Developing Students' Creative Response in Batik Craft Subject

(Higher Order Thinking-Based Learning Implementation in Art Education)

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Abstract—Education destination under 21st century learning in Indonesia has been interpreted in Curriculum 2013 agenda with skills that are critical, creative, collaborative and communicative. To achieve these objectives, learning is directed to high level thinking skills that take place from analysis, evaluation, and creation that lead to problem solving. This paper presents the results of implementing higher order thinking in developing student's creative response. A case study was occupied in a class of *Kriya* Batik Course. The data were obtained by using three instruments, namely: classroom observation, interview with the students, and document analysis in the form of students' works. Classroom observations were conducted to determine the lecturer's strategies in implementing Higher Order Thinking to build the students creative responses in batik craft. Meanwhile, an interview was done to know the student's response to strategy applied by the lecturer. Moreover, the documentation analysis in the form of student's batik work was analyzed by rules of art aesthetics. To examine innovative and novelty aspects in batik crafts design of the work of students used Creative Response theory. The findings show that through implementing Higher Other Thinking strategy, the lecturer developed the students' creative responses through their innovative design and their ability to use batik tools and technology. In addition, it was also proved by the student's statement on working collaboratively with lots of problems and challenges trained them to be more critical, particularly related to making decisions and solving problems.

Keywords: creative response, Higher Order Thinking, critical, batik craft, innovation

I. INTRODUCTION

Along with the launch of a new policy in the 2013 Curriculum, art and culture began to be taught officially and are considered as compulsory subjects ranging from secondary and high levels of education to Higher Education. It is also based on the demands of the globalization era in 21st century education which makes learning of cultural arts play an important role in the social and economic life of the community. In this regard, some in-laws of Higher Education in Indonesia also take part in placing arts and culture courses as additional or minor courses so that students can learn them. But unfortunately, the learning of art and culture, especially batik

crafts that are taught in a long time has not provided satisfactory results, especially related to the ability to relate (make design patterns). It was revealed that one of the difficulties faced by students during the process of making batik works was in viewing batik motifs in accordance with the assigned theme. Elizondo & Garita said if this continues, the learning model like this will make students lose their confidence and fail to achieve the final goal of learning, which is to have skills in work [1].

Based on the pedagogical problems found in batik craft learning in class, the estimated time allocation as a factor has a significant impact. In this case, the lecturer only gives instructions and asks students to do their work, where the opportunity for testing (without practicum and providing opportunities for students to hone higher-order thinking skills. In this regard, students must continue to be stimulated to be able to have skills with real experience or the knowledge they have previously can go hand in hand. Thus, Higher Order Thinking Skills based learning can begin where students can continually link between playing experience, learning experience and when doing practicum, persuasively completing their cognitive tasks [1].

In reality, this kind of learning model has not been found in the learning process in the context of education, although higher-order thinking skills have been included as a big agenda in the 2013 Curriculum. Some research related to the art and culture learning based on 'HOTs' high level skills has been carried out. Setyarini has successfully investigated whether higher-level thinking skills have been integrated in the learning process. The results show that higher level thinking skills have been integrated in the learning process even though in a very limited space [2]. The lecturers give assignments to certain students who are considered to have sufficient artistic skills. Conversely, students who have limited art skills get stimuli to do the same activities as students who are considered good at art, automatically students will have the opportunity to do a high-level thinking process (HOT). Teachers also realize that Higher Order Thinking Skills based learning requires them to be more prepared and critical in conducting learning activities.

Some research in skills learning found that higher-order thinking skills can help students improve creative skills [3],

communicate their ideas in visual language, and actively participate in classroom activities [4,5]. In addition, one of the impacts quite significantly from Higher Order Thinking Skills based learning in batik skill learning as learning cultural arts (local characters) is able to provide opportunities for students to gain autonomy in their learning process [5]. As one example, by giving a higher order thinking based practice Skills, students are encouraged to generate as many ideas as possible based on their personal experience and can freely place their agreement and disagreement with all practical assignments or specific assignments. In addition, Higher Order Thinking Skills based learning realized in a project-based learning approach can provide opportunities for students to gain learning autonomy by stimulating and challenging them in determining strategies for completing the given task. Meanwhile, assistance, motivation, and feedback from lecturers can also play a role in determining the success of student learning autonomy [5].

Furthermore, higher-order thinking skills include the skills of analyzing, comparing, reflecting, and evaluating, where all these skills are needed by learners in planning learning activities, measuring self-ability, and adjusting as part of the process of completing learning tasks [6]. Overall, students are not limited and are directed to use one strategy absolutely in completing their learning tasks, instead they are asked to become independent individuals through creativity in completing assignments according to their needs and abilities [5].

The explanation above shows that higher-order skill-based learning (Higher Order Thinking Skills) is able to develop students' awareness of being responsible for the learning they are carrying out and collaborating with friends and teachers to complete assignments, share knowledge, and evaluate their abilities. In addition, although some research has been conducted in developing Higher Order Thinking Skills based learning. To promote these high-level thinking skills in the learning process.

Meanwhile, research that further investigates the significant impact of Higher Order Thinking Skills-based learning in the development of learning autonomy still needs to be done more comprehensively. This research was conducted in the hope that it could provide a practical model of Batik Craft learning in enhancing creative responses based on Higher Order Thinking Skills that could facilitate the development of student learning autonomy. The purpose of this study in the First Year, namely:

- Investigate how lecturers realize the autonomy of student learning in batik learning through the implementation of HOTs.

- Identify the obstacles faced by lecturers in realizing the model and how the solution.

II. THEORETICAL BASIS

This study departs from changes in 21st century education demands that include 4C (creative, critical thinking, communicative, collaborative) and higher order thinking skills (Higher Order Thinking Skills) as the main goal of learning outcomes [2]. Therefore, it is necessary to do a transformation of the learning process approach which initially only focused on lecturers' activities but now shifts to student-centered learning. At this time, teachers need to give autonomy to students in a learning process that can provide opportunities for students to be involved in determining learning targets, teaching materials, learning strategies, and evaluating learning outcomes holistically.

Then, the supporting lecturer also experienced a shift, where the lecturer had to become a facilitator who gave students the opportunity to participate in class and collaborate with their friends. However, in the context of Batik Craft learning, the fact is that lecturers are still too comfortable with conventional learning models where they are placed as the main source of learning and material providers. Class activities are still observed to be dominated by instructions given by the lecturer, while students passively receive information from the instructor. The development of HOT-based learning models is believed to have a significant impact on students' creative responses to work because HOT can encourage students to actively participate, be independent in completing their work, and be reflective of the learning process implemented. Through HOT-based learning students get the opportunity to express their experiences in the learning process and study the learning components needed by them. Thus it will increase the sensitivity of students in the work process and can simultaneously develop student creative responses. The following diagram briefly illustrates how the research road map was carried out.

This section discusses several related theories that are used as a framework for thinking in the research that has been done. The theories include research work on Creative Responses in general, Higher Order Thinking Skills-based learning, and HOTS-based learning models to enhance student creative responses.

Changes in civilization towards a knowledgeable society require the world community to master skills, where people are able to understand and utilize information and communication technology and have adequate literacy skills (ICT and literacy skills). In this regard, education plays a very important and strategic role in building a knowledgeable society that has several skills, including: (1) technology and media literacy; (2) communicating effectively; (3) critical thinking; (4) able to solve problems; (5) can collaborate well. However, this issue related to technology, media and literacy capabilities is still a fundamental problem for most people, especially in the context of achieving a global engineering society. One significant factor is the low level of literacy in communication media, especially for rural communities and also the gap in information dissemination in Indonesia.

One indication of the existence of a new period in which every community is ready to face the era of globalization is the presence of interactive technology and network communication in the nineties, as well as the existence of the internet that is changing society. In response to this new development, the government in the development of the education sector issued several policies. Some of the policies of the Indonesian Ministry of Education related to the use of ICT in learning that have been carried out for quite some time now, including the adoption of the 2013 Curriculum which encourages ICT-based

learning processes, so that the presence of new media in the world of education is felt to be more intensive and extensive.

Further, the characteristics of 21st century students are those related to life skills that are not merely passive learners where they just accept the situation. However, students are expected to always take initiatives in various learning activities, so that they will continue to be adaptive with technological developments and the rapid spread of information. The findings of information technology in the field of education also continue to occur on an ongoing basis in a time span of increasingly rapid intervals. Therefore, various learning applications continue to offer new findings in a relatively short period of time which causes students to continue to be exposed to educational innovations through technological developments. Related to this phenomenon, if students do not have the adaptive ability to innovate digital technology, they will be increasingly left behind and consequently they have less access to enter into the world of social society (cyber society).

Students in the 21st century are also required to have the character of social skills in interacting between cultures and nations, because the world is increasingly globalized and becomes a unity. If they want to develop knowledge and skills, as well as expertise that suits their interests, students can share and exchange information with students around the world. The current cyber world has provided adequate facilities to be able to communicate to anyone via the internet or social media throughout the world. Therefore, learning in virtual space allows them to share knowledge and expertise according to their interests and talents. In this digital age, students are required to have the ability to work in groups, not only between students in their classroom environment, but they are expected to be able to penetrate the boundaries of space and time into the cyber world between students around the world. Cooperation in this context requires students' creative abilities and innovative power so that what they have has a high bargaining power so as to attract the attention of the outside world. As one example, students can develop their creativity in the fields of robotics, plant cultivation, the world of games, and other creative inventions that can be useful in solving problems and attracting the attention of today's digital generation.

Furthermore, students in the 21st century also feel they need to have skills in productive and accountable leadership. That is, what is offered in each area of expertise must be evaluated fairly, until tested. This is important to do because they are required to seek trust in communication between nations and cultures in the virtual world. Therefore, productive leadership needs to be accompanied by an attitude of responsibility towards what has been decided together on various matters relating to creativity and innovation. Then, in the digital age, students are expected to have the ability to learn independently because new media has provided a wealth of diverse information. If students already have the ability to learn independently, then the utilization of digital media-based learning facilities can be carried out easily and reliably. Considering the importance of fostering creative and innovative responses in batik learning in art colleges in Indonesia, the introduction of the HOTS (Higher Order Thingking Skills) method is felt to be done early on for Fine

Arts students . This statement is in accordance with what was expressed by Wang as quoted in Jianbin and Jiayan which says that batik learning needs to be HOTS oriented early on so that it is able to provide provisions for students to innovate and compete globally [7]. In the learning process students are encouraged to actively participate in the process of work, meanwhile lecturers only act as facilitators who build a conducive learning atmosphere for students to interact and collaborate with other students.

III. RESEARCH METHODS

This research design is research and development or longitudinal research which lasted for three years [8]. This research in the first year specifically uses ethnographic design to describe the extent to which the instructor promotes students' creative autonomy in practicing batik in Higher Education through the implementation of HOTs. The results of this study in the first year show the real conditions in the field related to the implementation of the HOT learning model and how teachers use it to measure students' creative responses. This second year research is a follow-up study from the first year which focuses on increasing students' creative responses by developing learning models based on Higher Order Thinking Skills in batik practicum. HOT-based learning underscores high-level thinking skills that can equip students to become independent in the learning process by engaging in activities determining learning goals, developing learning strategies, conducting self-reflection and evaluating with friends.

HOT-based learning underscores high-level thinking skills that can equip students to become independent in the learning process by engaging in activities determining learning goals, developing learning strategies, conducting self-reflection and evaluating with friends. This research involved lecturers in the Fine Arts Department, especially those practicing batik practicum in the Fine Arts Education department. Except that in this study also involved students who contract batik courses as participants in this study. This research was carried out in the Department of Fine Arts Education in the practical lab class. Specifically, fifth semester students will be the subject of this research. The site selection was carried out based on the consideration of the research team's affordability in reaching the research location. This research was conducted using several instruments including observation in the batik laboratory, interviews with lecturers and students, and document analysis. The first year of research will focus on investigating the extent to which lecturers improve students' creative responses in the batik practicum process in the classroom through the implementation of HOT learning models. To obtain contextual and authentic data, researchers will conduct classroom observations several times at the study site. After all data has been collected from several sources, the data is then presented in accordance with the study set forth in the research question. Data obtained from the questionnaire were analyzed by referring to the characteristics of learning oriented to the development of student learning autonomy in the classroom. Thus, it can be seen whether the lecturers have applied the principle of student learning autonomy or even never implemented it.

IV. FINDINGS AND DISCUSSION

Related to the importance of student participation in the learning process, that it can be obtained by involving and connecting the individual experiences of students outside the classroom with other learning components, including learning activities, assessment, and evaluation of learning. Contextual teaching material is needed as a main component of learning to create student autonomy because contextual material can help them to remember and understand what they are understanding in the classroom more easily [1]. Meanwhile, seen from the learning activities, the types of learning activities that are applied should provide space for students to develop creativity in completing assignments given by the lecturer. The rest, the independence of students in learning can be identified from the process of completing the task where they get the opportunity to determine the strategy in completing the tasks given based on their tendencies [1]. Although the granting of student autonomy in the learning process is believed to provide wide opportunities for students in determining the sustainability of the learning process, this does not mean to exclude or override the role of the lecturer focusing on training students' independence [9]. One of the things that can be done by the teacher is to provide clear and well-understood learning instructions by students in several aspects, including the following: (1) alternatives for completing the given task; (2) the opportunity to collaborate with friends; (3) learning targets expected from students; (4) limitations and obstacles that may be owned by students in completing assignments.

In addition, another factor that encourages student independence in the learning process is the student's ability to think comprehensively and critically. Autonomy of learning is closely related to rationality and the ability to critically reflect, make decisions, and be independent in taking attitude [9]. Autonomy results from the ability of students to study what they need in learning and express it in learning activities. According to Barnes, preparing student learning autonomy means educating students to change their perspective about the learning process itself. In this case, students are expected to not only take what has been determined by the teacher in the learning objectives, but students are also asked to think critically to find their own learning goals and values in them.

The same thing also will not happen without the ability of students to think at a higher level. Stapleton underlines that students 'high-level thinking skills are needed to build students' awareness of the learning programs they are undergoing and they can take a critical perspective of the learning process, so that they can apply what they learn in everyday life. Specifically, in language learning, through the autonomy of learning that is developed in the classroom, students are expected to be able to know the language they need to master and use it in the context of their daily lives.

Higher Order Thinking Skills and student learning autonomy have become targeted competencies in 21st century educational goals, both of which are interrelated and influence each other. Lamb and Vieria explain that student autonomy of learning is closely related to the ability of students to reflect crisis, determine decisions, and be independent in completing tasks which are all indicated as characteristics of student autonomy in learning [10].

This certainly cannot be achieved by students without their ability to use higher-order thinking skills that include analysis, evaluation, and creation. Authority obtained by students in learning autonomy is defined as freedom given to students both in the learning process and the learning content itself. On the other hand, Smith and Darvas said that giving students autonomy of learning indirectly gives them space to practice critical thinking skills about the learning they are going through.

In addition, learning based on Higher Order Thinking Skills is believed to increase students' sense of responsibility towards their own learning process and make them individuals who are ready to face problems that might be found in the learning process, task completion, and evaluation process. Then some main concepts in Higher Order Thinking Skills-based learning, including: context, metacognition, procedural thinking, understanding, and creativity. As revealed by Teimourtash and Yadzani the three strategies needed in critical thinking are through strategic thinking, open-ended questions and cooperative learning [11]. On the other hand, Smith and Darvas also added that metacognition is a major component in higher-order thinking skills which has an impact on improving student otnomy. One form of student learning autonomy can be seen from the active participation of students in the learning process, because during the process students become the center of attention and lecturers only become facilitators [12]. Related to this, Setyarini stated that learning based on higher order thinking skills (Higher Order Thinking based learning) can be done by giving open questions to increase the participation of all students in the class, both with high and low academic achievement. By using open-ended questioning techniques, the learning process has a positive impact on increasing student participation in class and student confidence [2]. Types of open questions include why, how, what if that can stimulate students to connect the learning content with the experience and knowledge they have in response to these questions. This type of question basically does not limit students to one right or wrong answer, but also gives students the freedom to express their opinions, arguments, comments without worrying about being blamed by the lecturer [13]. Based on this, the use of question techniques that are adapted to the principles of Higher Order Thinking Skills based learning can give authority for students to respond to lecturer questions and refer to their experience and knowledge so that this is in accordance with the level of student ability [9]. On the other hand, student learning autonomy can be obtained through the application of metacognition in the learning process. Metacognition itself is related to the cognitive abilities possessed by students. It is expected that students can consider and convey what they already know and how they learn the information they have obtained. Metacognition encourages students to examine for a moment and reflect on what they have done in the learning process. This is certainly in line with the learning objectives and tasks that they must fulfill as a result of the learning process itself. Then, this strategy also supports one of the stages in learning based on Higher Order Thinking Skills as revealed by Limbach which states that clarity and accuracy in

conveying learning objectives is one of the first stages that students must realize in the learning process [14].

After students understand these stages, learning objectives, and learning material that they will learn, students are given the authority to consider and determine strategies that can be used to complete these learning tasks. In the end, students can reflect on the learning process they have carried out, assess the extent to which achievement of predetermined learning targets, how effective the strategies they use are successful, and they can also identify what they can get from the learning process that has been implemented.

V. CONCLUSIONS

Referring to the background and objectives of the study described above, it can be concluded, including:

- Student Creative Response becomes one of the hot issues in the process of learning batik practice, especially long-term learning (long-life learning) where learning seeks to transform the learning process that is focused on student activities. Nevertheless, the concept of students 'creative responses is still felt to be quite abstract and not yet understood by most Constitutional Court Batik makers because of their lack of knowledge related to learning models that can be used as a reference for increasing students' creative responses in their work.

- One of the 21st century learning objectives is to develop high-level thinking skills and students' creative responses in the learning process. But unfortunately, some studies still identify that lecturers have difficulty in finding the right learning model to develop student creativity in the learning process. In addition, the lecturer was observed to still not understand the urgency of higher-level thinking skills as outlined in the revised edition of the 2013 Curriculum.

- Although the 2013 curriculum has been revised with the aim of adjusting 21st century learning targets, in practice lecturers still do not understand well the concepts and urgency of higher level thinking skills holistically.

- Based on the facts found in the field, there are still many lecturers who use conventional learning models that are teacher-centered so that some of them ignore the active role of students during the learning process.

Relating to one important aspect in the 2013 Curriculum where students are required to have higher order thinking skills (Higher Order Thinking Skills) in addition to literacy and communication skills. However, most teachers do not understand carefully the essence of these higher-order thinking skills. They assume that these skills can only be taught and developed in students in science subjects. Whereas in the context of learning arts and culture, assume that these skills cannot be taught and integrated in learning activities because there is no specific connection and they do not know how to assess these skills in their students.

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