SCROLL TECHNIQUE LEARNING IN MAKING OF CREATIVE WOOD PRODUCTS IN STUDENT CLASS XI KRIYA KAYU SMK NEGERI 9 SURAKARTA YEAR OF 2017/2018

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Abstract: Scroll Technique Learning in Making Of Creative Wood Products in Student Class XI Kriya Kayu SMK Negeri 9 Surakarta Year of 2017/2018. The purpose of this stuudy was to determine : (1) the learning implementation of scroll technique in making of creative wood products in student class XI Kriya Kayu SMK Negeri 9 Surakarta. (2) the extent of students interest in receiving the learning of scroll technique in making of creative wood products in student class XI Kriya Kayu SMK Negeri 9 Surakarta. (3) visualization of creative wood products produced by student. This study used a qualitative approach. The data was selected are informant, places, events, and archival documents. Techniques used in data collection were observation, interviews, documentation, and questionaires. The sampling techniques used purposive sampling. The validity test of the data used the triangulation of data, and review the informant. The analysis of the data used interactive analysis model were: data collection, data reduction, data presentation, and conclusions. The results of this study indicated that: (1) teacher prepared the lesson plans, then the learning was performed for five meetings. The teacher applies contextual teaching and learning model with scientific approach. The learning methods used include lecture, question and answer, demonstration, experimentation, skill / drill methods, and assignment. . Learning media used in the form of power point slides, learning video tutorials, examples of products produced by scroll techniques, and teaching aids. Learning evaluation by assessing aspects of affective, cognitive, and psychomotor. The process of making the work consists of several steps, among others the preparation of materials, making design, pasting design, cutting process, assembly process, and finishing. (2) students interest in learning scroll technique is categorized as very interested, it is shown from high score, student enthusiasm, and student discipline in following learning. (3) overall visualization of the resulting product is good, mastery of the technique is good enough, and neat. The resulting product design has applied the principles of art that is unity, balance, proportion, and contrast. The development of design exploration has been good, but the resulting product has not met the criteria as a creative product.

Keywords: Learning, wooden crafts, scroll technique

INTRODUCTION

Education is very important in human sustainability. The main objective of education is to give human beings the skill and ability of living within society. The ability aspect is knowledge and skill as well as personality behavior the society accepts. An

individual's skill or ability can develop and improve when it gets appropriate learning experience.

Education is one of most important part in the growth and development of a state, particularly Indonesia with low education level. The objective of national education in Indonesia is to educate the nation life and to improve the quality of Indonesian human resources wholly to be developed citizens with the ability of developing potency owned.

School is a means of educating nation; through school students are taught with various noble value and knowledge in line with time development in disciplined manner, from societal social norms to science and culture. Art education in school gives the students the opportunity of learning, acquiring, and applying their knowledge, skill and expression through visual media either 2 or 3 dimensions; so that education curriculum enacts the obligation of organizing cultural art subject. Essentially, teaching-learning process is communication process (Daryanto, 2011: 4). The stipulation of curriculum about learning outcome contains general elements in learning principle and elaborates the lifetime learning values all at once.

Art is anything resulting from sensory feeling embodied into an idea. One of art branches, fine art, constitutes the art branch creating art work with eye-catching and sensible media. It is made of fine art elements entirely by composing line, plane, shape, volume, texture, and lighting concepts with esthetic reference.

Fine art is important in education, fine art appears in any learning aspects from learning preparation to learning evaluation, for example, the use of power point media with attractive display. Fine art plays a considerable part in teaching-learning process. Fine art education in public school is very limited in nature, and teacher performance in inculcating mindset is also still inadequate. Teachers have big obligation and responsibility in delivering their students to acquire many new experiences through learning process. A teacher obligatorily supports the students creatively to have maximal creativity. The role of fine art learning in school is no longer in the stage of teaching the students how to draw/to give sample drawing to be imitated by students because it is only a little part of skill contained in fine art branch.

Education institution, in this case school should give learning experience corresponding to the students' potency and interest, in this case Vocational Middle School (*Sekolah Menengah Kejuruan*, thereafter called SMK) is a form of formal education organizing vocational education at secondary education level as the continuation of Junior High School (SMP), Islamic Junior High School (MTs) or equivalent. Evans (in Muliaty, 2007: 7) vocational education is a part of education system preparing an individual to work more capably in one job group or one job area compared with others.

SMK Negeri 9 Surakarta is the vocational school accommodating fine art field located in Tarumanegara Street, Banyuanyar, Banjarsari Surakarta. SMK Negeri 9 Surakarta opens several majors, among others: fine art and wood work, in which the students will be equipped with in-depth skill and knowledge on woods and wood work technique.

The wood work program of SMK Negeri 9 Surakarta has good learning facilities and infrastructures in practical/theoretical activity supporting competency needed in work realm. The availability of infrastructure in wood work program of SMK Negeri 9 Surakarta is inseparable from some constraints in learning. Material difficulty becomes one of constraints in which there is a correlation between materials (including basic and in-depth materials) that should be mastered. In addition, work discipline should be prioritized to prevent work-related accident.

Scroll technique in bench work learning is the subject taught in the 10th, 11th, and 12th grades with the difference lying only on its difficulty level. Generally, the learning starts with a brief dense introduction conveyed by teachers explaining a good work procedure and plot, and then continues with practical work.

Jig scroll saw is a mechanical work tool in processing basic material of wood. Groneman (1966: 208) defines jig scroll saw as follows:

> *The jig (scroll) saw is used mostly to cut internal (inside) or external (outside) curves in thin wood. The operating principle of this machine is that it changes rotary motion (round and round) to reciprocal action (up and down)"*

Jig scroll saw is a saw used to cut wood in the form of board in which the saw blade moves vertically and repeatedly cutting the wood according to the saw blade direction. In implementing practical learning, learning variation is still inadequate because students are only told to imitate the finished product. It reduces the students' creativity in developing wood work product design.

In learning wood scroll technique in which basically students are required to operate saw to produce competitive wood products in craft business world, one problem occurs is some products have not been competitive in craft business world. In scroll technique subject, teachers deliver an introduction to learning in practical activity maximally. The outcome achieved in learning to produce some products with *scroll technique* is a good manual skill in operating the scroll engine. It makes the author interested in finding the learning process and the learning interest in scroll technique material in producing creative product in the 11th Wood Work graders of SMK Negeri 9 of Surakarta.

Thus, a description is obtained about the research entitled "Scroll Technique learning in Producing Creative Wood Work Product in the 11th Wood Work graders of SMK Negeri 9 of Surakarta in the school year of 2017/2018".

METHOD

This research employed a descriptive qualitative approach, in which this method was more detailed in nature. Sugiyono (2012: 15) argues that a qualitative research is defined as a method based on post-positivism philosophy, used to study the condition of natural object, and the result of qualitative research emphasizes more on the *meaning* than on generalization. Therefore, the emphasis on structural and individual background aims to obtain a comprehensive description on something according to the perspective of human beings studied. Qualitative research is related to idea, perception, argument or belief of human beings studied and all of which cannot be measured numerically.

Case study is a research approach used by the author, in which the author investigates an activity or learning activity of wood scroll technique in the 10th Wood Work graders of SMK Negeri 9 Surakarta. Susilo Rahardjo & Gudnanto (2011: 250) explains case study is a method of understanding individual conducted in integrative manner and comprehensively in order to obtain an in-depth understanding on the individuals and the problems encountering in order to solve the problem and to achieve a good self-development. In this research, the author focuses on learning process and students' interest in wood scroll technique learning. The author used case study because the data collected in the case study intended to develop in-depth knowledge on the object studied corresponding to case study characteristics, that is, explorative and descriptive researches.

The data studied in this research was qualitative one. Sutopo (2006:56-57) says that data source is the place where data is obtained using certain method including human beings, artifact, and documents. The primary data source used in this study included document, informant, place, and event.

In this research, the subject of research was selected using purposive sampling technique. Sugiyono (2010:300) explains that purposive sampling technique is the technique of taking source sample with certain criteria. The author tends to determine data source or informant considered as knowing the information the author needs in detail. Purposive sampling technique was used in taking the subject of research in which the author will choose key informant considered as knowing information and problem in detail and reliable. Key informants in this research were teachers assuming wood scroll technique subject in the 11th Wood Work Grade of SMK Negeri 9 Surakarta and knowing the process of implementing the wood scroll technique learning in SMK Negeri 9 Surakarta. The author took the students considered as representing others students as the sample, viewed from the students' product.

There are some data collection techniques to be used in qualitative research. Sugiyono (2013: 308) says that the types of data collection technique include among others: observation, interview, questionnaire, documentation and triangulation. In this research, the author employed observation, documentation, interview, and questionnaire as the techniques of collecting data.

Data validity test was conducted by collecting data in the field, and then continued with considering the theories developing within society and the existing science development. In this research, data validity tests used included: data triangulation and informant review.

Technique of analyzing data used in this research was flow model of analysis. Sutopo (2006: 36) explains that in data analysis process, there are three main components: data reduction, data display, and conclusion drawing and verification. Those three components can be seen in interrelated process and determining the end result of analysis. The primary data of analysis included learning process and end product (students' work).

The procedure of research was a series of research activities conducted from the beginning to the end. Overall, this research consisted of preparation stage including pre-

research to get a description of research object, and writing the research proposal. Implementation stage involved studying in-depth the objective to be achieved, data classification, and data analysis. Then the report writing stage included writing the final conclusion from all analyses conducted, writing research report, consulting with the consultant, and revising the report.

RESULT AND DISCUSSION

Considering the theoretical study on the scroll technique learning, it can be seen that the learning implementation process has fulfilled all aspects of learning: objective, material, method, model, media, and evaluation used by teachers.

The objective of *scroll* technique learning in producing a creative wood work product is to prepare the students' skill in wooding area, particularly wood technique using scroll saw engine as one competency the students should master related to the production of creative wood work product in order to be competitive in industrial realm.

The learning material of scroll technique is the compulsory material to be mastered by students in producing wood work product. Scroll technique is one of basic techniques in wood realm related to product production. The material organized by teacher has been in line with main competency and basic competency of the 2013 curriculum. The material given includes definition of scroll technique, introduction of scroll saw engine, product types made by scroll technique, operating procedure of scroll saw engine and its supporting tools, designing of scroll technique product, and SOP of work safety.

Teachers apply a variety of learning methods including: lecturing, debriefing, experimenting, drilling, demonstrating, and assigning. Lecturing method is the process of delivering material orally to students, debriefing method is intended to test the students' understanding level, experimenting methods is the one in which the students can try to explore the creative design of wood work product, drilling method is intended to practice students' skill in operating tool, demonstrating method is conducted by teachers in relation to engine operation, and assigning methods.

Scroll technique learning in SMK Negeri 9 Surakarta uses the 2013 curriculum in which the approach used is scientific approach. Scientific approach emphasizes more on observing, questioning, experimenting, associating, and communicating (Fadillah, 2014: 176). Teachers apply contextual teaching and learning model consistent with the newest stipulation of 2013 curriculum. In scroll technique learning in producing wood typography product, students can experiment with their work and explore any shape and technique. Students develops work composition by observing the works encountered surrounding, so that the work produced seems to be unusual and different from other similar products.

Learning media used by teachers in scroll technique learning process in producing creative wood work product are audio and visual media. Audio and visual media used by teachers are computer/laptop, and LCD projector. The function of LCD projector in this research is as the means of delivering material in the form of slide power point, learning material in the form of e-book, tutorial video of product development using

scroll technique. Teachers also use learning visual aid to clarify the learning material. Thus, the students will receive the learning material more easily in practice of developing product using scroll technique.

The evaluation activity process is conducted during and after the learning process. In Standard Competency of Graduates (SKL), the assessment involves affective (attitude), cognitive (knowledge), and psychomotor (skill) aspects.

The measurement of students' learning interest can be seen from 3 aspects: cognitive, affective and psychomotor. It is in line with (2011: 13) stating that learning is "a series of mental and physical activity to obtain a behavioral change as the result of individual's experience in interaction with its environment pertaining to cognitive, affective, and psychomotor aspects". In cognitive aspect, students' understanding on the material in product production (development) subject using scroll technique can be seen from teachers giving pre-test and post-test, and students can answer and express their opinion. In affective aspects, the students are highly enthusiastic and very interested in the learning process so that they pay full attention to the learning process. Students respond to the teachers positively, as indicated with the students participating actively in debriefing activity along with the teachers. Practical learning newly acquired by students make the students more curious. In psychomotor aspect, students' ability of operating scroll machine related to the development of wood work product in the form of wood typography is indicated with the process of cutting wood using scroll technique, and the finished product after finishing stage. The assessment of psychomotor aspect is not only based on the finished product but also divided into some stages: early preparation, production process, and end product of students' work.

The result of research is confirmed by the result of questionnaire showing the students' high interestedness score (31.2) belonging to very interested category. It of course confirms the result of observation showing the students' interestedness in the learning material of scroll technique in developing creative wood work product.

The students' scroll technique product works have different characteristics. The difference of students' work visualization is viewed from technique mastery, cutting appropriateness, and design composition. The students' work product in the form of wood typography is discussed and analyzed using design principles and creative product theory. Besemer and Treffirger in Besemer (2005) recommend the creative product to be divided into 3 categories: a) novelty, b) resolution, and c) elaboration and synthesis.

The form of students' work (wood typography), based on the work product category, is very good, good, and fair, viewed from technique mastery, cutting appropriateness, and design composition. Overall, the work product of scroll technique has been appropriate to the targeted learning achievement conducted by teachers, despite some constraints affecting learning process. Totally, there are 8 product works that are very good and as expected. On average, the students' work has had as same composition as other similar works, because the students still refers to the sample the teachers have given. One criterion the teachers consider is students' discipline level; in this case the students have submitted their assignment timely. Viewed from technique mastery, some students operate the engine very skillfully because they have obtained personal

experience with scroll technique learning. Overall, the quality of students' work has been fairly good. Viewed from group learning process, the students' team work has been fairly good. It can be seen from the product production process divided into some job desks between group members, so that the learning is more effective and consistent with the learning target.

Overall, the work products of the 11th Wood Work graders have not fulfilled the criteria as creative product containing the following characteristics: a) novelty, b) resolution, and c) elaboration and synthesis. It is because the students' work products have not arrived yet at creation stage but still at the process of imitating the preexisting products through developing design exploration.

CONCLUSION AND RECOMMENDATION

Considering the result of research conducted on the implementation of scroll technique in producing creative wood work product in the 11th Wood Work graders of SMK Negeri 9 Surakarta in 2017/2018, it can be concluded that the process of implementing scroll technique in producing creative wood work product in the 11th Wood Work graders of SMK Negeri 9 Surakarta has been conducted as follows: (a) teachers develop RPP (Learning Implementation Plan), prepare learning material and media with the material of product development using scroll technique in the form of teaching material and tools, (b) learning model used by teachers is contextual teaching and learning one through scientific approach. Teachers apply a variety of learning methods: lecturing method when delivering material orally to students; debriefing method is intended to test the students' understanding level; experimenting methods is the one in which the students can try to explore the creative design of wood work product; drilling method is intended to practice students' skill in operating tool; demonstrating method is conducted by teachers in relation to engine operation; and assigning methods. The learning media used by teachers have been good and completed, including slide power point, learning video, and sample product of scroll technique. In addition, in evaluation activity, teachers assess based on Standard Competency of Graduates (SKL) involving cognitive, affective, and psychomotor aspects.

Scroll technique learning in product development subject using scroll technique can improve the students' learning interest. It is indicated with the students' enthusiasm in the learning implementation. The result of questionnaire showing the students' interest level reaches score of 3.12, belonging to very interested category.

Overall, the work product of scroll technique has been appropriate to the targeted learning achievement conducted by teachers. Viewed from technique mastery, some students operate the engine very skillfully because they have obtained personal experience. The development of design exploration is varying with fairly good composition. The product design developed has applied fine art principles including unity, balance, proportion, and contrast. Overall, the students' work products have not fulfilled the criteria as creative product containing the following characteristics: a) novelty, b) resolution, and c) elaboration and synthesis. It is because the students' work

products have not arrived yet at creation stage but still at the process of imitating the preexisting products through developing design exploration.

REFERENCES

Besemer, S.P. (2005). Be Creative Using Creative Product Analusis in Gifted Education. Creative Learning Today, 13(4)/ 1-4.

Daryanto. (2011a). Media Pembelajaran. Bandung: Sarana Tutorial Nurani Sejahtera.

Djamarah, S.B. (2011). Psikologi Belajar. Jakarta: Rineka Cipta.

Fadillah, M. (2014). Implementasi Kurikulum 2013 dalam Pembelajaran SD/MI, SMP/MTs, & SMA/MA. Yogyakarta: Ar-Ruzz Media.

Groneman, C.H. & Glazener, E.R. (1966).Technical woodworking. New York : McGraw-Hill Book .

Muliaty, A.M. (2007). Evaluasi Program Pendidikan Sistem Ganda: Suatu Penelitian Evaluatif berdasarkan Stake's Countenance Model Mengenai Program Pendidikan Sistem ganda pada sebuah SMK di Sulawesi Selatan 2005/2007. Diperoleh pada 24 Maret 2017, dari *http://www.damandiri.or.id/* file/muliatyunjbab.pdf.)

Rahardjo, S dan Gudnanto. (2011). Pemahaman Individu Tekhnik Non Tes. Kudus: Nora Media Enterprise.

Sugiyono. (2010). Metode Penelitian Kuantitatif, Kualitatif & RND. Bandung: Alfabeta.

_____. (2012). Memahami Penelitian Kualitatif. Bandung : Alfabeta.

_____. (2013). Metode Penelitian Kuantitatif, Kualitatif & RND. Bandung: Alfabeta.

Sutopo. 2006. Metodologi Penelitian Kualitatif. Surakarta: UNS Press.