

The Impact of a Learning Module Based on Adobe Photoshop on the Teaching and Learning of Batik Pattern Designs

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This study aims to develop and evaluate the effectiveness of a learning module based on Adobe Photoshop with 130 motif templates in the teaching and learning of Batik pattern designs. This research used a qualitative approach based on the studio method involving observations and interviews. The sample of the participants consisted of 56 students who took a Batik course. In the studio, the participants used such a learning module to learn to create a number of Batik pattern designs. The evaluation of the learning module was based on five factors, namely effectiveness, learnability, flexibility, ease of use, and user acceptance. The research findings showed that all the participants were able to create creative patterns with high aesthetic value. Their designs were also observed to exhibit a high degree of intricacy and finesse. In addition, the findings showed that the use of such a module helped expedite the design process, making it more efficient as well as flexible. The participants also indicated that the application was easy to use and could help them become more creative. Given these promising findings, it is recommended such a novel, innovative learning module be embedded in the current teaching and learning practice of art education in Malaysian schools. Through use of such a potent learning tool, which can ease the design process of any artworks, students will become motivated and engaged in learning to learn the art of creating beautiful, exquisite designs. More importantly, with more practice in designing, they can eventually develop their creative skills to the level of that of professionals, thus enabling them to create artworks that are not only highly attractive but also contemporary.

Key words: *Adobe Photoshop, Batik art, pattern designs, learning module, motifs.*



Introduction

The formal teaching and learning of Batik in the 21st century needs to realign with the fourth industrial revolution (IR4.0) where the use of computer-based applications have become pervasive. The synergetic combination of such applications and manual skills can help practitioners to create creative designs. Essentially, batik making is a method of creating beautiful textile materials or cloth with the use of candles and coloring materials based on natural or synthetic colors. 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. Moreover, the application and combination of colors also plays an important role in establishing the required motif and pattern on the surface of the textile fabrics such that the ideas of an artwork can be conveyed with a high degree 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, Jour of Adv Research in Dynamical & Control Systems, Vol. 11, 05-Special Issue, 2019, page 1105).

In this study, the researchers developed a module for the teaching and learning of Batik patterns with the use of Adobe Photoshop. This software is one of the leading image editing tools used by graphic designers and the developers of multimedia applications. The latest version of the software, Adobe Photoshop 3.0, has the capabilities of not only creating and editing graphics but also creating special effects of images of web documents. This proprietary software was created and is owned by Adobe Systems, and it has been widely used in editing pictures and photos and in creating special effects. Since its launch, it has been used extensively in digital photography and the advertising industry. Given such extensive use, it has been acknowledged as a de facto computer-based image editing software, helping practitioners all over the world in related industry. Previously, its use was only supported by Microsoft Windows, Mac OS X, and Mac OS, but newer versions of the software, starting with the ninth version, can be used on systems running on Linux with the use of specific auxiliary software, such as Cross Over.

Admittedly, most teachers are not conversant with such image-editing software. As such, efforts are required to help them learn Adobe Photoshop to a level that can help them produce their teaching materials. Using their design creativity, they can utilize such software to create digital teaching materials that are both educational and appealing, making students highly engaged and excited to learn Batik painting. Specifically, teachers can use the software to create mind maps, flashcards, posters, and other interesting materials. As highlighted earlier,



most teachers lack skills in using the software and, as it stands, creating such interesting learning materials is out of the question. Furthermore, the need to acquire the skill in using such software grows more and more imperative as Adobe Photoshop has become one of the software applications used in the teaching and learning of Visual Art and Graphics subjects at the secondary-school level. It is also important that the same software is included in the curriculum of the secondary vocational schools, which can help students gain graphic design skills that they can use in a diverse range of professions.

For example, graphic designers are now in demand given that graphics, such as digital pictures or photos, are being used in large quantities in a number of products, such as posters, advertising boards, banners, and corporate websites. As popular image-editing software, Adobe Photoshop has come a long way from being a piece of software used in advertising and photography and, now, has become an important tool in education. Ideally, all art teachers should learn to use this software to become graphic design experts, but in reality, this may not be possible as the cost of training is prohibitively expensive and the learning curve is steep. Despite the expensive training cost, teachers have no choice but to learn this software. Maybe, they can learn on their own (which may take years) or learn with friends who have the requisite skills. Once, they have gained the skills in using the software, their creativity to produce appealing learning materials is virtually limitless.

Aim of the Study

The use of the proposed learning module can be used to help develop and assess students' and teachers' skills in using Adobe Photoshop. From the training perspective, the learning module can help facilitate the teaching process of Batik art, which ultimately can develop and nurture Art teachers' talents and skills in creating exquisite Batik artifacts. As such, such software should be made an integral part of the school curriculum and Batik arts and crafts. Furthermore, the use of Adobe Photoshop can help improve students' design creativity in Batik pattern making or motif design, in particular in the field of craft-making. More importantly, the use of the proposed learning module with a template of Batik patterns can serve as a new learning method or novelty in creating Batik designs.

As acknowledged, the advance of multimedia technology has drastically altered the educational and training landscape, requiring that the teaching and learning process be more engaging, meaningful, and fun. For example, multimedia elements bring in many benefits to teachers, especially in helping teachers to diversify the teaching techniques that can help them create attractive designs or products. Now, with the use of multimedia learning contents and materials, students can learn more efficaciously by capitalizing on a diverse range of information sources, such as text, images, sound, video, and animation. However, their ability to improve their design skills in designing various types of Batik patterns is limited and

coupled with their poor knowledge, such an improvement is almost impossible to achieve. In the academic section of the leading newspaper, Utusan Melayu, Professor Ibrahim Che Omar (Deputy Vice-Chancellor of Ibrahim Che Omar) laments that the Batik industry in Malaysia has been plagued by many problems and issues, including poor marketing strategy, competition with modern fashions, and a lack of creativity and innovation in creating attractive designs. Hence, it becomes clear that a new, novel method needs to be explored and used to help improve existing practices.

As it stands, students are still using the same manual pattern design technique, which involved hand-drawn designs. Such a technique is inherently laborious and error-prone, especially when the number of design patterns is high. As acknowledged, there exist a number of multimedia applications that students can use to learn to design Batik patterns. However, the level of use of such applications is low, which begs the following questions: “Are the students lacking the ability to skilfully use multimedia applications?” and “Why are they not keen in using multimedia applications?” Obviously, there can be many reasons for such low use of the technology, one of which is best explained by Harozila Ramli, who argues that “the declining use of such a technique lies in the lack of proper learning or training in pattern design of Batik textile, especially with respect to the structure of patterns that needs to be discerningly learned” (Hanson, 2016; Harozila Ramli 2019). It is not surprising to note that the conventional process of designing Batik patterns is laboriously time-consuming, thus rendering the production of Batik textile to be slow, which sometimes means that production exceeds a given deadline.

Given such a problem, the use of technology-based training tools, such as this learning module, in the design process of Batik patterns can help expedite such a process more efficiently. Effectively, such an application is relatively easy to use and can significantly reduce the design time. The development of "motifs design templates" and the procedures of designing Batik motifs with the use of Adobe Photoshop can be synergized into a novel tool to improve the teaching and learning of Batik designs. Against such a backdrop, this study was carried out to examine the impact of the use such a tool on the effectiveness of teaching and learning of Batik designs.

Methodology

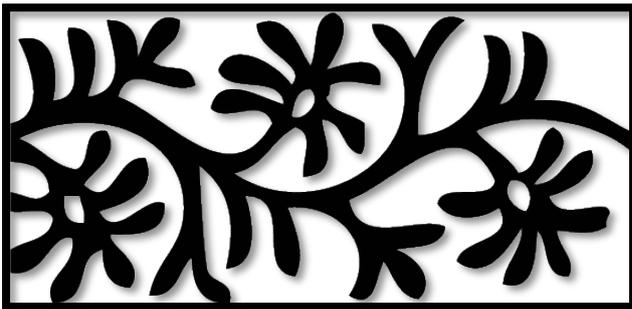
This study was based on a qualitative approach that was carried out in two phases. In the first phase, a learning module consisting of “motifs design templates” based on Adobe Photoshop was developed. These templates consisted of 50 faunal motifs, 50 floral motifs, and 30 geometrical motifs, the examples of which are as shown in Figure 1, Figure 2, and Figure 3, respectively.

Figure 1. An example of a faunal motif of a butterfly



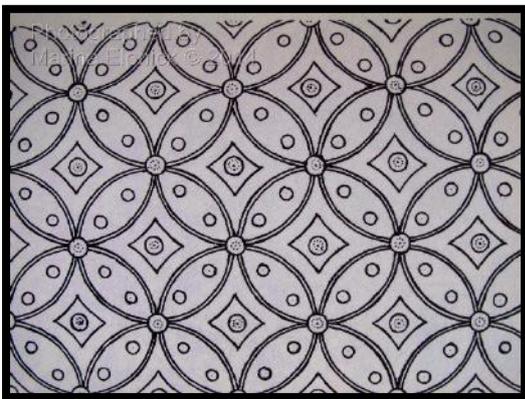
(Source adopted from a website accessible at <https://tarbiyatul.com/jenis-jenis-ornamen-motif-batik/>)

Figure 2. An example of a floral motif of bamboo flowers



(Source adopted from Buku Motif-Motif Etnik Malaysia)

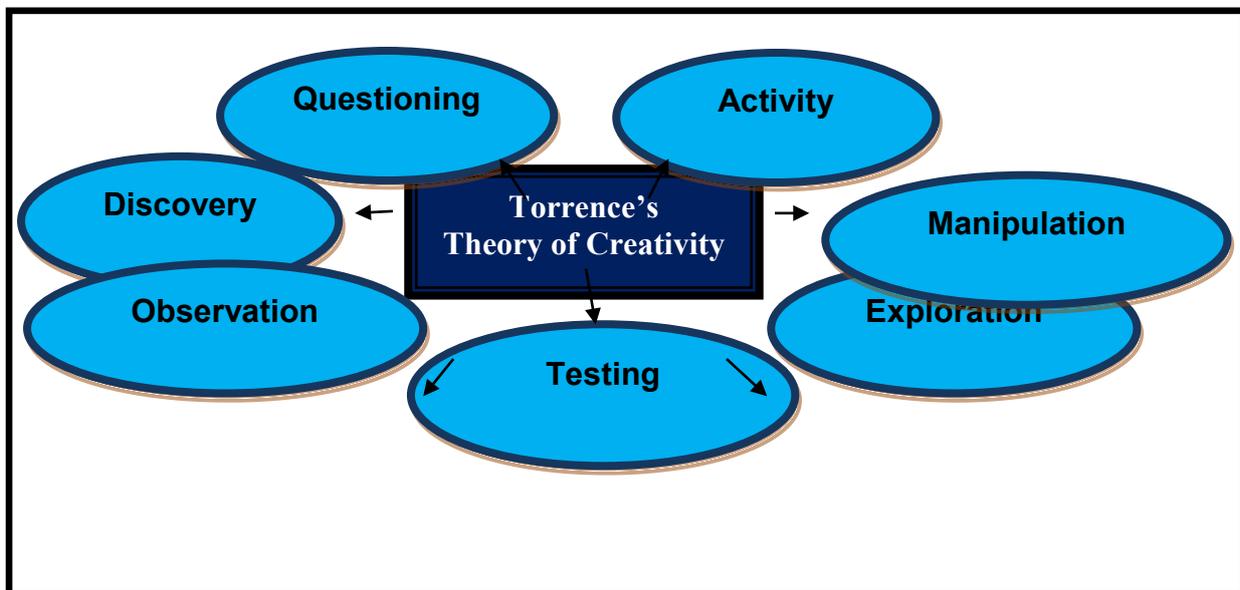
Figure 3. An example of a geometrical motif of Kawung



(Source adopted from a website accessible at <https://www.slideshare.net/cikgupaklong/batik-7982521>)

In the second phase, a study based in the practical studio was carried out to examine the usability of the module in the teaching and learning of a Batik patterns design course. The sample of the study consisted of 56 students who were taking a basic Batik studio class at Universiti Pendidikan Sultan Idris, Prerak, Malaysia. Torrence's (xxxx) theory of creativity was used as the basis for the development of this learning module. Essentially, this theory posits that creativity can be developed through seven stages, namely questioning, discovery, observation, testing, exploration, manipulation, and activity. Based on such stages, the researchers were able to examine the impact of the use of the learning module on student learning in more detail, which stipulates that the creation of a creative artwork will be based on the seven aspects. Figure 4 shows the seven stages of Torrence's theory of creativity.

Figure 4. Torrence's Theory of Creativity



The main aim of the questioning stage was to stimulate students' minds by posing probing questions that they needed to ponder carefully and critically. At this stage, the researchers tried to arouse student thinking into the approach they would use to solve a particular problem. At the same time, the comments and criticisms of selected approaches were encouraged to help students acknowledge the effectiveness and advantages of using such a learning module in helping them to learn the design of Batik patterns. At the discovery stage, it is important to encourage the students to explore new and latest findings or discoveries through research, observations, or discussions. Through such undertakings, the researchers were able to ensure the use of the learning module could help facilitate the design process of Batik pattern (Haque, & Chandio, 2013).

Next, at the observation stage, the researchers had to observe the activities carried out by students in which the latter had to rely on the use of more than one sense. In this research, the process of observation was not limited to examining the physical aspects of students'

products or works but also sensorial aspects, such as the senses of touch, smell, or hearing. Through such an observation, the researchers were able to determine the extent to which students' understanding and use of the learning module could be maximized, especially in the design process of patterns through demonstrations in the classroom.

Later, at the testing stage, the students were encouraged to explore the possibilities of improving their works by using available materials and tools. In this context, the researchers guided the students to use the elements of interactive media contained in the learning module in creating various forms of Batik patterns. By undertaking such a process, students would become more creative and adaptive such that they could make the necessary adjustments in their design approach with continually adapting available technologies.

Subsequently, at the exploration stage, the researchers gave the students full freedom to explore the use of the learning module based on Adobe Photoshop together with the motifs templates in designing Batik patterns. Effectively, students were guided in using the module to design basic Batik patterns such that they would find it easy and intuitive to use. Eventually, the students would be motivated to use such a tool in designing Batik patterns as they became convinced that such a tool could help them accomplish their tasks more easily.

Then, at the manipulation stage, the researchers attempted to examine how the students would be able to respond to certain conditions or to create objects (in this case, Batik patterns) by using available materials. In other words, the researchers were interested to look at the ability of students in manipulating available resources, such as the learning module, to create various forms or configurations of Batik patterns. Having created such exquisite Batik patterns with the use of the learning module, it was evidenced that the students had gone through the manipulation process of creative development successfully. Finally, at the creativity stage of Torrance' creativity theory, the researchers were keen to determine how the students would be able to improve their creativity in designing Batik patterns that were both contemporary and creative with the use of the novel learning module.

Overall, the use of an approach based on of Torrance' creativity theory in this study enabled the researchers to examine the effectiveness of the use of the interactive multimedia learning module on the design process of Batik patterns performed by the students. A descriptive analysis of the use of such a learning module with motifs templates on the design process was also carried out. Data for such an analysis were gathered based on an observation method. In addition, a semi-structured interview was carried out to help the researchers examine the impact of the visualization of design patterns of the motifs templates consisting of several floral, faunal, and 30 geometrical motifs on the design process of Batik patterns. Also, the Batik arts created by 56 students were used as the primary data for the analysis of the

effectiveness of the learning module based on Adobe Photoshop with motifs templates on the teaching of Batik craft in the design studio or the school.

Research Findings

Arguably, the development of the learning module based on Adobe Photoshop with motifs templates is the first of its kind in Malaysia. Such an innovative learning tool can surely help students to learn to create exquisite Batik pattern designs more efficiently and creatively. The choice of Adobe Photoshop as the image-editing software was appropriate given its pervasive and extensive use in the digital photography and advertising industry. Capitalizing on Adobe Photoshop's popularity, the learning module was developed based on such software such that its use can be made equally acceptable by graphic design students, instructors, and trainers. Such an acceptance can help improve the current practice of designing Batik patterns, which is currently agonizingly laborious and error-prone. As observed, students were able to create high quality and attractive design patterns that were contemporary with the current fashion trends as shown in Figure 5, Figure 6, and Figure 7 below.

Figure 5. A floral pattern design based on the use of the motifs templates of the learning module





Figure 6. A faunal pattern design based on the use of the motifs templates of the learning module



Figure 7. A geometrical pattern design based on the use of the motifs templates of the learning module



As revealed in this study, which focused on the learning of Batik pattern design using the learning module, it can be reasonably argued that the application of Adobe Photoshop as the image-editing software has the capability to help users, notably arts or graphic design students and teachers, create high quality and beautiful designs of Batik patterns more efficiently. In short, its use can help not only expedite the design process but also develop and nurture students' creativity in designing such patterns. Given these findings, it becomes imperative that such learning module based on Adobe Photoshop with motifs templates be embedded in student learning by making them an integral part of the school curriculum of arts and crafts. With such a curriculum, students will have the opportunity to use such software in learning the technique of creating a diverse range of design patterns with intricate motifs. By experimenting with such an application, they can explore various configurations or arrangements of motifs to create amazing pattern designs, ultimately helping them to become creative. Given such potential, it is, therefore, highly recommended that the use of such a learning module be accepted as a new approach to facilitate the teaching and learning of pattern designs of Batik products.

As demonstrated in this study, it becomes clear how that the advancement of such image-editing tools can help the practitioners of the textile industry to introduce some innovation to their design process of Batik patterns. Preferably, they must put in more efforts in innovating their design approach to make it more efficient and cost-saving. Also, it is equally important that the use of such a tool can help them create pattern designs that are unique, attractive, and contemporary. Overall, the findings of this study suggest that the learning module based on Adobe Photoshop with motifs templates can be used by students to help them produce creative and exquisite design patterns with improved efficiency and reduced cost.

Conclusion

The research findings showed that the use of the learning module based on Adobe Photoshop with motifs templates helped improve students' design creativity as evidenced by their creative, attractive designs of Batik patterns. Also, such a module helped students to create such designs more efficiently in terms of cost and time. Given these promising findings, it is recommended such a novel, innovative learning module be embedded in the current teaching and learning practice of art education in Malaysian schools. Using such a potent learning tool, which can ease the design process of any artworks, students will become motivated and engaged in learning to learn the art of creating beautiful, exquisite designs. More importantly, with more practice in designing, they can eventually develop their creative skills to the level of that of professionals, thus enabling them to create artworks that are not only highly attractive but also contemporary. Over the long term, such positive development in students'



creative skills in designing Batik patterns can have a profound impact on the design industry in Malaysia

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