The effectiveness of using audio-visual media to improve student’s self-efficacy in fashion design course

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Abstract. This study aimed to: 1) determine the student's self-efficacy in Fashion Design course, 2) describe the effectiveness of using audio-visual media in fashion design learning to improve the self-efficacy of students. This research was conducted on the third semester of students at Fashion Education Study Program in the academic year 2019/2020. This type of research is a Pre-Experiment with One-Shot Case Study design. This study involved one group of samples that using audio-visual media. The population in this study was all students in the third semester of Fashion Design Education Study Program consisted of 22 people. The determination of the sample in this study was carried out with a saturated sample technique in which all members of the population were used as samples. The data were collected through questionnaires to determine student’s self-efficacy. The results showed that 1) The self-efficacy of students in the Fashion Design course after the treatment was categorized high with the average score of 102.4; 2) There was an increase of student self-efficacy in Fashion Design course after given the treatment.

1. Introduction

The rapid development of science and technology makes everyone inevitably also make updates in all aspects including education. The industrial revolution 4.0 brings changes to the education system which becomes more dynamic in adjusting to human needs. The era of the industrial revolution 4.0 is a digital era marked by major changes in various aspects of human life through technological developments. This change has an impact on work patterns in various fields. The development of information technology in the world of education is proven by the increasing fusion of space and time which have been the determinants of the speed and success of mastering science by humans [1]. The rapid development of information and communication technology (ICT) causes information to quickly spread throughout the world without boundaries between one country and another. This is a significant challenge for educators in improving the quality of education in order to survive and compete for opportunities in global society.

Efforts that can be made in the face of the 4.0 industrial revolution in the world of education are by applying 21st century learning. In facing the 21st century, educators are required to have a number of competencies, namely: (1) critical thinking and problem solving, (2) communicating and collaborating effectively; (3) creating and updating, (4) technological and media literacy, and (5) contextual learning [1].
In the global era marked by the digital era, the role of technology and media literacy is very important in the world of education. Globalization requires the world of education to constantly adjust technological developments to efforts in improving the quality of education. Efforts to improve the quality of education are carried out by perfecting the learning process. The learning process of the 21st century is not enough to only increase knowledge, but must be equipped with creative abilities, critical and strong character, and supported by the ability to utilize information and communication technology [2]. Learning is a formal situation programmed by educators in an effort to share knowledge with students based on the curriculum and objectives to be achieved. One of the places where the learning process takes place is in the Study Program of Family Welfare Education / Fashion Education.

Fashion Education is a course concentration under the Study Program of Family Welfare Education, Faculty of Engineering and Vocational, Universitas Pendidikan Ganesha, Singaraja. The graduate will later become a vocational teacher in the Vocational High School in the field of fashion or work outside the field of education in accordance with the competencies of graduates. The courses taken by Fashion Design students require more mastery of skills, in addition to mastering the concepts of knowledge and attitudes to be competent and professional in their fields, especially as vocational educators (vocational teachers). The courses taken by Fashion Design students are almost 70% of practical or trained subjects. One of the courses that require skilled students in the field of clothing is the Fashion Design course. The scope of the Fashion Design course includes designing clothes by taking a variety of sources of ideas and various drawing completion techniques.

When the Fashion Design learning process took place, there were several problems encountered, 1) students tended to be passive in learning process and lack of courage to ask or answer educators' questions, 2) students seemed hesitant and have difficulty in drawing a fashion design in every task of designing clothes, 3) educators did not optimize the use of instructional media, especially audio visual media, 4) most students were less creative in developing sources of ideas in fashion design, 5) students were less enthusiastic about doing the given task, so the design results were less than optimal, 6) the given task was not completed on time. In addition to observation and interviews, students were also given a questionnaire about self-confidence in the subject of Fashion Design. The results of the questionnaire distribution showed that 17 people were in the medium category of confidence and 5 people included in the low category. This showed students lack confidence to complete the tasks given to the Fashion Design course known as self-efficacy. This term was popularized by Albert Bandura with his social cognitive theory. Having a high self-efficacy helps students to optimize their potential [3].

Self-efficacy is a psychological factor related to personal beliefs about competence and self-ability. It refers to one's belief in his or her ability to complete a task well. Students with high self-efficacy in carrying out a task always believes that they can complete the task on time, well, and get a good score. Bandura also said that self-efficacy can influence students’ attitude in choosing a task, effort, perseverance, and achievement [4]. Self-efficacy affects students on the selection of actions, effort, and perseverance to reach higher achievements. Students who feel capable of carrying out tasks will be better prepared to work hard, resilient, and independent in facing the difficulties.

Self-efficacy of students in creating an object that has artistic value will have a good impact if it is completed with good confidence. Whereas, students with low self-efficacy will feel burdened to complete the task thus the learning outcomes will be less optimal. In 21st century learning, students' self-efficacy effects on the improvement of students’ ability and thinking skills, especially high-order thinking skills in creating a product that has artistic value. High self-efficacy can form the independence and confidence of students to succeed in completing tasks well and get good grades. When every student has a high self-efficacy, it will foster the ability to think critically so as to create creativity in innovation and of course the learning outcomes will also be promoted. According to Bandura, there are three dimensions of self-efficacy, namely: magnitude, generality, and strength with the following explanation [5]. Magnitude refers to the measurement of the difficulty level (e.g. easy, moderate, and hard) an individual feels is required to perform a certain task. Generality refers to someone being able to judge their beliefs functioning in a variety of specific activities. Strength is related to the strength of one's self-efficacy when dealing with task demands or problems.
Educators' readiness in communicating learning also takes an important role in the learning success of students. One means of communication in the learning process is learning media. The media can make learning in the classroom more varied, so that educators do not run out of energy and students are more interested in the subject matter. They also more easily understand the learning which will later influence on improving student learning outcomes. The learning process using the media will affect learning outcomes better because it can enhance student learning activities in a long period of time [6]. The use of audio-visual based learning media can promote the enthusiasm and interest of students in participating during learning process, so it improves the quality of the learning as expected [7].

The purpose of using instructional media is to assist educators in conveying the materials or subject matter so that it is easy to be understood, and attract students’ attention. The media can also provide abstract experiences in concrete illustration [6]. The student's learning enthusiasm will decrease if in the learning process the educator does not use the media because the material delivered by the educator is lacking or even not impress the students. When the learning process cannot overcome the boredom and there is no enthusiasm of students to continue learning activities, then the presence of learning media-based will be very helpful and very necessary. Audio-visual media is one of the uses of ICT in education area. The use of audio-visual media can help educators in explaining or describing processes and stages that are difficult to understand or explain to students. The use of audio-visual media to the learning process is expected to help the students become easier to understand a subject matter so that it can improve students' self-efficacy. Based on the explanation before, it is necessary to examine the effectiveness of the use of audio-visual media in the learning of Fashion Design to improve the self-efficacy of students in Fashion Design Education. The purpose of this study was to determine the self-efficacy of students in fashion education and the effectiveness of the use of audio-visual media in fashion design course to improve the self-efficacy of students.

2. Research Method
This research was carried out on Clothing Design students, odd semester 2019/2020, Fashion Design course. This research was a type of Pre-Experiment research. The experimental research design used is the One-Shot Case Study.

One-Shot Case Study is a research design, where one group is given treatment and then observed the results (treatment as an independent variable and the outcome as a dependent variable) [8]. This research design used one data collection at a certain time so that researchers only held one treatment called as One-Shot.

In this study, the population was all students on the third semester of Fashion Education Study Program in the academic year 2019/2020. Also, all students on the third semester became sample members. The variables in this study were audio visual learning media (independent variables) and self-efficacy (dependent variables). Audio visual learning media is a learning media that has sound and picture elements. Self-efficacy is an ability and confidence of individuals in dealing with and managing situations under pressure.

Data collection technique used in this research was survey technique with questionnaire as the instrument. The use of the questionnaire aims to understand the attitudes, behaviors, characteristics of students in Fashion Design course. The questionnaires were distributed to respondents and then the results of the questionnaires were analyzed. Data analysis techniques in this study used the t-test to determine the increase in self-efficacy of students in the Fashion Design course. The t-test formula is used as follows [9]:

\[ t = \frac{\bar{x} - \mu}{\sqrt{\frac{\sum D^2}{N(N^2-1)}}} \]  

(1)

One-Shot case study research design used the t test (1) with \( \bar{x} \) is the average, \( \mu \) is the ideal average, \( \sum D^2 \) is the total of average difference from the ideal average and \( N \) is number of responses.
3. Result

3.1 Student Self Efficacy in Fashion Design Courses

This research was a pre-experimental research with One-Shot case study design. This research involved one group, the experimental group. In this research process, the experimental group was taught using audio-visual media then the results were taken using a self-efficacy questionnaire arranged with 3 indicators namely magnitude (level of difficulty of the task), strength (confidence in the ability of individuals), and generality (area of behavior) to find out whether there was an increase in student self-efficacy or not. The number of samples in this study was 22 people and the instrument used was a self-efficacy questionnaire.

This research was carried out in the Fashion Study Program on the third semester of the academic year 2019/2020, where the implementation of this learning was carried out using audio-visual media. The learning process began with apperception followed by delivering material to design clothes with the source of ideas from nature through showing a video in the form of steps to design clothes. And then, the students practiced designing clothes with ideas from nature. The topic of the next meeting was to design clothes with the source of ideas of important events. It began with the delivery of material by showing a video and students started practicing fashion design by taking the source of ideas of important events.

The data collection instrument used in this study was a self-efficacy questionnaire totaling 30 statements using a Likert scale. The results showed that students' self-efficacy in the Fashion Design course after being treated included in the high category with an average score of 102.4. Table 1 shows the student self-efficacy data before and after being treated.

| Category       | Interval | Before Treatment | After Treatment |
|----------------|----------|------------------|-----------------|
|                | Frequency| Percentage       | Frequency       | Percentage     |
| Very High      | 120 – 150| 0%               | 0               | 0%             |
| High           | 100 - <120| 0%             | 14              | 63.64%         |
| Moderate       | 80 - <100| 17%              | 8               | 36.36%         |
| Low            | 60 - <80 | 5%               | 0               | 0%             |
| Very Low       | 30 - <60 | 0%               | 0               | 0%             |
| Total          | 22       | 100%             | 22              | 100%           |

Based on the results of the data above, there was an increase in self-efficacy scores in a number of third semester students after being given an audio visual media display, where in the initial data before treatment there were 0 students (0%) who had very high self-efficacy and there was no increase after treatment. Then, there were 0 students (0%) who had high self-efficacy before treatment and increased to 14 students (63.64%) after treatment. Then there were 17 students (77.27%) who had moderate self-efficacy before treatment and decreased to 8 students (36.36%) after treatment. There were 5 students (22.72%) who had low efficacy before treatment and increased with no students recorded having low self-efficacy (0%) after treatment. There were 0 students (0%) who had very low levels of self-efficacy before and after treatment.

3.2 The Effectiveness of Using Audio-Visual Media in Learning Fashion Design to Improve Students Self-Efficacy in The Fashion Design Education Study Program.

Analysis of the data in this study used the t-test to find out the increase in student self-efficacy in the Clothing Design Study Program Undiksha. The data collection instrument used in this study was a questionnaire or self-efficacy questionnaire. The questionnaire consisted of 30 statements using a Likert scale. Then the hypothesis analyse conducted to test the proposed research hypothesis.
H₀: There was no significant effect on students’ self-efficacy in the Fashion Design course before and after the application of audio-visual media in the third semester of Fashion Design Education Study Program.

Hᵢ: There was a significant effect on students’ self-efficacy in the Fashion Design course before and after the application of audio-visual media in the third semester of Fashion Design Education Study Program.

The statistical hypothesis is as follows:

\[ H₀: μ₁ = μ₂ \]
\[ Hᵢ: μ₁ ≠ μ₂ \]  \hspace{1cm} (2)

\( μ₁ \): the average before being given the application of audio-visual media in the Fashion Design course.
\( μ₂ \): the average after being given the application of audio-visual media in the Fashion Design course.

The hypothesis was done by t-test with a significance level of 5%. The hypothesis provision \( H₀ \) is rejected if \( t_{\text{count}} > t_{\text{table}} \) and \( Hᵢ \) is accepted if \( t_{\text{count}} < t_{\text{table}} \). Hypothesis test results are presented in the following table.

**Table 2. Hypothesis Results from Self-Efficacy Data.**

| Self-Efficacy Data | Rata-rata | \( t_{\text{hitung}} \) | Df | \( t_{\text{table}} \) |
|------------------|----------|----------------|----|----------------|
| Before Treatment  | 86.14    | -10.72         | 30 | 1.72           |
| After Treatment   | 102.41   | 19.63          |    |                |

Based on the result of the t-test calculations, the \( t_{\text{count}} \) was 19.63 while the \( t_{\text{table}} \) with \( dk = (22-1) \) and a significant level of 5% was 1.72. This means, \( t_{\text{count}} \) is greater than \( t_{\text{table}} \) (\( t_{\text{count}} > t_{\text{table}} \)) so that \( H₀ \) was rejected and \( Hᵢ \) was accepted. This means that there was an increase in student’s self-efficacy through the application of audio-visual media in the Fashion Design course at Fashion Design Education Study Program.

4. Discussion

At the end of the lesson, to determine self-efficacy, the questionnaires were distributed with three indicators, namely magnitude (difficulty of task), strength (strength or confidence in individual abilities), and generality (area of behavior). Furthermore, the results of the questionnaire were analyzed to determine student self-efficacy after the given treatment. The results showed that students’ self-efficacy in the Fashion Design course after being the treatment included in the high category with an average score of 102.4.

The application of audio-visual media in the Fashion Design course can improve the self-efficacy of students in Fashion Design Education Study Program. Audio visual media helps educators in visualizing the learning process, making it easier for students to capture the material in question, helping to spread information evenly, increasing attitudes and attention to students. The application of audio-visual can give an influence on the psychological of students, namely providing motivation, enthusiasm and self-efficacy in learning.

The use of audio-visual or video learning media can help students become more effective in focusing attention and interested in following the lesson. This opinion was supported by Fujiyanto et al. that the use of audio-visual media can enhance the attention of students with an attractive appearance [10]. Furthermore, Hayati, et al. added that audio-visual media projected with infocus/LCD Projector can activate students, facilitate the delivery of material in the learning process and increase student interest
in learning [11]. The learning process in the classroom will be more effective by the use of audio-visual media because it contains elements of sound and images.

The application of learning media can also encourage students’ willingness in the learning process so that it affects the beliefs or self-efficacy of students themselves. Furthermore, Bandura (1995) states one of the characteristics of individuals who have high self-efficacy is to have an interest and desire to engage in activities [4]. Students’ interests and desire can be seen from the active when students asked about the subject matter and student respond to the applied media.

The application of audio-visual media can increase student motivation and influence the belief of students themselves in carrying out learning. This opinion is supported by Bandura which states that one of the factors that influence self-efficacy is the social persuasion factor that are based on directions, suggestions, guidance, and verbally convinced individuals tend to try hard to achieve success as well as physical and emotional conditions where individuals who experience high morale, are active and in a stable emotional condition will help students’ performance in following the learning process [12]. This is supported by the opinion of Miarso that learning media are all things that can be used to stimulate students’ thoughts, feelings, concerns, and wishes so that they can encourage the learning process from students themselves [13]. Through learning media students can recognize the skills possessed by themselves and also increase student knowledge and practice the ability of students to analyse the steps in designing the applied media. This is supported by research conducted by Kudyawinanto where research results showed that counselling guidance services with film media were effective in increasing student self-efficacy [14]. This opinion is supported by Bandura which states that psychological processes in self-efficacy that also play a role in human beings one of which is motivation, where individuals who are given encouragement or motivation and are directed at a thought will provide confidence in their abilities. Therefore, the use of audio-visual media can help students in motivating themselves to recognize their skills, expertise and knowledge and appreciate themselves in completing developmental tasks.

5. Conclusion
Based on the results of the research conducted, it can be concluded as follows: (1) The results of the study showed that the student’s self-efficacy in the Fashion Design course after the treatment included in the high category with an average score of 102.4. (2) There was an increase in students’ self-efficacy in the third semester of Fashion Design Study Program in Fashion Design Education after applying audio-visual media.

Based on these conclusions, it can be suggested to educators in the Fashion Design Education Study Program to apply audio-visual media to practical subjects, because it is effective in increasing student self-efficacy. At least once a semester, educators can apply audio-visual media to certain relevant topics. Further research needs to be done to see the effect of audio-visual media on the scope of wider material not only in practical subjects.

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