementation aspects and user response.

**Table 2.** Category of video practicality

Category	Score Interval
Low	$X < M - 1SD$
Moderate	$M - 1SD \leq X < M + 1SD$
High	$X \geq M + 1SD$

**3. RESULTS**

The results of this study are tutorial videos containing an introduction to the menus in Corel Draw with a duration of 9 minutes, 21 seconds, and 29MB file size. It also explains the basic drawing techniques in 5 minutes 31 seconds of 31 MB, the proportion drawing tutorial of 28MB with a broadcast time of 9 minutes 46 minutes, and the face drawing tutorial of 27MB with a display time of 7 minutes 46 seconds. The drawing works with a 27MB file size and a viewing duration of 8 minutes 36 seconds. The screenshot of the developed video is shown in Fig 2.



**Figure 2:** Screenshots of the developed video

The stages of media development consist of the Define stage, namely initial analysis, curriculum analysis, student character, material analysis, and formulating goals formulation. The Design stage is to conceptualize learning media so that it fits the intended use. The Development Stage consists of four steps: instrument validation, product validation, limited trials, and field trials (Figure 3). The results of the media feasibility assessment can be seen in Table 3.



Figure 3. The stages of material development

Table 3. Assessment results of video feasibility

Assessors	Assessment aspects	Mean	Percentage
Material expert	Media benefits	7	88%
	Media classification	3.6	90%
	Media selection	6	100%
Media expert	Media display	10.80	90%
	Media function	8.40	93%
Students response	Aim and benefits	6.70	96%
	Technical Quality	7.87	98%
	Media selection	3.70	93%
	Technical appropriateness	5.83	97%

Based on Table 3, the developed video was declared appropriate with a percentage of 93% by media experts, 92% by material experts, and 96% according to students' opinions. Regarding the feasibility interpretation, the five video tutorials can be interpreted as Very Feasible for learning. The Disseminate session was done by uploading the video in Youtube in the following addresses:

<https://youtu.be/2UbG7TJ0zbQ>;

<https://youtu.be/5-txSawvV-E>;  
<https://youtu.be/ebFLrTzcYXg>;  
<https://youtu.be/tCbaGFsDYao>;  
<https://youtu.be/IBCcP6uN500>.

By integrating videos within digital textile and fashion learning (Figure 4), it is possible to evaluate the effectiveness of the video tutorial. Students are provided a link to a Google form where they can rate the usefulness of the video.



Figure 4. Implementation of video tutorials in learning

In this study, the effectiveness of the video is assessed based on the assessment aspects from McAlpine & Weston's [32], i.e. implementation aspects and users' response. These aspects contain four indicators: practicality, students' interest and motivation

development, autonomous learning, and contextual indicators with students' characteristics. The following shows the effectiveness of video tutorials in terms of implementation aspects and users' respons.

**Table 4.** Implementation aspects and users' response .

Indicators	Category					
	Low	%	Moderate	%	High	%
Practicality	0	0%	7	18%	30	82%
Students' interest and motivation development	4	11%	17	46%	16	43%
Autonomous learning	0	0%	10	27%	27	73%
Contextuality and students' Characteristics agreement	2	5%	11	30%	24	65%

Table 4 shows that the users' responses to the implementation of video tutorials was in the high category of 65.75%, the medium category of 30.25%, and 4% for the low category, respectively. Meanwhile, the assessment of the students' design results during their practice on attire designs and party attire was done by design experts to know the effectiveness of the video

tutorial based on the student learning outcomes. It ranged from 50 to 100 for each aspect. The assessment covered three aspects: suitability of the ideas, design concepts, and details. The assessment results among the three aspects were calculated and categorized based on the following interval scores [33].

**Table 5.** Categories of digital design learning results

Interval Score	Category	Total	Percentage
$x > 75$	Very good	21	57%
60-75	Good	16	43%
$\leq 60$	Bad	0	0%
TOTAL		37	100%

Table 5 shows that 37 students (57%) can be categorized as very good and Good (43%). It indicates that the learning target is accomplished, and the video tutorial is proven effective for digital design learning.

The results of students' learning results are presented below.



**Figure 5.** Design results of party attire

**4. DISCUSSION**

Learning contains an interactive process involving teachers, students, and learning resources within a certain academic environment. This process must be planned, implemented, assessed, and monitored comprehensively

to ensure effective and efficient progress. Media has been one of the core components of learning that influence its successful process. The learning media offer several benefits, such as clarifying messages to avoid monotonous verbal interaction and overcoming the

limitations of space, time, energy, and senses. It also develops learning enthusiasm, emphasises direct interaction between students and learning resources, enables students to learn independently based on their talents and skills, and maintains optimum learning experience and perception.

**Tutorial Video is easy to implement during the learning process.** It is proven with a score of 82% in the high category and 18% in the medium category. The use of video can enhance learning activities, help independent learning and foster meaningful learning experiences [34]. The tutorial video is able to improve student's learning activities, which has been proven during classroom learning. Students' focus is getting higher on practicing design making after reviewing and imitating the instructions from the video tutorial. Students find accessing the uploaded video on Youtube easier anytime and anywhere. They enjoy the learning materials which are presented differently [15]. According to Moron, using web or internet-based technology can create a student-centered learning that can develop students' critical thinking and cognitive skills. [16].

**Video tutorials enhance students learning interest and motivation.** It can be seen from the score of 43% in the high category and 46% in the medium category, respectively. This finding aligns with previous results [35], which state that tutorial media can develop student learning motivation. The higher the learning motivation, the better learning achievement to be gained. This has been highlighted in several previous research [36] in which learning motivation positively affects the students' learning achievement [37],[38].

**Tutorial videos can support autonomous learning.** It can be highlighted through the results of 73% in the high category and 27% in the moderate category. Independent learning refers to a learning activity that promotes a problem awareness, followed by the emergence of an intention to learn and master certain competency for solving the problem [39]. The problem in learning digital textiles and fashion is low understanding for functioning drawing tools and techniques, because most students are absent during the material explanation. It forces them to learn independently to grasp the content. It means that independent learning comes from students' initiative to obtain information to master a competency actively. Independent learning should be supported with various sources and media that involve instructions and materials, textbooks, information technology, as well as video tutorials. The last point of video tutorials is beneficial for students who want to re-learn material, especially those who miss class [40].

Video tutorials are contextual and align with students' characteristics, with 65% in the high category. Video

tutorials are developed by adjusting the context and students' characteristics. They belong to Generation Z, commonly called the digital generation. They are proficient and prefer information technology and various computer applications for daily learning [13]. Generation Z got used to communicating with peers through social networks. Today's students are the tech-savvy generation and prefer virtual interaction to face-to-face [14]. The current learning media should be adapted to their characteristics as Gen Z that cannot be separated from gadgets in their daily life. Developing media that can be accessed from their smartphone will promote autonomous learning.

The effectiveness of tutorials video in digital design can be revealed from the results of student practice in the form of party attire designs. The assessment utilises the suitability aspects of the ideas source, concepts, and details. The learning outcomes indicate 57% categorises in the very good with scores above 75, and 43% in the good category of 60-75. It can be concluded that video tutorials are practical for learning digital design. It agrees with previous research [41],[42],[43],[44],[45], of which the use of video tutorials increases the students' learning outcomes. Video tutorials also enrich students' learning experience and improve their academic performance [46].

## 5. CONCLUSION

Effective learning can be measured by achieving predetermined goals, the students' active involvement, and using facilities that support the learning process. Learning success can be achieved if the selection of learning strategies used is consistent with the learning objectives. A well-planned strategy will support the achievement of learning objectives. Good learning strategies should also be tailored with appropriate learning media where the development of science and technology has a massive influence. Moreover, students who are classified as millennials are always connected to internet. They have different characters and learning styles compared to the previous generation. Video tutorials have proven effective based on the implementation aspect and users' response with three indicators in the high category above 65%. It involves practicality, independent learning, and contextual elements with students' characteristics. Besides, the learning outcomes show that 57% of students are in the very good category and 43% for the good category. It can be concluded that video tutorials effectively support digital textile and fashion learning.

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