

Product Development of Innovative Arts Learning Based on Local Wisdom With Copper Metal Basis

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ABSTRACT

This study is conducted in order to produce innovative arts learning products based on local wisdom through the product development of the Fine Arts Study Program students' learning outcomes in the Basic Metal Craft course. This research is a development study using ADDIE model. The quality and effectiveness of research results are validated, tested, and measured. The research results about a process book development entitled "*Berkreasi Membuat Produk Karya Logam dengan Teknik Tekan (Metal Product Making Creative with Press Technique)*" consists of five stages including the stage of analysis, design, development, implementation, and evaluation. According to validator's assessment results, it was stated that the material feasibility and book graphics are very good and appropriate. The validator assessed the metal craft products with their assessment indicators which are developed by a research team with 4 score for all aspects. It means that the development of products is validated with a very good status or suitable in terms of (1) language; (2) presentation; (3) graphics; (4) local culture. When the product development tested, it obtains effective results. Based on these results, it is concluded that most of participants stated that the book is suitable to use without a revision also it is categorized as a very good book.

Keywords: *Learning products, Innovative arts, Local wisdom, Metal crafts*

1. INTRODUCTION

Innovative learning is a set of learning made by teachers on new ideas encouragement in order to carry out learning steps with new methods to obtain good learning outcomes. It means that innovative learning does not only do on both conventional and traditional learning, but educators (teachers and lecturers) are encouraged to be creative in order to produce different learning models. This is carried out so that the learning activity quality is higher and motivates students [1]. Moreover, innovative learning is characterized by the following principles: (1) focus on the learning process instead of teaching only; (2) teachers as a facilitator instead of an instructor; (3) students as subjects, not objects; (4) multimedia, not mono media; (5) human touch, not animal; (6) inductive learning instead of deductive learning; (7) meaningful material for students, not just memorizing; and (8) students involvement in participating, not the passive students involvement. Then, based on these 8 characteristics, the innovative learning is better designed by involving students as subjects instead of objects.

Nurdiyansyah [2] stated that the innovative learning can maximize students' capability in reasoning, inquiry, and creativity. This learning can also encourage students to find/create new ideas, think critically, make reasoning, be skilled at solving problems, and skilled in facing choices to make a decision. The impact of this innovative learning is that the students become communicative, collaborative in constructing thoughts or ideas, and able to express ideas clearly and effectively. Sa'ud [3, p. 3] said that innovation is an idea, item, event, and a method that are perceived or observed as a new thing either in the form of invention or discovery.

A local wisdom is precious values, have existed in a group of people, which are lived, implemented, and believed in their life. Local wisdom can appear in the daily activities of a community. According to Yuwana [4], local wisdom is associated with the life pattern of the society or local community in establishing relationships between individuals and themselves, other people, social creatures, nature and the Creator. Furthermore, it is explained that there are three terms in local wisdom namely local knowledge, local wisdom, and local genius. The local wisdom in this study refers to the concept of

Sardjono [5] with traditional knowledge terminology based on The World Intellectual Property Organization (WIPO) to describe traditional-based-literac, artistic, scientific work, performance, designs and all other traditions based on the innovations also creation which come from the intellectual activity in the arts. Besides, the local wisdom is connected to the traditional community life that has a positive impact on people's lives then it needs to be preserved and developed through education.

Metal materials for daily use have been known to the Indonesian people since ancient times such as spears, axes, kris, music instruments, accessories and so on. Initially, metal was used to meet the practical needs of society; however, the development of metal's function can be a form of beauty fulfilment [6]. Metal as the basic material of artworks have a use-value as a medium. Metal-based artworks can be two-dimensional or three-dimensional [7]. Two-dimensional artworks are the artworks with two sizes include length and width. On the other hand, three-dimensional artworks have three sizes or have space namely length, width and height. Three-dimensional artworks has a volume and space so that these two things differentiate it from two-dimensional artworks.

In addition, the Fine Arts Education Graduates are prepared to become teachers. They can work to make artwork products that can be sold as their additional income. Through the course of Basic Metal Crafts, the students are taught to make artworks from aluminum and copper metal-based by using pressing and etching techniques. The techniques were chosen because it is the easiest metal product manufacturing technique to apply. Based on this background, the researcher developed an innovative art learning model based on local wisdom with copper metal as a base material and using a pressing technique. This study is intended to produce an innovative art learning model by presenting local wisdom in it. Therefore, this study aims to answer the research questions: (1) How is the process of developing innovative art learning products based on local wisdom with copper metal basis? (2) What is the quality of development validity of innovative art learning products based on local wisdom with copper metal basis?

2. METHOD

This research is a development study which produces certain products and verifies products effectiveness by using ADDIE model [8] [9]. The product in this development research is an innovative

learning product in the form of metal artworks which are formed as a souvenir or a plaque. Qualitative and quantitative data was used in this study to find research results. The subjects of this study were the students who programmed the Metal Crafts course in the odd semester of 2019/2020 in one of universities in Surabaya. Qualitative data were obtained from observations and interviews. In addition, quantitative data were obtained from the results of product validation and test questionnaires that were processed statistically then the results were described. The research instrument was validated by two experts of material and graphic. The assessment instrument was an assignment of making metal craft products based on (1) the manufacturing process according to the stages in the tutorial book and the video; and (2) aspects that must be considered include design suitability, the neatness of the press technique, and coloring artworks. The practicality of products was measured based on filling out a questionnaire conducted by the test subjects. Besides, the assessment indicator of product practicality was carried out by fine arts students consists of 21 questions then filled in based on the condition of the products [10].

3. RESULTS AND DISCUSSION

3.1. The Process of Developing Innovative Art Learning Products

The process of developing the Metal Crafts tutorial book follows the development model.

3.1.1. Analyze

In the process of developing research product, there are four stages including front-end analysis, students analysis, concept analysis, and learning objectives analysis.

In the front-end analysis stage, the researcher analyzed innovations that are able to be developed into the Metal Crafts learning. Metal Crafts is one of the interesting courses because the students can develop metal artworks in various forms in a practice. In the course, the students were still developing their artworks in their own creativity so that the course products had not maximized their ability to lead the products which in the future they could be sold and become an icon of the area. Then, based on the problems found, an innovation book, including a video tutorial on how to make metal crafts, is needed in creating artworks based on local culture.

The analysis results of students' abilities in creating artworks found that students have more abilities if they were better directed to their artwork products. The students' artworks were produced based on the students' creativity and expression that take into various forms. The advantages of students' skills are the findings of researchers. It aims to direct the further students' products in the form of artworks in promoting local culture. Also, the students' artworks design that still in their own free expression would be directed to the local culture theme so that their further artwork products can be used economically.

Next, the concept analysis aims to find concepts that suitable to the problems in learning activities. The concept findings are to change the form of artworks concept from students' free expression of their artworks to the concept of local culture by accentuating art icons that can become economical useable. This is also in one line with the life skill concept which promotes students for their future social life in the community. Furthermore, the concept is embodied in an image design then it is embodied in the students' work.

The results of the researcher's analysis in the metal crafts learning are found research objects that can be developed from front-end analysis, student ability analysis, and concept analysis. The learning objectives in the Metal Craft course are to develop students' artworks that is more innovative by promoting the local culture theme that can be useable economically.

3.1.2. Design

The stage of designing was conducted by compiling product design oriented on the local culture material. The material took the local culture icons such as *Semangi* (clover) *Surabaya*, Sura and Baya statue, bamboo spears (*bambu runcing*), and the heroes monument (*Monumen Tugu Pahlawan*). After the design concept was developed, the researcher determined the product forms that was going to be developed and found two product forms namely souvenir plaques and key chains.

After developing design and material, they were developed in the form of a Metal Crafts book which contains the steps to make Metal Crafts. Next, beside of the compiled book can be used by university students, the book preparation can also be used by school students in making metal artworks. The book is also equipped with a video tutorial that helps to explain the steps for learning to make metal crafts.

3.1.3. Development

The metal crafts are the artworks or products made of aluminum, copper, brass, and silver which require reliable hand skills in their manufacture. The artist skill determines the quality of the products produced so that the tool is used only as a tool. A pressing technique in creating metal crafts are made by pressing a certain part following to the design motif and forming a hollow in the negative part of the metal to get a convex shape on the positive part of the metal. The metal, in the form of a plate or sheet with a thickness of 0.1-0.2 mm, used to make metal artworks by using a pressing technique. A blunt-tipped object is used to not tear the metal sheet when pressing the metals to form a hollow. In short, making metal crafts using a pressing technique must use thin metal because forming a concave or convex motif only relies on the strength of the artist's hand.

3.1.4. Implementation

At this stage, book and video were conducted on students in the Metal Crafts class. The trial was carried out on ten students to see the readability of the book. It is conducted due to the book being developed is not a book containing the learning materials in the higher education but a book that can be used practically by students in all levels to make metal crafts. Further, a pressing technique is used in the making of the book which is the easiest technique to learn. Even though, it is easy to implement but it has a high possibility of creativity to develop products of students' artworks. In the implementation of this trial, a questionnaire was also given to see the effectiveness of the book used.

3.1.5. Evaluation

Evaluation in this study was conducted in every stage in order to accomplish the research product. The evaluation result of the front-end analysis is a product development that is not only for souvenir products with local cultural motif but also key chains that are practical and more economical. Next, in the student analysis, it was found that the advantages of students can work better so that the freedom in creating artworks by directing local cultural designs can be the right alternative to be more creative. Furthermore, in the concept analysis, it was found that the concept development of the innovative book develops in the video tutorials. This is considered by enthusiasts of artists can watch the learning videos to learn artworks without reading books. In addition, in the evaluation

stage, the results of the evaluation at each stage can accomplish and be used as a complement for the innovative products in this study.

3.2. The Quality of Product Development Results for Innovative Art Learning

Metal craft products based on local culture are validated by experts of material and graphic designer. The aspects that are validated consist of (1) language; (2) presentation; (3) graphics; and (4) local culture. Besides, for the validation of linguistic aspects, there are three things that are validated, those are (1) book readability; (2) legibility of information in books; (3) communicative language in the books. The assessment of the two validators showed different results. The first validator assessed the metal craft products developed by the research team in terms of 2, 3, and 4 score. A score of 2 was given to the presentation aspect of indicator number 9 (a complete information in each part of the material) and the graphic aspect of indicator number 11 (layout). Both scores indicated "less good or less suitable". Furthermore, the first validator gave a score of 3 (good/suitable) on 12 indicators in the four aspects of the assessment. In detail, 3 score was given on the linguistic aspect of indicators number 2 and 3; whereas, indicators number 4, 5, 6, and 8 for the presentation aspect. Then, in the graphic aspect, the validator gave 3 score for indicators number 10, 12, and 14. Lastly, a score of 3 was also given in indicators number 15, 16, and 17 for local culture aspect in the developed products. So that based on the assessment, it means that the aspects with the indicator numbers were validated with the predicate "good or suitable". Moreover, for the first validator, a score of 4 (very good or "very suitable") is only given to indicator number 1 for the "language" aspect; indicator number 7 for the "presentation" aspect. Meanwhile, a score of 4 for the "graphic" aspect was only given to indicator number 13. Also, for the "local culture" aspect, 4 score was given to two indicators of number 18 and 19.

Next, the second validator assessed the metal craft products developed by the research team with 4 score in all aspects assessed by the indicators. It indicated that the developed products were validated with a very good status or very suitable in terms of (1) language; (2) presentation; (3) graphics; and (4) local culture.

The products worked by students were assessed using assessment criteria including (1) design suitability; (2) the neatness of the press technique; (3) coloring metals/artworks. These three aspects were rated

on a scale of 0-100. After assessing each aspect, the three scores were averaged then that was the value obtained by the students. The average result for all test subjects was 83.76. The result was classified as A- after being converted to the applicable value scale.

The result of the questionnaire from the trial or test indicated that in 90% of students stated that the book was good and suitable ideas. Likewise, the steps described in the book are also good and suitable as what was stated by students. 70% of students stated attractive and interesting while 30% of the students stated that it was not good because the contents of the book were too easy to learn for students in the higher education. In addition, 80% of students stated that the book is very good and suitable which is able to increase a motivation in learning. Then, in a percentage of 80%, illustrations in the book are interesting, good and appropriate/suitable. As well as in a percentage of 90% indicated that the book can stimulate students well. The book can improve learning outcomes both well and suitable thus it indicated in the percentage of 80%. Next, in a percentage of 80% stated that the book material is feasible to study and the content of the book is good and suitable. The accuracy of the material in the book is also stated as good and compatible as much as 90%. Then, 80% of students stated that the book material is accurate and meaningful. 90% of students stated that tutorial book design is interesting and they declared that it is good and suitable. The language used in the book is communicative and easy to understand is stated to be good and suitable in 80%. Also, 80% stated that learning with books is varied and not monotonous.

Briefly, based on the research results that have been presented, the researchers deliver that a development study with ADDIE model can be implemented without any difficulties because this model is a simple development model. The researcher can conduct the study easily by implementing stages including (3.1.1) Analyze; (3.1.2) Design; (3.1.3) Development; (3.1.4) Implementation; and (3.1.5) Evaluation. It is due to the researcher has developed the proposal well and has been reviewed internally by two competent reviewers. Besides, this study has a clear research objective, the right subject, and conducted by a research team who is expert in their fields.

Furthermore, in the results of product effectiveness analysis. The average score that is achieved by university students in total 83.76. The result is in one line with the function of the first tutorial book. Students' understanding of creating metal craft artworks with a

press technique can be perfected by learning from the written and video tutorial. This is because they have more time to re-read and re-watch the tutorial video if there are difficulties in several stages.

Additionally, validators' assessment of the developed products are interesting to be discussed. Two validators conveyed that the resulting products were stated very valid and suitable to be used with instruments that are easy to understand. As well as product users' responses through questionnaire that was submitted, they indicated positive responses to the developed products. In fact, through the trials that have been carried out, users are able to produce products in the form of metal-based key chains and vials in various motifs that reflect on the local wisdom.

4. CONCLUSION

Based on the research results of this study, the research as a process book development entitled "*Berkreasi Membuat Produk Karya Logam dengan Teknik Tekan* (Metal Product Making Creative with Press Technique)" consists of five stages including stage of the analysis, design, development, implementation, and evaluation. In the analysis stage, it is carried out to describe the problems in the field include front-end analysis, student analysis, concept analysis, and learning objectives. Furthermore, the contents of the book are designed by applying steps that will be used in the book as well as the book format. Then, the development stage resulted in a book product. The book is equipped with video tutorials. At the implementation stage, a trial of using the product was carried out on students who program the Metal Craft course. The evaluation stage is carried out at each stage to perfect the research product. The results of the evaluation at each stage can be used as a complement and to complete the innovative products in this study perfectly. The quality of products produced based on the feasibility of material and graphic which is very good and suitable. The validator assessed the metal craft products developed by the research team with 4 score in all aspects where these aspects were assessed by the indicators. It means that the developed products are validated with a very good and suitable status in terms of (1) language; (2) presentation; (3) graphics; and (4) local culture.

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