Creative and Innovative Thinking in the Holistic Development of Students’ Potentials through ‘Sekolah Bitara’ Visual Art Program

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Article History: Received: 10 November 2020; Revised: 12 January 2021; Accepted: 27 January 2021; Published online: 05 April 2021

Abstract: UPSI-Sekolah Bitara Visual Art Program was a smart, collaborative project involving Universiti Pendidikan Sultan Idris (UPSI) and Sekolah Kebangsaan Dato’ Kamaruddin, Behrang, Perak. The UPSI’s Sekolah Bitara Visual Art Program was a smart collaborative project held at the Sekolah Kebangsaan Dato’ Kamaruddin, Behrang, Perak. This program was implemented based on the concept of sharing and exchange of the knowledge of visual art involving several teachers and students, aged 8-12. This ‘visual art expression’ program was carried out in several series, which began in 2014 and ended in 2018, consisting of six (6) visual art projects as follows: batik craft, print art, ceramic art, fine metal art, wall murals, and textile art. The program involving art appreciation, textile art, and legacy of art helped exposed students and provided a rich experience for such participants in learning visual art through activities that enhanced their higher-order thinking skills. This six-series project produced 180 visual art works in various disciplines of art, which were put on display at the UPSI’s Art Gallery. In addition, students’ creative wall murals were displayed on the walls of the school building. Surely, such accomplishments signify their innovative and creative thinking that can help develop students holistically with strong intellectual, emotional, spiritual, and physical attributes, which are in line with the aspirations of the National Education Philosophy. Surely, more efforts of similar nature are required in the future to further enhance such a program to develop students who are highly creative, innovative, and competitive.

Keywords: Batik, creative, higher-order thinking skills, holistic development, innovative, visual art

1. Introduction

Universiti Pendidikan Sultan Idris (UPSI) initiated the concept of Smart School or ‘Sekolah Bitara’ to help schools by lending its expertise through activities based on specific fields or disciplines that are the focus of most secondary schools. The implementation of ‘Sekolah Bitara’ has the following objectives:

(a) To help schools to improve students’ academic achievements.
(b) To lend expertise to the stakeholders of schools, notably students, teachers, and school administrators.
(c) To collaborate with schools in conducting research.
(d) To carry out a program that benefits both parties.

One of the programs of such initiative that has been carried out was to help teach students in learning several topics of the Visual Art subject, such as handcraft (batik, ceramics, and fine metal) and fine arts (print art). Specifically, this visual art appreciation project focused on several aspects relating to thinking, application, and authentic assessment to allow students to expand their ideas systematically through gradual artistic developments.

According to Herbert Read, art involves efforts to create appealing, pleasing forms or shapes. In this respect, the Visual Art Education course can help produce more creative, innovative individuals who appreciate and embrace local cultural values and legacy, which is in line with the objective of nation-building. In the Educational Development Plan 2013-2025, it is clearly stated that creative thinking in the context of developing an individual’s potentials who is well-balanced intellectually, spiritually, emotionally, and physically must be given strong emphasis. In fact, such a development is in line with the National Education Philosophy. With the establishment of ‘UPSI Sekolah Bitara’ program, practitioners will be able to apply visual art to train and provide aesthetical experiences for every school pupil to develop strong cognitive skills, and creative and innovative thinking that can help him or her to innovate, generate new possibilities or create new knowledge.

Certainly, such a program is relevant to the aspiration of Visual Art subject as one of the disciplines that can develop and nurture critical and creative thinking among students. From a practical standpoint, the application of visual art in such a program can surely help schools to improve students’ academic and extra-curricular achievements and facilitate collaborative research between both parties (UPSI and schools). In a nutshell, Visual Art Education is the type of teaching and learning system of visual art that aims to produce highly skilled individuals who can significantly contribute to the development of Malaysian art and culture.
2. Background

The ‘Sekolah Bitara’ project was essentially a program to guide students to master and enhance the art of batik-coloring with the use of the ‘tie-and-dip’ technique. In principle, batik making is a designing and pattern-making technique based on the use of candles and coloring materials that are either naturally produced or synthetically manufactured. In creating batik, candles are the main medium used to create the required pattern and, at the same time, serve as the medium to separate the colors. To help create artistic batik, several techniques can be used, including the use of canting, metallic block, screen, and, lately, dedicated computer software, to create digital batik products. Moreover, the application and combination of colors also play an important role in establishing the required motif and pattern on the surface of the textile fabrics such that the ideas of the artwork to be conveyed will have a high value of beauty and uniqueness. Surely, the knowledge and skills in pattern design of fabric surfaces are a critical element in designing exquisite motifs on such surfaces. (Harozila Ramli, 2019, Journal of Advanced Research in Dynamical and Control Systems, Vol. 11, 05-Special Issue, 2019, page 1105).

As highlighted on Wikipedia, the word “batik” is derived from the Malay language and Indonesian language. Such a word refers to the noun to describe the outcome of the dipping technique with the use of candles on a piece of cloth. The word ‘batik’ originates from the Malay word ‘titik’ (a dot) and from the Javanese word ‘amba’ (which means to write). In the third education of Kamus Dewan, batik is referred to as a piece of cloth with patterns (which are drawn or dipped). The word ‘tik’ means ‘titik’ (a dot) that refers to the sound of pulses (‘tik-tik’). As such, the meaning of batik is the outcome of creating ‘titik’ (dots) with the use of candles on the surface of a piece of cloth that is to be colored. As such, according to Sarah Arney, the meaning of batik in Malaysia is more comprehensive than the simple definition of the physical process of production. She argues that the term ‘batik’ used in Malaysia encompasses pattern design and motifs. In contrast, Alfred Buhler provides a different meaning from the aspect of the utilization of materials that are barriers to the coloring process on the cloth surface. According to him, the technical approach itself is called ‘batik’, which is appropriate for the ‘tie-and-dip’ technique that is popularly known in society as Batik Pelangi. Such a technique can produce specific patterns by tying and coloring a piece of cloth.

3. Types of Batik

Batik is one of the art disciplines of creating beautiful clothes in the textile industry, which continues to expand and undergo many changes, especially involving manufacturing techniques, pattern designs, colors, and materials. Such changes have resulted in diverse types of batik as follows:

Print Batik or Block Batik

Block batik is a type of batik that has repetitive patterns that are created by pressing a wooden block or brass block that has been specially engraved with a certain design. Such type of batik is targeted for the market of sarong cloth and uniforms. This type of batik was first introduced circa 1920 when Haji Che Su Ibrahim (from Kelantan) and Haji Ali (from Terengganu) experimented with a wooden block to produce patterns on a piece of cloth. Later, in tandem with the advancement in technology, wooden blocks were replaced by brass blocks to improve the quality of batik cloth. Figure 1 shows the process of batik printing using a brass block with engraved patterns.

![Figure 1. The process of batik printing using a brass block](source: The researcher’s collection)

‘Canting’ Batik
In the early 1960s, many developments had taken place in the batik industry. For drawn batik was introduced by Chuah Theah Teng with the use of ‘canting’. This type of batik was then produced on an industrial scale in 1970. Essentially, this batik is one of the Javanese legacies from Kraton, Java that uses a traditional method of batik-making called ‘canting’ method. Canting is a brass container that is used to keep hot molten wax to create batik through a process in which a piece of cloth is stretched and laid on a pemidang (frame), which is then drawn with certain motifs. It will then be left for some time to dry the colors of the batik. Finally, it will be boiled to remove the wax and left to dry once again. Figure 2 shows a student making a ‘canting’ batik.

**Figure 2. A student making a ‘canting’ batik**
Source: The researcher’s collection

**Screen Batik or Stencil Batik**

Screen batik or stencil batik is made through a technique that originates from Thailand. In Malaysia, such batik was introduced and extensively practiced in 1933 in Kelantan to make sarong cloth. Later, such an enterprise was expanded by Mohd Yusoff and Haji Che Su. In essence, the screen batik technique does not rely on wax but uses only the filtered silk-screen technique. Such batik became immensely popular after the Second World War and was one of the important industries in rural areas at that time. The popularity of this batik owed to the enduring and fadeless characteristics of its colors. From a practical standpoint, this batik-making technique is more efficient than the ‘canting’ batik technique, making the former relatively cheaper and faster to be made. Figure 3 shows the technique to make screen batik.

**Figure 3. An example of screen batik**

**Rainbow Batik**

Through the ‘tie-and-dip’ technique, beautiful circular color patterns can be made on a tied piece of cloth. Such cloth is first tied using a rubber or plastic string, and then it is dipped into a container containing certain colors. Then, the string is removed to reveal the pattern created on the cloth. Such batik was initially introduced circa 1770 in the Malay Archipelago. Later, in the 18th-century, this type of batik was introduced in Terengganu.
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by Batik MunahPelangi, which was subsequently popularized by Hj. Che Su bin Hj. Ishak in Kota Bharu (1911). Presumably, such a technique has its origin in India, which essentially does not use any kind of wax. According to R.O Winstead, the rainbow cloth is also known as ‘Rawa’ batik, which was brought to Singapore by weavers from Bayan before local weavers started to adopt such a technique. Figure 4.0 shows an example of a rainbow batik.

![Figure 4. An example of rainbow batik](image)

Source: The researcher’s collection

**Batik Techniques**

The following are some of the techniques for creating batik:

- a. ‘Canting’ Technique
- b. Stamp Technique
- c. Print Technique
- d. Tie-and-Dip Technique
- e. Conventional Technique

**Tie-and-Dip Technique**

The tie-and-dip technique is one of the pattern-making methods to create rainbow batik by dipping a piece of cloth several times into a container containing colors. The design of color patterns needs to be planned in advance and parts of cloth that have to be protected from making contact with colors have to be tied with a rubber or plastic string together with some pebbles, coins, or woodtwigs. In this manner, liquid colors will not be able to penetrate through such parts of the cloth. In general, such tied cloth will be dipped into a container containing light colors first and then dipped into other containers containing darker colors. Such progressive dipping helps create interesting color effects and also helps prevent the mixing of colors that can mess-up the cloth. The process of tying patterns on white cloth and coloring will be repeated several times using a number of patterns to create exotic patterns.

Essentially, the tie-and-dip technique is derived from a color-dipping process, which has been practiced since the seventh century BC in the Southeast Asian countries to make rainbow batik. Likewise, the same technique has also been practiced at about the same time in China and India. In India, rainbow batik is known as Bandhana while in Japan it is called Shibori. In some parts of Africa, such as Ghana, Nigeria, and SierraLeone such batik is called Adire. In creating patterns through such a technique, a number of tying methods are used, such as knotting, twisting and coiling, folding, and binding. Such tying techniques can be used to tie some parts or all parts of the cloth to create the desired patterns and effects. Generally, the types of textile materials used for such batik are pure cotton and silk.

**Tying Techniques**
The following are some of the tying techniques practiced by practitioners the batik-making industry in Malaysia.

**Twisting and Coiling**

![Twisting and Coiling](image1)

*Figure 5. Examples of the twisting and coiling technique
Source: The researcher’s collection*

**Folding**

![Folding](image2)

*Figure 6. Examples of the folding and coiling technique
Source: The researcher’s collection*

**Knotting**

![Knotting](image3)

*Figure 7. Examples of the knotting technique
Source: The researcher’s collection*

**Binding**
4. Research Methodology

This study used a qualitative approach based on a case-study design involving studio practice. The researchers carried out this fieldwork in a real-world environment. For the studio practice, several teachers and students, aged 8 – 12, were involved in the experimentation of the ‘tie-and-dip’ technique in the process of designing patterns of batik motifs on fabric surfaces. In addition, the researchers used an observation method to examine the effects of such a technique on the pattern design of motifs. Such a method allowed the researchers to examine the pattern designs deriving from the ‘tie-and-dip’ technique. More specifically, through observations, the researchers would be able to learn the process of tying fabric cloth into several types of knots using a rubber string and to see the effects that ensured after untying the string. Also, random, unstructured interviews were used to gain insights regarding the extent to which the beauty of such work could be quantified. The works produced by students also served as relevant data that were analyzed with respect to the creation of rainbow batik, namely the sewing technique on various types of fabrics to produce beautiful patterns, the effects of which helped highlight the beautification of fabric cloth.

5. Research Findings

The following sub-sections provide detailed discussions of several aspects of the research findings:

The Selection of Tools and Materials

The selection of tools and materials that were used in the ‘Sekolah Bitara’ program was emphasized to ensure such a program would proceed smoothly. In this program, pure cotton cloth was chosen as the main material, given that color solutions could easily penetrate the cloth fibers. The following are the materials used in the above program.

Cotton Cloths

Each student was given a piece of pure cotton cloth, each measuring one foot by one foot, to make the rainbow batik.

Colors

The coloring dye used was Remazol and the chosen colors were yellow, black, dark blue, turquoise, chilly red, and brilliant red.

Rubber and Plastic Strings

Rubber and plastic strings were used to tie pieces of cloth that helped create the desired patterns.

Brushes
Brushes were used to apply specific colors to the surface of a piece of cloth and to ensure the color solutions would effectively penetrate the fabric of the cloth.

**Plastic Cups**

Plastic cups were used to keep the color solutions.

**Supplementary Materials**

Supplementary materials, such as coins, beans, and woodtwigs, were chosen to help create several design patterns with interesting effects.

**The Creation Process**

The implementation of activities involved several phases as follows:

**Briefing of the ‘Sekolah Bitara’ Program and Rainbow Batik**

**Introduction**

Students were briefed on the main objective of the program and the history of batik encompassing types of batik, batik-making techniques, and rainbow batik. The following are the objectives of the program briefing:

a) To highlight students the history of batik.

b) To impart the knowledge of the techniques in making batik to students.

Such briefing helped students to remain focused on the activities that followed. Figure 9 shows the main researcher briefing the students on the purpose of the program.

![Figure 9. The main researcher briefing the students](source: The researcher’s collection)

**The Process of Creating Patterns**

**Introduction**

Students were given exposure to the basic tying techniques to create batik, namely folding, knotting, binding, and twisting and coiling techniques. They were given some guidance by appointed lecturers and facilitators in applying such techniques to create a diverse range of rainbow batik using several coloring materials. Initially, a demonstration of the application of such techniques was shown to students. They were also given the freedom to choose any particular type of tying techniques that they preferred and supplementary materials to create their desired patterns.

The following are the objectives of the process of creating patterns:

a) To impart the knowledge of tying techniques to students.

b) To expose students to the method of creating patterns of rainbow batik.

c) To expose students to various combinations of tying techniques and materials to produce creative, interesting effects on patterns.
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Figure 10 shows a student tying up a piece of cloth based on the ‘tie-and-dip’ technique.

![Image of a student tying up a piece of cloth](image1)

**Figure 10.** A student tying up a piece of cloth based on the ‘tie-and-dip’ technique.
Source: The researcher’s collection

The Coloring Process

Introduction

Colors are a medium that is widely used in many works of art. Essentially, colors are categorized into three classes, namely primary color, secondary color, and tertiary color. The students were allowed to choose any colors that they liked. They were encouraged to combine any type of colors to produce colors that are aesthetically creative. Students were first trained to use and learn the basic colors and coloring process. At this stage, they had to choose light colors first before selecting darker colors to ensure the coloring effects of a piece of cloth will be appealing and neat. They were also taught in detail the coloring method to ensure color solutions would diffuse smoothly into the fabrics of parts of the untied cloth to create amazing patterns.

The following are the objectives of the coloring process:

a) To expose students to the selection of proper colors in creating rainbow batik.

b) To expose students to the coloring concept based on important elements and principles, such as emphasis, contrast, and others, during the coloring process.

Figure 11 shows students coloring some cloths that had been previously tied.

![Image of students coloring cloths](image2)

**Figure 11.** Students coloring some tied cloths
Source: The researcher’s collection

The Finishing Process

...
Introduction

The finishing process is the final process in many works of art, which has to be carefully diligently carried out to produce a piece of art that is aesthetically immaculate. In this final process, the students were advised to make certain that all parts of the cloth had been colored with the chosen colors such that the effect of the white color of the original cloth was not too prominent. Students were also taught the proper method of untying the knots to examine the coloring effects.

The following are the objectives of the coloring process:

a) To expose students to the theoretical and practical aspects of neatness in works of art.
b) To expose students the finishing characteristics of a piece of art.
c) To impart the knowledge of the importance of neatness in works of art.

Figure 12.0 shows students untying knots and finishing several cloths

Exhibition of Batik Works

An exhibition of the batik works created by students was held to highlight the impact of the ‘tie-and-dip’ technique on creating interesting, beautiful batik. Such a platform also allowed students to share their knowledge and skills that they had acquired in this program with their friends in particular and members of society in general. Their batik works were carefully arranged based on a list of tying techniques to showcase their effects on students’ batik works. Figure 13.0, Figure 14.0, Figure 15.0, and Figure 16.0 show batik cloth created by the twisting-and-coiling, folding, knotting, and binding techniques, respectively.
Impact Study

The UPSI’s Sekolah Bitara Visual Art Program was a smart collaborative project held at the SekolahKebangsaanDato’ Kamaruddin, BehrangStesen, Perak. This program was implemented based on the concept of sharing and exchange of the knowledge of visual art involving several teachers and students, aged 8-
12. This ‘visual art expression’ program was carried out in several series, which began in 2014 and ended in 2018, consisting of six (6) visual art projects as follows: batik craft, print art, ceramic art, alloy art, wall murals, and textile art. The program involving art appreciation, textile art, and legacy of art helped exposed students and provided a rich experience for such participants in learning visual art through activities that enhanced their higher-order thinking skills. Overall, in this novel program, 25 batik works were created by students, which serve as a testimony of their innovative and creative thinking, a cognitive aspect that is needed in developing holistically well-developed students, encompassing intellectual, emotional, spiritual, and physical aspects, which are the foundation of the National Education Philosophy. Surely, more efforts are required in the future to further enhance such a program to develop students who are both creative and innovative. Figure 17.0 shows the students proudly displaying the beautiful batik works that they had created in the program.

![Figure 17. Students proudly displaying their beautiful batik works](image)

6. Conclusion

As demonstrated in this program, students can learn various techniques in making batik, notably rainbow batik, through carefully well-planned visual art programs. By engaging in such programs, they will not only learn the technical aspects of such handicrafts but also develop a strong identity by giving more appreciation to the national legacy of visual art. Certainly, such collaborative programs involving schools, district education departments, and universities will bring many benefits to the stakeholders, especially students, teachers, and academics, the impact of which can help the nation to prepare a human asset that is creative and innovative.

7. Acknowledgments

The authors wish to acknowledge the contributions made by all parties involved in this project, especially the Division of Academic, Universiti Pendidikan Sultan Idris (UPSI), Research Management & Innovation Centre (RMIC) UPSI, research assistant En. Mohamad Nur Hanif Bin Hazman, and facilitators from Sekolah Menengah Proton City.

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