

HASIL CEK_60160942_Visual Perception of Elementary School

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Submission date: 05-Jul-2021 11:02AM (UTC+0700)

Submission ID: 1615812239

File name: 5._Probosiwi_2020.pdf (691.1K)

Word count: 7664

Character count: 42310

Visual Perception of Elementary School Teacher Education Students on "Batik Cap" Aesthetic

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Abstract — The research based on determinate the visual perception of primary school teacher education students on "batik cap" representation, including the fabrics, motifs, manufacturing techniques, and stamp devices. The research focus is on students' basic understanding of the essence and visualization of "batik cap." The purpose of the research is finding the level of understanding and creativity of the students' thinking regarding the understanding, criteria, characteristics, and techniques of making batik that is around Yogyakarta. The research subjects were students in semester 4 and 6 in the academic year 2018/2019 of the Elementary School Teacher Education Department at Ahmad Dahlan University of Yogyakarta, who took the Fine Arts and Skills Education course. The method research used descriptive with a qualitative approach data collecting technique by observation, interviews, and document review. The data analysis technique is using narrative. The results showed that students had poor visual experience about "batik cap." From the tenth, students sampled less than 50% didn't know and could not identify objects well. On the step of sensing, the process is still lacking depth. Furthermore, they have the same tendency to express beauty about an object. Students need to improve their visual references and basic knowledge about batik so that they can learn more about "batik cap."

Keywords: *visual perception, "batik cap", aesthetics, qualitative*

I. INTRODUCTION

Based on [1] concerning Basic and Secondary Education Content Standards that there are five stages that are passed by students to master knowledge, namely the pre-structural, uni-structural, multi-structural, relational, and abstract extended. These five stages can be simplified into three stages, namely surface knowledge, deep knowledge, and conceptual or constructed knowledge. The stage is surface knowledge obtained at the Basic Education Level for elementary schools, the stage is deep knowledge obtained at the elementary education level for junior high schools, and the step is conceptual/ constructed knowledge obtained at the secondary education level; namely, there are senior high schools.

However, for certain types of knowledge, these three stages can be achieved at one level of education or at one grade level. Furthermore, Core Competencies for each Level of Competence include spiritual attitudes, social attitudes, knowledge, and skills.

Furthermore, based on [1], the core competencies of students' knowledge are required to be able to understand and apply factual, conceptual, procedural, and metacognitive knowledge. Some aspects of such knowledge, simple technical and specific levels, are based on their curiosity about science, technology, art, culture with humanity, nationality, and state insight related to the phenomena and events seen in the eye. Whereas the core competencies of students' skills are directed to be able to demonstrate the skills of reasoning, processing, and serving creatively, productively, critically, independently, collaboratively, and communicatively in a concrete and abstract realm in accordance with those learned in schools and other sources that are the same in terms of theory.

According to [2], there are two main types of batik hand-drawn batik (*membatik tulis*) and the block-printed batik (*membatik cap*). Both are the traditional type of batik. The motifs of hand-drawn batik are created by using a utensil called "canting." The "canting" is filled with hot wax and drawn onto the prepared fabric. The block-printed batik is making with the metal block ("cap") is dipped into the hot wax, and then it is pressed onto the fabric. Metal batik block was invented in the 19th century in order to increase productivity, as the process of hand-drawn batik is slow and time-consuming; also, it has high production costs. As a consequence, block-printed batik has retained its popularity until the present. For students of the Elementary Teacher Education department, making "batik cap" using metal stamps considered difficult because searching for materials, the complexity of manufacture, and the price is quite high. So, they are trying material used to create an alternative stamp master.

Art education according to Jean Jacques Rousseau [3] is (1) developing individuals; (2) to survive successfully; (3) expressing oneself; (4) to achieve social progress; (5) securing past and present happiness; (6) to develop the efficiency and

perfection of the human body; (7) for adjustments to the environment; (8) to channel, synthesize, sublimate or integrate instincts. [4], art teachers often spend their time trying to eliminate the influence of adults on children. They succeeded in preventing their students from copying existing stereotypes by providing materials that were difficult to use, such as torn colored paper or homemade pens instead of store-made colored pencils. Scribble, like a child, is often idealized in early elementary school art classes. Based on the description of learning about batik in the cognitive domain lies in learning material to slowly change the concept of thinking that is still considered commonsense, then integrate with other scholarships or certain theories, so that it causes changes or modifies instincts (instincts) of an object. In this paper, the student of Teacher and Education Science Department making the "batik cap" have started from arranging more objects come from their each islands combining with geometric and non-geometric to become the full design. Students are also considering the color and composition of all of the objects. And then, they are creating patterns on fabric according to the design.

As Elementary School Teacher Education (PGSD) students, there are quite a lot of demands to meet the competency standards as qualified prospective educators. Through fine arts education and skills courses, students are equipped with knowledge, insights, and techniques in making art that is in accordance with elementary school student competencies. Achievement of competencies includes affective, cognitive, and psychomotor aspects spread in the material provided for one semester. One of the honing competencies is the cognitive aspect that fosters critical thinking. According to one of Rosseau's educational art concepts, for transformation, synthesis, sublimation, or modification of instincts, because students must transfer all of their empirical experience to combine science and other disciplinary instincts as humans for future elementary students. In this course, the material on aesthetics is given by presenting related theories and techniques in expressing aesthetics. Fine arts education and skills seem to prioritize technical work, but forget the concept of thinking. So it needs to be added reinforcement of cognitive aspects by providing students with material and visual experiences. One of the materials taught to students is "batik cap."

Fine art learning material in elementary schools has been summarized in Core Competencies (KI), and Basic Competencies (KD) grades 1-6. The author uses KI & KD on elementary school grade 5 because it is considered relevant to the "batik cap" material given to students.

TABLE I. CORE COMPETENCIES OF ARTS, CULTURE, AND CRAFTS FOR GRADE 5 IN ELEMENTARY SCHOOL

Core Competencies 3 (Knowledge)	Core Competencies 4 (Skills)
Understanding factual and conceptual knowledge by observing, asking questions, and trying based on curiosity about himself, God's creatures and their activities, and objects found at home, at school, and at playgrounds.	Present factual and conceptual knowledge in clear, systematic, logical, and critical language, in aesthetic works, in movements that reflect healthy children, and in actions that reflect the behavior of children of faith and noble character.
Basic Competencies Basic	Competencies
3.1. Understanding story pictures 3.2. Understanding the scale 3.3. Understanding floor patterns in regional dance creations 3.4. Understanding regional artworks	4.1. Make a picture of a story 4.2. Sing songs in various scales with musical accompaniment 4.3. Practicing the floor pattern in the dance creations area 4.4. Making regional artworks

One of the competencies based on [1] highlighted by the author is the reasoning skills of students based on guidelines, theories, or concepts of scientific thinking. It is further based on, namely, understanding factual and conceptual knowledge by observing, asking questions, and trying based on curiosity about himself, God's creatures and their activities, and the objects they encounter at home, at school, and at playgrounds. Based on Table 1, written the competency to be achieved is at point 3.4, which is understanding regional art. The stages of understanding regional artworks are done by observing, analyzing, and interpreting a skill-based work of art, in this case, is "batik cap." So the author wants to know the level of student understanding of "batik cap."

II. THEORY STUDY

A. Literature Review

[5] the results showed that the assessment between the two groups of respondents was not much different. Aesthetic assessment consisting of cohesiveness, scale, proportion, rhythm, balance, and color shows good results in the visual of historic corridors. The author was doing the assessment for psychomotor aspects with the student's ability to determine design layout according to the principle of visual art like harmony, composition, balancing, and so on. So, their artworks can be evaluated more valid.

[6] the results indicate students experienced a relatively high level of engagement and a moderate level of transactional distance. Respondents perceived outcomes such as satisfaction, progression, and learning very positively. There were significant differences in responses based on gender and college standing. Student engagement, transactional distance, and outcomes were moderately correlated, and researchers confirmed transactional distance is a valid predictor of student engagement. To know how far the significant development like the progression of the artworks, students must do a consultation with the lecture at least twice a month in regular or outside the class. Students bringing their design and discuss it together with their team to the lecture. Many suggestions and input provided so that the design layout can be better.

[7] it is important to note that engagement strategies that support interactions with instructors were valued more than strategies that aimed at interactions with learning material and other learners. Instructor presence is very important to online learners. They want to know that someone "on the other end" is paying attention. Not surprisingly, students who participated in this study expected instructors to assist them in their learning and create meaningful learning experiences, as evidenced by their assigning relatively high ratings for items pertaining to grading rubrics, checklists, forums, and student orientations. The lecture has a role as an instructor in the field when students practicing make the "batik cap." The lecture is giving the instruction covering how to prepare equipment dissolving "batik" coloring formula. The formula has come from synthetic color as called naphthol and indigo sol. Second, students must stamp the "cap" master on the fabric with color ready according to the design. Third, they were drying in the sun and painting with more lines and dots combine.

[8] art students showed more frequent perceptual reversals in an ambiguous figure task, both when viewing the stimulus passively and when eliciting perceptual reversals voluntarily, but showed no difference from non-art students when asked to maintain specific percepts actively. The findings suggest that art students can elicit endogenous shifts of attention more easily than non-art students but that this faculty is not directly associated with enhanced executive function. It is proposed that the signature of artistic skill may be increased perceptual flexibility accompanied by reduced cognitive inhibition; however, future research will be necessary to determine which particular sub-skills in the visual arts are linked to aspects of perception and executive function.

[9] This article is a result of structured research in finding a better learning design that includes aesthetic elements in learning in elementary school in particular and the school in general. Aesthetics is an axiological part of science so that the character enhancement of students can be done in a structured way of learning. Art as a catalyst of aesthetics is integrated into learning, not only in RPP but in the behavior of students every day. Art learning is art, dance, music art integrated into the subjects in school curriculum, not just one subject but in all subjects.

[10] that students who experienced TBL (Team-based Learning) in the fall and went back to traditional format in the spring reported improved perceptions of teams and preferred TBL format over a traditional format more than students who experienced a traditional format followed by TBL. Students at both universities agreed that the TBL format assists with critical-thinking, problem-solving, and examination preparation. Students also agreed that teams should consist of individuals with different personalities and learning styles. When building teams, faculty members should consider ways to diversify teams by considering different views, perspectives, and strengths. Offering TBL early in the curriculum prior to traditional lecture-based formats is better received by students, as evidenced by anecdotal reports from students, possibly because it allows students time to realize the benefits and assist them in building teamwork-related skills.

[2] the batik makers, therefore, tended to use the same blocks repeatedly, limiting innovative patterns in the market. The objectives of this study were as follows: 1) To collect and examine batik motifs on metal blocks in the three southernmost provinces of Thailand. 2) To develop modular batik blocks, whose parts can be removable and adjustable in order to create more patterns. The study shows that the motifs found on the metal blocks can be classified into six categories: 1) a flora motif, 2) a geometric motif, 3) a fauna motif, 4) an object motif, 5) a mixed flora and geometric motif and 6) an alphabet and symbol motif. The modular batik blocks developed in this study are composed of 1) a plate, 2) metal motif parts, 3) wood motif parts, and 4) a handle. Create patterns; users are able to choose to use either only metal or only wood or a combination of both metal and wood motif parts to arrange on the plate. The experiments showed the following results: (a) The re-arrangement of motif parts resulted in the diversity of patterns; (b) The use of a mix of metal and wood parts only on one plate yielded more dimensional effects on line motifs on the fabric. In other words, metal parts gave thin line motifs while wood parts created thicker stripes, resulting in a unique appearance; (c) With the use of both metal and wood parts, when the blocks are submerged in hot wax, the amount of wax used needed to be reduced by shaking off the excess wax. However, how much wax should be shaken off depended on the concentration of the wax solution.

[11] that batik Cap' is a technique of wax-resist dyeing applied to a cloth made by printing the fabric with a copper stamp called a 'cap' acting as mold. One of the processes of making batik mold is to scrape the mold surface. The existing such process relies on a simple tool that does not count the ergonomic aspects, especially on a working posture. The inappropriateness of working postures will lead the operator to obtain a variety of muscle and bone disorders, especially in the legs, arms, and wrists, which degrade the quality of work. The suitability of work postures is measured by RULA scores, while the fatigue level was measured by a start time parameter emergence of disorders/ complaints in the muscles and bones (musculoskeletal disorder) using Nordic Body Map Questionnaire. In this study, the more suitable working posture was arranged by adjusting the height of the workbench to result in a better working posture. An experiment was conducted with involved a new and existing working posture to examine its effect on operators. The results showed significant advantages in term, reducing musculoskeletal disorders.

[12] that while feedback is widely considered central to student learning, students across the higher education sector commonly report dissatisfaction with the feedback they receive. In contrast, academics often feel they provide quality and informative feedback. This article explores and compares the perceptions of students and academics with regard to feedback practice. The paper presents the results of questionnaire surveys conducted with academics and students at the School of the Built Environment, Liverpool John Moores University. It highlights the perceptions of academics and students with regard to preferences for different types of feedback, timeliness of feedback, students' engagement and interest in feedback, quality feedback, and satisfaction with current practice. The findings indicate a significant discord

between staff and students in relation to certain aspects of feedback practice, namely opinions on students' engagement and interest in feedback, satisfaction with current practice and feedback preference. Similarities in viewpoints were also found in relation to quality feedback.

Based on these descriptions, the authors find relevance to the research that has been done. As for the things that contributed to the research is information that students' perceptions of "batik cap" are still lacking. So that to increase understanding, "batik cap" still needs to be done more intensively. An understanding of "batik cap" includes the characteristics of the stamp master material, the design of the stamp master, the types of motifs that can be made. Of course, it adapted to the competencies of elementary school students. In addition, to find out students' perceptions of learning, "batik cap" can be done in groups. This is in accordance with the research subject has chosen by the author are PGSD students who take the Art and Skills Education course in the even semester of the 2018/2019 academic year.

B. Theories

1) Perception Theory

[13] said that the perception received was still that perception never fully determined by a physical stimulus. Conversely, perception is something that is basically subjective because it depends on the contribution made by the observer. Perception goes beyond stimulation and is superimposed on sensation. The sensation is fundamental and, as part of our organic equipment, tends to be the same for all. Perception, however, is secondary and, depending on the particularities and past experiences of individuals can vary from one observer to another. Next, Gibson explained that visual sensations are innate. The sensation is data, or what is 'given' to the mind. They disagree whether perception is a matter of learning or intuition. But they also disagree from the beginning about what is felt and what is felt.

Theory of perception of objects and spaces, therefore, has a long history. Nativism: assumes that the synthesis is intuitive or innate. Empiricism describes synthesis as learned or inferred from past experience. Recently, Gestalt theory has suggested that it is produced by the attainment of characteristics of the central nervous system which can be called sensory organization [13].

JJ Gibson believes that our cognitive tools are created and shaped by the long evolutionary influence of the external environment that is clearly visible in its structure and capabilities. The basis of Gibson's theory is the belief that our perception is determined by optical flow, optical arrays, which Gibson regards as a kind of structure or pattern of light in a circle relationship. Gibson believes that humans perceive objects (the quality of their senses) by means of information packets, arrays that are determined (structured) by objects, entering their sensors. The light beam reflects the surface of the object and thus carries information about its shape, size, texture, etc. Likewise, our ears are affected by the arrangement of waves that vibrate or by the influence of tangible objects. [14].

The structure of perspective changes with each move from the point of observation; the shorter the displacement, the smaller the change, and the longer the displacement, the greater the change. Assuming that the environment has never been reduplicated from one place to another, the perspective captured is unique at each stationary observation point; that is, for each observation point, there is one, and only one perspective captured [13].

An example to illustrate the ways in which an observer's ability to act influences perceptions is with the ability to act dynamically, and factors that influence abilities include body size, body control, energy potential, and task demands. The ability of the acceptor is then reflected in perception. According to Gibson, the main object of perception is affordability, which is the possibility of action. Affordances capture the mutual relationship between the environment and taste. [15].

2) Batik Cap

According to [16], said that this type of batik using a shaped seal or stamp, both processes "coletan" and "keliran." The process of making batik is usually mass-produced at a lower price to fulfill the needs of the broad market. Stamp tool is made so that it can be used in large quantities, so it is found many of the same styles. According to [17], "batik cap" is a type of batik produced by stamping, printing, or stamping on one of the fabric surfaces that uses a stamp or stamp that already has a particular batik pattern or motif. The stamp is usually made of copper or wood. This type of batik is made by dipping a stamp or stamp into the night (hot wax), then pressing or stamping it on the surface of the cloth. Batik cap has a character that is not unique and less exclusive because it is usually mass-produced and the pattern or motive is always repeated.

Based on these descriptions, in this study, students are directed to be able to explain and analyze the visual aesthetic components of batik stamp elements, and the basic principles of likeness include points, lines, fields, colors, composition, balance, proportions, and dark light. This is needed in order to achieve the aesthetic learning of USD PGSD students with the AMT model at the step approach, namely definitive, participatory, and exploratory.

This research aims at analyzing the extent of students' cognitive understanding of "batik cap" and stamped tools. Based on the AMT model, the right stage to dissect student perceptions is the stage of approach with a participatory approach. Students were presented with pictures related to "batik cap" and colorful batik stamp tools. The pictures are packaged in documentation in the form of photos taken in detail so that students can see the initial picture. At the next meeting, they were shown prototype models of batik stamp tools and videos of making batik prints from various sources. Students begin to analyze the forms of objects that are presented using the basic elements and principles of similarity in writing. The final step is students can express the aesthetic meaning of the objects that have been presented based on the theories that have been given.

C. Aesthetics

Talking about the aesthetics of batik is seen from the perspective of visual perception, of course, involves an understanding of the aesthetic itself. [9] writes that aesthetics is part of axiology, which is a branch of philosophy that discusses values. Aesthetics comes from the Greek "aesthetics," aesthesis, which means someone who perceives something through the means of his senses, feelings, and intuitions. Furthermore, Aesthetics develops in several senses according to Jacob Sumarjo, namely (1) aesthetics is the study of beauty and concepts related to it and (2) aesthetics is an analysis of the values, tastes, attitudes, and standards involved inexperience and our judgments about everything made by humans or that can be found in beautiful nature. Based on quotes from Muslims, aesthetic learning at the educational level has an understanding that beauty can be taught to students, both in theory and practice.

Hajar Pamadhi revealed that there are two art education curricula, namely the aesthetic curriculum and the skills curriculum. The aesthetic curriculum will answer students' understanding of "beautiful," which has three aesthetic materials, including visual elements, motion elements, and sound elements. Visual elements consist of expressions and creations that are contained in the imagination; then, the motion provides notation and rhythm, so that formed visual (physical) and auditory (audio) intelligence. While the skills curriculum is a skill that does not need to be learned (commonsense) because it is instinctive and already exists in humans. The position of learning art is to practice skills transmission through training in the use of the five senses [9].

[18] explains that aesthetic sensing is an objectification process of rationalized feelings that is learned as seen. The objectification process can be said to be an objectification experience including sensing (taste so that it becomes a priori), feeling (trusting in thoughts that are still influenced by taste), thinking (process to overcome feelings that have taken place during objectification experiences), and rationing (aesthetic knowledge becomes knowledge the systemically is the relationship between the components of beauty with one another).

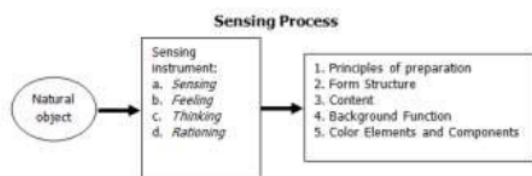


Fig. 1. Image Flowchart of Sensing Natural Objects into Artificial Objects [18]

Based on an understanding of aesthetics, the authors put the focus of research on how cognitive learning about aesthetics to bring up the visual perception of batik. The sensing instrument is the first step to measure students' perceptions of the beauty of "batik cap" as a form of cognitive understanding to deepen the studies.

III. METHODS

This research uses descriptive research with a qualitative approach. According to [19], qualitative methods consist of observation, interviews, or document review. Furthermore, Moleong explained that adjusting this method is easier when dealing with plural facts. In addition, this method presents the nature of the relationship between researchers and respondents directly. This method is more sensitive and adjusts to the many sharpening of the mutual influence on the patterns of values encountered.

Sources of data in this study were obtained sampling from elementary school teacher education students in the Elementary School Teacher Education Study Program (PGSD), the Teaching and Education Faculty, Ahmad Dahlan University, Yogyakarta. Another data comes from related books and journals. Data collection techniques carried out by interview, observation, and document review. The subjects interviewed were students who took the Fine Art and Skills Education course. Interviews are conducted in an unstructured manner that is informal; there are no guidelines whatsoever, starting with exploring a general topic together with participants [20].

Data collection is then obtained from the observation process. Types of observations in qualitative research are divided into two, namely observation and participatory observation. Observations are researchers observing participants as outsiders, researchers can be present in the daily lives of the participants but do not take any role in their activities. While participatory observation is an activity carried out by researchers who participate in the daily activities of the participants [20]. The type of observation chosen for this study is the observation model and observation data obtained from observing the creative behavior of students in the process of making batik cap, starting from the stages of group formation, designing batik cap design, making master or prototype tools master stamp, coloring batik cap, and finishing works. Data collecting does with student's activity observation that batik processing has started for making groups, designs, and finishing the artworks. Interviews are one of the most widely used research data collection tools that enable researchers to collect data from respondents in a variety of situations and contexts [20]. The types of interviews in qualitative research consist of three types, namely structured interviews, unstructured interviews, and semi-structured interviews. In this study, the author uses the type of unstructured interview, which is informal; there are no guidelines whatsoever, starting with exploring a general topic together with participants [20]. The author using the unstructured interview to dig information when they were making "batik cap" at the outside class. Dialogue situation with students has arranged more relaxed and sustainable so that they can be getting more data and information.

To maximize the analysis, the authors also added a collection technique with document review [20], writes that documents are all material things in written form made by humans, all records both in paper (hardcopy) and electronic (softcopy) such as books, mass media articles, diaries, manifestos, laws, minutes, blogs, pages web, photos, and so on. [19] explains that field notes have an important role in

qualitative research because the discovery of knowledge or theory must be supported by concrete data and not supported by those from memory. So that in this study, the author uses field notes written in an agenda related to what happens in the field since students form groups, design consultations, and batik stamp tools, to the process of tasting and coloring on the prepared batik cloth.

Data analyzed using a narrative that reading or writing, from above or from below, realist, constructivist, critical, genre, sound, ante-narrative, deconstruction, grand-narrative, microstoria, story network, in textuality, causality, plot analysis, and theme analysis. The writer chooses the narrative technique approach to reading or writing. Narrative analysis as a tool for organizing and presenting research data in a logical, structured, and systematic manner, while reading in the narrative analysis is interpreting the meaning of data in the form of narrative. [20] Data have analyzed by narrating sequence the process of making "batik cap."

IV. RESULTS AND DISCUSSION

Visual perception arises based on the process of objectification of the rationalized feeling process that is learned as something visible. Elementary School Teacher Education Department students, as prospective elementary school educators in the future, have the responsibility of being able to introduce, bring up, and analyze objects from the results of abstract thinking to their students. This process begins with sense by giving them examples of images and videos related to the "batik cap" and the stamp tool as an initial stimulus to their concept of thinking.

A. At the first meeting

The material about batik stamp covers history, characteristics, coloring techniques, and finishing works. Students pay close attention to the material given by supporting lecturers, which contain definitions, various motifs, and techniques for making "batik cap." Next, students are asked to do an individual visual analysis of the pictures and videos that are presented by the lecturer. Students analyze photos and videos then give comments in writing. The results of the analysis were collected at the next meeting. The result is that from 40 people, ten samples were taken to find out the perception of stamped batik, the results of 2 people had the notion that stamped batik was a type of craft made using a metal stamp, and eight people were not familiar with this type of batik. This is because their thinking power is still low, along with the extraction of information that has been done. The pictures presented are presented as follows.



Fig. 2. Metallic flora motif stamp tool. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 3. Metallic Parang motif stamp tool (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 4. Metallic Phaksi motif stamp tool. (Sumber: Studio Jurusan Tekstil SMK Negeri 3 Kasihan, Bantul, Yogyakarta; Fotografer: Cahyono, 2019)



Fig. 5. The copying process on *Mori* is using melted wax. [21]



Fig. 6. Frying pan or pan to heat the "*Malam*" (wax) to taste. "*Malam*" that has been hot and melted at the top is given a burlap cloth and metal slab that serves as a place to filter dirt. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 7. A metal plate that functions as a filter for night dirt (wax) that has been heated in a pan or pan. The size of the slab is adjusted to the diameter of the pan or pan. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 8. A wettable that functions as a cloth base that is being stamped with a metal stamp. This table contains cold water that is stacked with a sponge and covered by a blanket cloth and covered by glass paper. The purpose of this table is made so that the process of tasting the fabric is not sticky because it is exposed to cold temperatures from glass paper. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 9. The electric stove is used to heat the wax (wax) to make it liquid. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 10. Glasspaper is used to cover the surface of the blanket covering the wet sponge after being soaked in cold water on a wet table. How to use it, glass paper moistened with water and after bending, then covered on a wet sponge. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 11. "*Gawangan*" is a tool for laying fabric that is being processed batik, can be used as a place to dry batik cloth. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 12. A set of pans and Canthing for batik. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)

B. The second meeting

students held a discussion with the teaching lecturer on the results of observations on objects in the form of photos and videos that were displayed at the previous meeting. Students are asked to verbally state what things are obtained from observations and summaries of their writing. The discussion was carried out by laying the basis for evaluating object observations on visual art elements, including points, lines, colors, areas, shapes, textures, compositions, proportions, balance, and dark-light. Students are directed to see in detail the parts of the batik stamp tool. The following are the results of an analysis of the visual perception of PGSD students about "batik cap."

TABLE II. ANALYSIS OF VISUAL PERCEPTION RESULTS OF PGSD UAD'S STUDENTS ON "BATIK CAP"

No.	Image Name	Information	Results
1.	Figure 2, Figure 3, and Figure 4	Metal stamp tools consisting of various motifs such as flora, fauna, and geometric. One print is one motif, so its use must be repeated so that the motifs are continuous.	2 people recognize the type of material and shape of the batik stamp tool. 8 people did not recognize the type of material and shape of the batik stamp tool.
2.	Figure 5	The process of waxing a "Malam" (candles)	Ten people can identify pictures of activities tasting batik. No student knows the technique of using a batik stamp.
3.	Figure 6	Frying pan or pan	Ten people can only say two names only. No student knows how to use and explain the function of the pan or pan.
4.	Figure 7	Metal slabs	No student knows the name, material, and function of the object.
5.	Figure 8	Wet table	Six people's names of objects displayed. No student knows the function of the object.
6.	Figure 9	Electric stove	Ten people can name and identify pictures.
7.	Figure 10	Glasspaper is used to cover the surface of the blanket covering the wet sponge after being soaked in cold water on a wet table. How to use it, glass paper moistened with water and after bending, then covered on a wet sponge.	a. 10 people mistakenly mentioned the name of the object. b. 10 people do not know the function of the object.
8.	Figure 11	"Gawangan"	Ten people can say the name and function of the object.
9.	Figure 12	A set of pans and "canthing"	Ten people can name and function of the object.

Based on Table 2, less than 50% of USD PGSD students still do not know, identify, and analyze visually well. They have a tendency to become more familiar with tools and materials in the practice of making batik, which is also used in daily life, such as pans, stoves, and blankets. Whereas in KI / KD of SBdP (art, culture, and skills course) for elementary schools, they are listed and must be mastered by them as prospective educators of elementary school students in the future. This is not in harmony with the sensing process that requires good sensing and feeling, so the step thinking cannot be developed, and students do not have rationing a strong to represent a concept of beauty on an object.

After the discussion is finished, lecturers brought batik stamp tool examples from recycled materials and tools needed to make the stamp tool as experience feeling. This is done so students can feel the example of a simple concrete stamp tool that is more concrete, not only made of metal. Metal stamp tools are, of course, more difficult to make and expensive. Furthermore, students make further observations by applying elements in similarity such as composition, proportions, balance, and dark light to carry out the sensing process. In addition, they also observed different forms of batik stamp tools and "batik cap" motifs such as organic, inorganic, and geometric. In this experience, students have been thinking

(thinking) to defeat their previous feelings when seeing examples of images and videos about “batik cap” by after seeing a simple batik stamp tool. From a series of sense and thought, students can deduce their own aesthetic meaning (rationing) in the observed objects.



Fig. 13. Materials and tools used to make batik master stamp (carbon paper, HVS paper, 2B pencil, cutter, tweezers, hardboard cut, G glue, duplex/ Malaga paper. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 14. Flora motif batik stamp tool made from used paper and food cartons. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 15. Fauna batik stamp tool made from duplex paper and hardboard cut. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)

Figure 13, Figure 14, and Figure 15 are examples of batik stamps and equipment to make them made from unused material or objects that are old and rarely used. Students become more able to imagine the concept of batik learning for

elementary school students through a variety of motifs that are simpler but still look like the object.

C. At the third meeting

Students began to apply the aesthetic objectification process of “batik cap” by making a “batik cap” motif design by considering the basic elements and principles of fine arts. Based on the stages in making stamped batik works and following selected data collection procedures, the following results can be obtained.



Fig. 16. Good motif design of motif flora repetition model (Source: Students artwork of PGSD Ahmad Dahlan University; Fotografer: Vais Febrian, 2019)



Fig. 17. The design motif of batik motif of flora motif with symmetrical balance and tumpal decoration. (Source: Students artwork of PGSD Ahmad Dahlan University Fotografer: Vais Febrian, 2019)



Fig. 18. Design batik motifs with flora motifs with symmetrical balance and tumpal decoration. (Sumber: Karya mahasiswa PGSD Universitas Ahmad Dahlan, Fotografer: Vais Febrian, 2019)



Fig. 19. Design batik motifs with flora motifs with symmetrical balance, tumpal decoration, and full color. (Sumber: Karya mahasiswa PGSD Universitas Ahmad Dahlan; Fotografer: Vais Febrian, 2019)

Figure 16, Figure 17, Figure 18, Figure 19 is a form of representation of the aesthetic objectification of the "batik cap" and the stamp tool as outlined in the design work of the motif in the two-dimensional plane. According to Pamadhi, making "batik cap" include the sensing process in visual art learning for elementary students. It uses an instrument like sensing, feeling, thinking, and rationing.

- **Sensing aspect**, students were revealing form structure on Manila paper with combining shape, form, and color. Students are sensing objects and representing them in the form of motif designs created by considering the basic elements and principles of fine arts.
- **Content** of layout design we can see their pretending similarity balancing or symmetric balancing.
- **The background** of the "batik cap" designs are arranging not only the color but also incising lines or dots or blocking. From the four examples of the work, students have a perspective on the beauty of a "batik cap" work obtained from the principles of compilation that form asymmetrical balance, interesting and easy-to-make shape structures, namely the variety of flora, batik filling that is not too complicated, the background of batik tends to be bright so it can be said that students prefer positive space object objecting systems, as well as coloring which has a rich color.
- **Color Elements and Components** in the "batik cap" are constructing with synthetic color and adding painting technique ("colet"). They are painting the batik to fill the empty shape of the objects so that they can look harmony.

V. CONCLUSION

Elementary Teacher Education students have a lack of visual experience that can be seen from the observation of insights and basic knowledge about "batik cap" through the task of observing images. There are 10 people sampled; less than 50% did not know and could not identify objects well. They need greater enthusiasm to seek cultural literacy. Resulting in the stages of the sensing process (sensing, feeling, thinking, rationing) is still lacking in depth. Furthermore, they have the same tendency in expressing the beauty of an object that must be balanced, symmetrical, simple in shape, but rich in color. This can be seen from the exploration of objects carried

out in the assignment of making batik motif designs, they tend to choose objects that are easy, and the exploration of objects is still low. Students need to improve their visual references and basic knowledge about batik so that they can learn more about stamp batik.

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Visual Perception of Elementary School Teacher Education Students on “Batik Cap” Aesthetic

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Abstract — The research based on determinate the visual perception of primary school teacher education students on "batik cap" representation, including the fabrics, motifs, manufacturing techniques, and stamp devices. The research focus is on students' basic understanding of the essence and visualization of "batik cap." The purpose of the research is finding the level of understanding and creativity of the students' thinking regarding the understanding, criteria, characteristics, and techniques of making batik that is around Yogyakarta. The research subjects were students in semester 4 and 6 in the academic year 2018/2019 of the Elementary School Teacher Education Department at Ahmad Dahlan University of Yogyakarta, who took the Fine Arts and Skills Education course. The method research used descriptive with a qualitative approach data collecting technique by observation, interviews, and document review. The data analysis technique is using narrative. The results showed that students had poor visual experience about "batik cap." From the tenth, students sampled less than 50% didn't know and could not identify objects well. On the step of sensing, the process is still lacking depth. Furthermore, they have the same tendency to express beauty about an object. Students need to improve their visual references and basic knowledge about batik so that they can learn more about "batik cap."

Keywords: *visual perception, “batik cap”, aesthetics, qualitative*

I. INTRODUCTION

Based on [1] concerning Basic and Secondary Education Content Standards that there are five stages that are passed by students to master knowledge, namely the pre-structural, uni-structural, multi-structural, relational, and abstract extended. These five stages can be simplified into three stages, namely surface knowledge, deep knowledge, and conceptual or constructed knowledge. The stage is surface knowledge obtained at the Basic Education Level for elementary schools, the stage is deep knowledge obtained at the elementary education level for junior high schools, and the step is conceptual/ constructed knowledge obtained at the secondary education level; namely, there are senior high schools.

However, for certain types of knowledge, these three stages can be achieved at one level of education or at one grade level. Furthermore, Core Competencies for each Level of Competence include spiritual attitudes, social attitudes, knowledge, and skills.

Furthermore, based on [1], the core competencies of students' knowledge are required to be able to understand and apply factual, conceptual, procedural, and metacognitive knowledge. Some aspects of such knowledge, simple technical and specific levels, are based on their curiosity about science, technology, art, culture with humanity, nationality, and state insight related to the phenomena and events seen in the eye. Whereas the core competencies of students' skills are directed to be able to demonstrate the skills of reasoning, processing, and serving creatively, productively, critically, independently, collaboratively, and communicatively in a concrete and abstract realm in accordance with those learned in schools and other sources that are the same in terms of theory.

According to [2], there are two main types of batik hand-drawn batik (*membatik tulis*) and the block-printed batik (*membatik cap*). Both are the traditional type of batik. The motifs of hand-drawn batik are created by using a utensil called "canting." The "canting" is filled with hot wax and drawn onto the prepared fabric. The block-printed batik is making with the metal block ("cap") is dipped into the hot wax, and then it is pressed onto the fabric. Metal batik block was invented in the 19th century in order to increase productivity, as the process of hand-drawn batik is slow and time-consuming; also, it has high production costs. As a consequence, block-printed batik has retained its popularity until the present. For students of the Elementary Teacher Education department, making "batik cap" using metal stamps considered difficult because searching for materials, the complexity of manufacture, and the price is quite high. So, they are trying material used to create an alternative stamp master.

Art education according to Jean Jacques Rousseau [3] is (1) developing individuals; (2) to survive successfully; (3) expressing oneself; (4) to achieve social progress; (5) securing past and present happiness; (6) to develop the efficiency and

perfection of the human body; (7) for adjustments to the environment; (8) to channel, synthesize, sublimate or integrate instincts. [4], art teachers often spend their time trying to eliminate the influence of adults on children. They succeeded in preventing their students from copying existing stereotypes by providing materials that were difficult to use, such as torn colored paper or homemade pens instead of store-made colored pencils. Scribble, like a child, is often idealized in early elementary school art classes. Based on the description of learning about batik in the cognitive domain lies in learning material to slowly change the concept of thinking that is still considered commonsense, then integrate with other scholarships or certain theories, so that it causes changes or modifies instincts (instincts) of an object. In this paper, the student of Teacher and Education Science Department making the "batik cap" have started from arranging more objects come from their each islands combining with geometric and non-geometric to become the full design. Students are also considering the color and composition of all of the objects. And then, they are creating patterns on fabric according to the design.

As Elementary School Teacher Education (PGSD) students, there are quite a lot of demands to meet the competency standards as qualified prospective educators. Through fine arts education and skills courses, students are equipped with knowledge, insights, and techniques in making art that is in accordance with elementary school student competencies. Achievement of competencies includes affective, cognitive, and psychomotor aspects spread in the material provided for one semester. One of the honing competencies is the cognitive aspect that fosters critical thinking. According to one of Rosseau's educational art concepts, for transformation, synthesis, sublimation, or modification of instincts, because students must transfer all of their empirical experience to combine science and other disciplinary instincts as humans for future elementary students. In this course, the material on aesthetics is given by presenting related theories and techniques in expressing aesthetics. Fine arts education and skills seem to prioritize technical work, but forget the concept of thinking. So it needs to be added reinforcement of cognitive aspects by providing students with material and visual experiences. One of the materials taught to students is "batik cap."

Fine art learning material in elementary schools has been summarized in Core Competencies (KI), and Basic Competencies (KD) grades 1-6. The author uses KI & KD on elementary school grade 5 because it is considered relevant to the "batik cap" material given to students.

TABLE 1. CORE COMPETENCIES OF ARTS, CULTURE, AND CRAFTS FOR GRADE 5 IN ELEMENTARY SCHOOL

Core Competencies 3 (Knowledge)	Core Competencies 4 (Skills)
Understanding factual and conceptual knowledge by observing, asking questions, and trying based on curiosity about himself, God's creatures and their activities, and objects found at home, at school, and at playgrounds.	Present factual and conceptual knowledge in clear, systematic, logical, and critical language, in aesthetic works, in movements that reflect healthy children, and in actions that reflect the behavior of children of faith and noble character.
Basic Competencies Basic	Competencies
3.1. Understanding story pictures 3.2. Understanding the scale 3.3. Understanding floor patterns in regional dance creations 3.4. Understanding regional artworks	4.1. Make a picture of a story 4.2. Sing songs in various scales with musical accompaniment 4.3. Practicing the floor pattern in the dance creations area 4.4. Making regional artworks

One of the competencies based on [1] highlighted by the author is the reasoning skills of students based on guidelines, theories, or concepts of scientific thinking. It is further based on, namely, understanding factual and conceptual knowledge by observing, asking questions, and trying based on curiosity about himself, God's creatures and their activities, and the objects they encounter at home, at school, and at playgrounds. Based on Table 1, written the competency to be achieved is at point 3.4, which is understanding regional art. The stages of understanding regional artworks are done by observing, analyzing, and interpreting a skill-based work of art, in this case, is "batik cap." So the author wants to know the level of student understanding of "batik cap."

II. THEORY STUDY

A. Literature Review

[5] the results showed that the assessment between the two groups of respondents was not much different. Aesthetic assessment consisting of cohesiveness, scale, proportion, rhythm, balance, and color shows good results in the visual of historic corridors. The author was doing the assessment for psychomotor aspects with the student's ability to determine design layout according to the principle of visual art like harmony, composition, balancing, and so on. So, their artworks can be evaluated more valid.

[6] the results indicate students experienced a relatively high level of engagement and a moderate level of transactional distance. Respondents perceived outcomes such as satisfaction, progression, and learning very positively. There were significant differences in responses based on gender and college standing. Student engagement, transactional distance, and outcomes were moderately correlated, and researchers confirmed transactional distance is a valid predictor of student engagement. To know how far the significant development like the progression of the artworks, students must do a consultation with the lecture at least twice a month in regular or outside the class. Students bringing their design and discuss it together with their team to the lecture. Many suggestions and input provided so that the design layout can be better.

[7] it is important to note that engagement strategies that support interactions with instructors were valued more than strategies that aimed at interactions with learning material and other learners. Instructor presence is very important to online learners. They want to know that someone "on the other end" is paying attention. Not surprisingly, students who participated in this study expected instructors to assist them in their learning and create meaningful learning experiences, as evidenced by their assigning relatively high ratings for items pertaining to grading rubrics, checklists, forums, and student orientations. The lecture has a role as an instructor in the field when students practicing make the "batik cap." The lecture is giving the instruction covering how to prepare equipment dissolving "batik" coloring formula. The formula has come from synthetic color as called naphthol and indigo sol. Second, students must stamp the "cap" master on the fabric with color ready according to the design. Third, they were drying in the sun and painting with more lines and dots combine.

[8] art students showed more frequent perceptual reversals in an ambiguous figure task, both when viewing the stimulus passively and when eliciting perceptual reversals voluntarily, but showed no difference from non-art students when asked to maintain specific percepts actively. The findings suggest that art students can elicit endogenous shifts of attention more easily than non-art students but that this faculty is not directly associated with enhanced executive function. It is proposed that the signature of artistic skill may be increased perceptual flexibility accompanied by reduced cognitive inhibition; however, future research will be necessary to determine which particular sub-skills in the visual arts are linked to aspects of perception and executive function.

[9] This article is a result of structured research in finding a better learning design that includes aesthetic elements in learning in elementary school in particular and the school in general. Aesthetics is an axiological part of science so that the character enhancement of students can be done in a structured way of learning. Art as a catalyst of aesthetics is integrated into learning, not only in RPP but in the behavior of students every day. Art learning is art, dance, music art integrated into the subjects in school curriculum, not just one subject but in all subjects.

[10] that students who experienced TBL (Team-based Learning) in the fall and went back to traditional format in the spring reported improved perceptions of teams and preferred TBL format over a traditional format more than students who experienced a traditional format followed by TBL. Students at both universities agreed that the TBL format assists with critical-thinking, problem-solving, and examination preparation. Students also agreed that teams should consist of individuals with different personalities and learning styles. When building teams, faculty members should consider ways to diversify teams by considering different views, perspectives, and strengths. Offering TBL early in the curriculum prior to traditional lecture-based formats is better received by students, as evidenced by anecdotal reports from students, possibly because it allows students time to realize the benefits and assist them in building teamwork-related skills.

[2] the batik makers, therefore, tended to use the same blocks repeatedly, limiting innovative patterns in the market. The objectives of this study were as follows: 1) To collect and examine batik motifs on metal blocks in the three southernmost provinces of Thailand. 2) To develop modular batik blocks, whose parts can be removable and adjustable in order to create more patterns. The study shows that the motifs found on the metal blocks can be classified into six categories: 1) a flora motif, 2) a geometric motif, 3) a fauna motif, 4) an object motif, 5) a mixed flora and geometric motif and 6) an alphabet and symbol motif. The modular batik blocks developed in this study are composed of 1) a plate, 2) metal motif parts, 3) wood motif parts, and 4) a handle. Create patterns; users are able to choose to use either only metal or only wood or a combination of both metal and wood motif parts to arrange on the plate. The experiments showed the following results: (a) The re-arrangement of motif parts resulted in the diversity of patterns; (b) The use of a mix of metal and wood parts only on one plate yielded more dimensional effects on line motifs on the fabric. In other words, metal parts gave thin line motifs while wood parts created thicker stripes, resulting in a unique appearance; (c) With the use of both metal and wood parts, when the blocks are submerged in hot wax, the amount of wax used needed to be reduced by shaking off the excess wax. However, how much wax should be shaken off depended on the concentration of the wax solution.

[11] that batik Cap' is a technique of wax-resist dyeing applied to a cloth made by printing the fabric with a copper stamp called a 'cap' acting as mold. One of the processes of making batik mold is to scrape the mold surface. The existing such process relies on a simple tool that does not count the ergonomic aspects, especially on a working posture. The inappropriateness of working postures will lead the operator to obtain a variety of muscle and bone disorders, especially in the legs, arms, and wrists, which degrade the quality of work. The suitability of work postures is measured by RULA scores, while the fatigue level was measured by a start time parameter emergence of disorders/ complaints in the muscles and bones (musculoskeletal disorder) using Nordic Body Map Questionnaire. In this study, the more suitable working posture was arranged by adjusting the height of the workbench to result in a better working posture. An experiment was conducted with involved a new and existing working posture to examine its effect on operators. The results showed significant advantages in term, reducing musculoskeletal disorders.

[12] that while feedback is widely considered central to student learning, students across the higher education sector commonly report dissatisfaction with the feedback they receive. In contrast, academics often feel they provide quality and informative feedback. This article explores and compares the perceptions of students and academics with regard to feedback practice. The paper presents the results of questionnaire surveys conducted with academics and students at the School of the Built Environment, Liverpool John Moores University. It highlights the perceptions of academics and students with regard to preferences for different types of feedback, timeliness of feedback, students' engagement and interest in feedback, quality feedback, and satisfaction with current practice. The findings indicate a significant discord

between staff and students in relation to certain aspects of feedback practice, namely opinions on students' engagement and interest in feedback, satisfaction with current practice and feedback preference. Similarities in viewpoints were also found in relation to quality feedback.

Based on these descriptions, the authors find relevance to the research that has been done. As for the things that contributed to the research is information that students' perceptions of "batik cap" are still lacking. So that to increase understanding, "batik cap" still needs to be done more intensively. An understanding of "batik cap" includes the characteristics of the stamp master material, the design of the stamp master, the types of motifs that can be made. Of course, it adapted to the competencies of elementary school students. In addition, to find out students' perceptions of learning, "batik cap" can be done in groups. This is in accordance with the research subject has chosen by the author are PGSD students who take the Art and Skills Education course in the even semester of the 2018/2019 academic year.

B. Theories

1) Perception Theory

[13] said that the perception received was still that perception never fully determined by a physical stimulus. Conversely, perception is something that is basically subjective because it depends on the contribution made by the observer. Perception goes beyond stimulation and is superimposed on sensation. The sensation is fundamental and, as part of our organic equipment, tends to be the same for all. Perception, however, is secondary and, depending on the particularities and past experiences of individuals can vary from one observer to another. Next, Gibson explained that visual sensations are innate. The sensation is data, or what is 'given' to the mind. They disagree whether perception is a matter of learning or intuition. But they also disagree from the beginning about what is felt and what is felt.

Theory of perception of objects and spaces, therefore, has a long history Nativism: assumes that the synthesis is intuitive or innate Empiricism describes synthesis as learned or inferred from past experience. Recently, Gestalt theory has suggested that it is produced by the attainment of characteristics of the central nervous system which can be called sensory organization [13]

JJ Gibson believes that our cognitive tools are created and shaped by the long evolutionary influence of the external environment that is clearly visible in its structure and capabilities. The basis of Gibson's theory is the belief that our perception is determined by optical flow, optical arrays, which Gibson regards as a kind of structure or pattern of light in a circle relationship. Gibson believes that humans perceive objects (the quality of their senses) by means of information packets, arrays that are determined (structured) by objects, entering their sensors. The light beam reflects the surface of the object and thus carries information about its shape, size, texture, etc. Likewise, our ears are affected by the arrangement of waves that vibrate or by the influence of tangible objects. [14].

The structure of perspective changes with each move from the point of observation; the shorter the displacement, the smaller the change, and the longer the displacement, the greater the change. Assuming that the environment has never been reduplicated from one place to another, the perspective captured is unique at each stationary observation point; that is, for each observation point, there is one, and only one perspective captured [13].

An example to illustrate the ways in which an observer's ability to act influences perceptions is with the ability to act dynamically, and factors that influence abilities include body size, body control, energy potential, and task demands. The ability of the acceptor is then reflected in perception. According to Gibson, the main object of perception is affordability, which is the possibility of action. Affordances capture the mutual relationship between the environment and taste. [15].

2) Batik Cap

According to [16], said that this type of batik using a shaped seal or stamp, both processes "coletan" and "keliran." The process of making batik is usually mass-produced at a lower price to fulfill the needs of the broad market Stamp tool is made so that it can be tasted in large quantities, so it is found many of the same styles. According to [17], "batik cap" is a type of batik produced by tasting, printing, or stamping on one of the fabric surfaces that uses a stamp or stamp that already has a particular batik pattern or motif. The stamp is usually made of copper or wood. This type of batik is made by dipping a stamp or stamp into the night (hot wax), then pressing or stamping it on the surface of the cloth Batik cap has a character that is not unique and less exclusive because it is usually mass-produced d the pattern or motive is always repeated.

Based on these descriptions, in this study, students are directed to be able to explain and analyze the visual aesthetic components of batik stamp elements, and the basic principles of likeness include points, lines, fields, colors, composition, balance, proportions, and dark light. This is needed in order to achieve the aesthetic learning of USD PGSD students with the AMT model at the step approach, namely definitive, participatory, and exploratory.

This research aims at analyzing the extent of students' cognitive understanding of "batik cap" and stamped tools. Based on the AMT model, the right stage to dissect student perceptions is the stage of approach with a participatory approach. Students were presented with pictures related to "batik cap" and colorful batik stamp tools. The pictures are packaged in documentation in the form of photos taken in detail so that students can see the initial picture. At the next meeting, they were shown prototype models of batik stamp tools and videos of making batik prints from various sources. Students begin to analyze the forms of objects that are presented using the basic elements and principles of similarity in writing. The final step is students can express the aesthetic meaning of the objects that have been presented based on the theories that have been given.

C. Aesthetics

Talking about the aesthetics of batik is seen from the perspective of visual perception, of course, involves an understanding of the aesthetic itself. [9] writes that aesthetics is part of axiology, which is a branch of philosophy that discusses values. Aesthetics comes from the Greek "aesthetics," aesthesis, which means someone who perceives something through the means of his senses, feelings, and intuitions. Furthermore, Aesthetics develops in several senses according to Jacob Sumarjo, namely (1) aesthetics is the study of beauty and concepts related to it and (2) aesthetics is an analysis of the values, tastes, attitudes, and standards involved inexperience and our judgments about everything made by humans or that can be found in beautiful nature. Based on quotes from Muslims, aesthetic learning at the educational level has an understanding that beauty can be taught to students, both in theory and practice.

Hajar Pamadhi revealed that there are two art education curricula, namely the aesthetic curriculum and the skills curriculum. The aesthetic curriculum will answer students' understanding of "beautiful," which has three aesthetic materials, including visual elements, motion elements, and sound elements. Visual elements consist of expressions and creations that are contained in the imagination; then, the motion provides notation and rhythm, so that formed visual (physical) and auditory (audio) intelligence. While the skills curriculum is a skill that does not need to be learned (commonsense) because it is instinctive and already exists in humans. The position of learning art is to practice skills transmission through training in the use of the five senses [9].

[18] explains that aesthetic sensing is an objectification process of rationalized feelings that is learned as seen. The objectification process can be said to be an objectification experience including sensing (taste so that it becomes a priori), feeling (trusting in thoughts that are still influenced by taste), thinking (process to overcome feelings that have taken place during objectification experiences), and rationing (aesthetic knowledge becomes knowledge the systemically is the relationship between the components of beauty with one another).

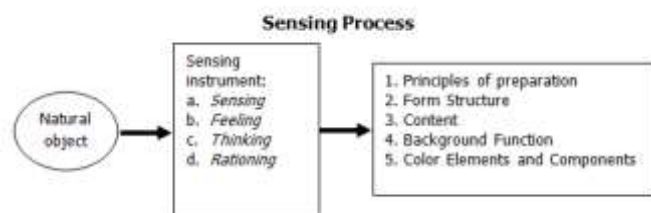


Fig. 1. Image Flowchart of Sensing Natural Objects into Artificial Objects [18]

Based on an understanding of aesthetics, the authors put the focus of research on how cognitive learning about aesthetics to bring up the visual perception of batik. The sensing instrument is the first step to measure students' perceptions of the beauty of "batik cap" as a form of cognitive understanding to deepen the studies.

III. METHODS

This research uses descriptive research with a qualitative approach. According to [19], qualitative methods consist of observation, interviews, or document review. Furthermore, Moleong explained that adjusting this method is easier when dealing with plural facts. In addition, this method presents the nature of the relationship between researchers and respondents directly. This method is more sensitive and adjusts to the many sharpening of the mutual influence on the patterns of values encountered.

Sources of data in this study were obtained sampling from elementary school teacher education students in the Elementary School Teacher Education Study Program (PGSD), the Teaching and Education Faculty, Ahmad Dahlan University, Yogyakarta. Another data comes from related books and journals. Data collection techniques carried out by interview, observation, and document review. The subjects interviewed were students who took the Fine Art and Skills Education course. Interviews are conducted in an unstructured manner that is informal; there are no guidelines whatsoever, starting with exploring a general topic together with participants [20].

Data collection is then obtained from the observation process. Types of observations in qualitative research are divided into two, namely observation and participatory observation. Observations are researchers observing participants as outsiders, researchers can be present in the daily lives of the participants but do not take any role in their activities. While participatory observation is an activity carried out by researchers who participate in the daily activities of the participants [20]. The type of observation chosen for this study is the observation model and observation data obtained from observing the creative behavior of students in the process of making batik cap, starting from the stages of group formation, designing batik cap design, making master or prototype tools master stamp, coloring batik cap, and finishing works. Data collecting does with student's activity observation that batik processing has started for making groups, designs, and finishing the artworks. Interviews are one of the most widely used research data collection tools that enable researchers to collect data from respondents in a variety of situations and contexts [20]. The types of interviews in qualitative research consist of three types, namely structured interviews, unstructured interviews, and semi-structured interviews. In this study, the author uses the type of unstructured interview, which is informal; there are no guidelines whatsoever, starting with exploring a general topic together with participants [20]. The author using the unstructured interview to dig information when they were making "batik cap" at the outside class. Dialogue situation with students has arranged more relaxed and sustainable so that they can be getting more data and information.

To maximize the analysis, the authors also added a collection technique with document review [20], writes that documents are all material things in written form made by humans, all records both in paper (hardcopy) and electronic (softcopy) such as books, mass media articles, diaries, manifestos, laws, minutes, blogs, pages web, photos, and so on. [19] explains that field notes have an important role in

qualitative research because the discovery of knowledge or theory must be supported by concrete data and not supported by those from memory. So that in this study, the author uses field notes written in an agenda related to what happens in the field since students form groups, design consultations, and batik stamp tools, to the process of tasting and coloring on the prepared batik cloth.

Data analyzed using a narrative that reading or writing, from above or from below, realist, constructivist, critical, genre, sound, ante-narrative, deconstruction, grand-narrative, microstoria, story network, in textuality, causality, plot analysis, and theme analysis. The writer chooses the narrative technique approach to reading or writing. Narrative analysis as a tool for organizing and presenting research data in a logical, structured, and systematic manner, while reading in the narrative analysis is interpreting the meaning of data in the form of narrative. [20] Data have analyzed by narrating sequence the process of making "batik cap."

IV. RESULTS AND DISCUSSION

Visual perception arises based on the process of objectification of the rationalized feeling process that is learned as something visible. Elementary School Teacher Education Department students, as prospective elementary school educators in the future, have the responsibility of being able to introduce, bring up, and analyze objects from the results of abstract thinking to their students. This process begins with sense by giving them examples of images and videos related to the "batik cap" and the stamp tool as an initial stimulus to their concept of thinking.

A. At the first meeting

The material about batik stamp covers history, characteristics, coloring techniques, and finishing works. Students pay close attention to the material given by supporting lecturers, which contain definitions, various motifs, and techniques for making "batik cap." Next, students are asked to do an individual visual analysis of the pictures and videos that are presented by the lecturer. Students analyze photos and videos then give comments in writing. The results of the analysis were collected at the next meeting. The result is that from 40 people, ten samples were taken to find out the perception of stamped batik, the results of 2 people had the notion that stamped batik was a type of craft made using a metal stamp, and eight people were not familiar with this type of batik. This is because their thinking power is still low, along with the extraction of information that has been done. The pictures presented are presented as follows.



Fig. 2. Metallic flora motif stamp tool. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 3. Metallic Parang motif stamp tool (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 4. Metallic Phaksi motif stamp tool. (Sumber: Studio Jurusan Tekstil SMK Negeri 3 Kasihan, Bantul, Yogyakarta; Fotografer: Cahyono, 2019)



Fig. 5. The copying process on *Mori* is using melted wax. [21]



Fig. 6. Frying pan or pan to heat the "*Malam*" (wax) to taste. "*Malam*" that has been hot and melted at the top is given a burlap cloth and metal slab that serves as a place to filter dirt. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 7. A metal plate that functions as a filter for night dirt (wax) that has been heated in a pan or pan. The size of the slab is adjusted to the diameter of the pan or pan. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 8. A wettable that functions as a cloth base that is being stamped with a metal stamp. This table contains cold water that is stacked with a sponge and covered by a blanket cloth and covered by glass paper. The purpose of this table is made so that the process of tasting the fabric is not sticky because it is exposed to cold temperatures from glass paper. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 9. The electric stove is used to heat the wax (wax) to make it liquid. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 10. Glasspaper is used to cover the surface of the blanket covering the wet sponge after being soaked in cold water on a wet table. How to use it, glass paper moistened with water and after bending, then covered on a wet sponge. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 11. "Gawangan" is a tool for laying fabric that is being processed batik, can be used as a place to dry batik cloth. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 12. A set of pans and Canthing for batik. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)

B. The second meeting

students held a discussion with the teaching lecturer on the results of observations on objects in the form of photos and videos that were displayed at the previous meeting. Students are asked to verbally state what things are obtained from observations and summaries of their writing. The discussion was carried out by laying the basis for evaluating object observations on visual art elements, including points, lines, colors, areas, shapes, textures, compositions, proportions, balance, and dark-light. Students are directed to see in detail the parts of the batik stamp tool. The following are the results of an analysis of the visual perception of PGSD students about "batik cap."

TABLE II. ANALYSIS OF VISUAL PERCEPTION RESULTS OF PGSD UAD'S STUDENTS ON "BATIK CAP"

No.	Image Name	Information	Results
1.	Figure 2, Figure 3, and Figure 4	Metal stamp tools consisting of various motifs such as flora, fauna, and geometric. One print is one motif, so its use must be repeated so that the motifs are continuous.	2 people recognize the type of material and shape of the batik stamp tool. 8 people did not recognize the type of material and shape of the batik stamp tool.
2.	Figure 5	The process of waxing a "Malam" (candles)	Ten people can identify pictures of activities tasting batik. No student knows the technique of using a batik stamp.
3.	Figure 6	Frying pan or pan	Ten people can only say two names only. No student knows how to use and explain the function of the pan or pan.
4.	Figure 7	Metal slabs	No student knows the name, material, and function of the object.
5.	Figure 8	Wet table	Six people's names of objects displayed. No student knows the function of the object.
6.	Figure 9	Electric stove	Ten people can name and identify pictures.
7.	Figure 10	Glasspaper is used to cover the surface of the blanket covering the wet sponge after being soaked in cold water on a wet table. How to use it, glass paper moistened with water and after bending, then covered on a wet sponge.	a. 10 people mistakenly mentioned the name of the object. b. 10 people do not know the function of the object.
8.	Figure 11	"Gawangan"	Ten people can say the name and function of the object.
9.	Figure 12	A set of pans and "canthing"	Ten people can name and function of the object.

Based on Table 2, less than 50% of USD PGSD students still do not know, identify, and analyze visually well. They have a tendency to become more familiar with tools and materials in the practice of making batik, which is also used in daily life, such as pans, stoves, and blankets. Whereas in KI / KD of SBdP (art, culture, and skills course) for elementary schools, they are listed and must be mastered by them as prospective educators of elementary school students in the future. This is not in harmony with the sensing process that requires good sensing and feeling, so the step thinking cannot be developed, and students do not have rationing a strong to represent a concept of beauty on an object.

After the discussion is finished, lecturers brought batik stamp tool examples from recycled materials and tools needed to make the stamp tool as experience feeling. This is done so students can feel the example of a simple concrete stamp tool that is more concrete, not only made of metal. Metal stamp tools are, of course, more difficult to make and expensive. Furthermore, students make further observations by applying elements in similarity such as composition, proportions, balance, and dark light to carry out the sensing process. In addition, they also observed different forms of batik stamp tools and "batik cap" motifs such as organic, inorganic, and geometric. In this experience, students have been thinking

(thinking) to defeat their previous feelings when seeing examples of images and videos about “batik cap” by after seeing a simple batik stamp tool. From a series of sense and thought, students can deduce their own aesthetic meaning (rationing) in the observed objects.



Fig. 13. Materials and tools used to make batik master stamp (carbon paper, HVS paper, 2B pencil, cutter, tweezers, hardboard cut, G glue, duplex/ Malaga paper. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 14. Flora motif batik stamp tool made from used paper and food cartons. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)



Fig. 15. Fauna batik stamp tool made from duplex paper and hardboard cut. (Source: Studio of the Department of Textile at SMK Negeri 3 Kasihan, Bantul, Yogyakarta Photographer: Probosiwi, 2019)

Figure 13, Figure 14, and Figure 15 are examples of batik stamps and equipment to make them made from unused material or objects that are old and rarely used. Students become more able to imagine the concept of batik learning for

elementary school students through a variety of motifs that are simpler but still look like the object.

C. At the third meeting

Students began to apply the aesthetic objectification process of “batik cap” by making a “batik cap” motif design by considering the basic elements and principles of fine arts. Based on the stages in making stamped batik works and following selected data collection procedures, the following results can be obtained.



Fig. 16. Good motif design of motif flora repetition model (Source: Students artwork of PGSD Ahmad Dahlan University; Fotografer: Vais Febrian, 2019)



Fig. 17. The design motif of batik motif of flora motif with symmetrical balance and tumpal decoration. (Source: Students artwork of PGSD Ahmad Dahlan University Fotografer: Vais Febrian, 2019)



Fig. 18. Design batik motifs with flora motifs with symmetrical balance and tumpal decoration. (Sumber: Karya mahasiswa PGSD Universitas Ahmad Dahlan, Fotografer: Vais Febrian, 2019)



Fig. 19. Design batik motifs with flora motifs with symmetrical balance, tumpal decoration, and full color. (Sumber: Karya mahasiswa PGSD Universitas Ahmad Dahlan; Fotografer: Vais Febrian, 2019)

Figure 16, Figure 17, Figure 18, Figure 19 is a form of representation of the aesthetic objectification of the “batik cap” and the stamp tool as outlined in the design work of the motif in the two-dimensional plane. According to Pamadhi, making “batik cap” include the sensing process in visual art learning for elementary students. It uses an instrument like sensing, feeling, thinking, and rationing.

- **Sensing aspect**, students were revealing form structure on Manila paper with combining shape, form, and color. Students are sensing objects and representing them in the form of motif designs created by considering the basic elements and principles of fine arts.
- **Content** of layout design we can see their pretending similarity balancing or symmetric balancing.
- **The background** of the “batik cap” designs are arranging not only the color but also incising lines or dots or blocking. From the four examples of the work, students have a perspective on the beauty of a “batik cap” work obtained from the principles of compilation that form asymmetrical balance, interesting and easy-to-make shape structures, namely the variety of flora, batik filling that is not too complicated, the background of batik tends to be bright so it can be said that students prefer positive space object objecting systems, as well as coloring which has a rich color.
- **Color Elements and Components** in the “batik cap” are constructing with synthetic color and adding painting technique (“colet”). They are painting the batik to fill the empty shape of the objects so that they can look harmony.

V. CONCLUSION

Elementary Teacher Education students have a lack of visual experience that can be seen from the observation of insights and basic knowledge about “batik cap” through the task of observing images. There are 10 people sampled; less than 50% did not know and could not identify objects well. They need greater enthusiasm to seek cultural literacy. Resulting in the stages of the sensing process (sensing, feeling, thinking, rationing) is still lacking in depth. Furthermore, they have the same tendency in expressing the beauty of an object that must be balanced, symmetrical, simple in shape, but rich in color. This can be seen from the exploration of objects carried

out in the assignment of making batik motif designs, they tend to choose objects that are easy, and the exploration of objects is still low. Students need to improve their visual references and basic knowledge about batik so that they can learn more about stamp batik.

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