

EDUCATING APPLIED ARTS AND DESIGN STUDENTS ON BAMBOO CRAFTS THROUGH EDUCATIONAL TRIP AND STUDIO PROJECT

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ABSTRACT

This paper aims to elaborate on how the educational trip can enhance the teaching and learning in the enterprise of bamboo craft as reflected in the studio project approach of Applied Arts and Design Studio. The rationale is that an educational trip to related places for inputs and exposure to the students before their involvement in the design process in the studio is crucial. The visit gives awareness and knowledge to the students on the bamboo craft and its production process. Craft is traditionally associated with the making of objects that requires manual skill, dexterity, and experience while its production is to exercise skill based on knowledge. Therefore, this paper sets out how the educational trip is relevant in the context of studio-based teaching and learning on the bamboo craft project for the students of Applied Arts and Design programme. The emphasis of this paper is on how educational trip is important for the students, namely experiencing a new environment, acquiring new insights and going through informal learning environment. Bamboo craft is bound to the understanding of production method, sensibilities of materials and handling of techniques during production. Understanding of the process would be fruitfully achieved through direct observation at the field work apart from doing background research. This approach to teaching and learning in the field of applied arts and design is relatively novel and essential for successful outcomes of the studio project. Accordingly, the outcome and contribution of this paper is a better understanding of the role of an educational trip in enriching the teaching and learning process for the studio-based subject which focuses on craft production.

Keywords: Educational trip, Applied Arts and Design, studio project, bamboo craft

INTRODUCTION

The making of bamboo craft is all-embracing and bind to the full understanding of production method, sensibilities of materials and handling of techniques during the making process leading to the craft production with high technical and aesthetic values. Understanding of the bamboo crafting including the process of the making would be expansively achieved through direct observation at the field work apart from doing background research. In educating the design students about the bamboo crafting, the direct observation concentrates towards learning that provides students with experiences outside their routine activities in studios or classrooms. According to Behrendt and Franklin (2014), field trips can enrich classroom study. Experiences gained during the field trip can be noteworthy and useful long after a visit (Salmi, 2003). Visits to places of interest would support the requirements of the course syllabus and enhance their learning experiences. Therefore, this paper aims to elaborate on how the educational trip can enhance the teaching and learning in the enterprise of bamboo craft as reflected in the design project approach of Applied Arts and Design Studio. In the light of this and for the discussion, this paper highlights Pusat Inkubator Kraf Buluh (PIKB) as the visited place. The researchers selected the centre as the destination because the focus of the studio project was on a bamboo craft. The rationale is that an educational trip to the related places is crucial to give inputs and exposure to the students before their involvement in the design process in the studio. In this paper, the focus is on how the educational trip or field trip becomes impetus in the teaching and learning approach for a studio project activity focusing on the bamboo craft for the second-year students from the Applied Arts and Design department, Kulliyah of Architecture and Environmental Design. The proper studio practices are of the essence for overall outputs in the teaching and learning process. Although experiential learning outcomes have been receiving increased attention in the last decade (Salmi, 2003; DeWitt & Storksdieck, 2008; Behrendt & Franklin, 2014; Nadelson & Jordan, 2012), little research has been done to identify specific gains to the design students from their educational trip for learning experiences in relation to studio-based subject.

BAMBOO CRAFT AND PRODUCTION

Craft is about skills and its application and material-based knowledge to relatively small-scale production (Adamson, 2009). The craft of traditional items concerns how the craftsmen or artisans express their creativity and dexterity found in various categories, namely, weapons, daily utensils, architectural components and agricultural tools. Craft made from bamboo falls into a group of daily utensils and design products. Craft or handicrafts have a reputation as basic products from the masses (Siti Zainon, 1997) and handicrafts commonly refer to hand-made artisan crafts (Towseef, 2014). A craftsman or designer makes an object according to prescribed patterns and through prescribed processes until the end. Unique craftsmanship of traditional craftsmen usually reflects on the beautiful and exquisite craft production. Craftsmanship refers to the aptitude, skill or quality workmanship in the use of crafting tools and materials (Adamson, 2009). Craftsmen learn the skills of craftsmanship through the process over years of apprenticeship under intensive guidance by master craftsmen or artisan. Subsequently, as Wood, Rust and Horne (2009) posits that craftsmen acquire intuition in the understanding of materials and processes, of aesthetic, emotional and cultural issues through extensive experience of (manually) working with materials and processes.

In Malaysia, 14 out of 59 species are commonly used by the Malaysian bamboo industry for making poultry cages, vegetable baskets, incense sticks and joss papers, skewers and chopsticks, woven blinds, and handicrafts (Aminuddin, 1995; Azmy, Razak & Norini, 1994). Meanwhile, the Forestry Department Peninsular Malaysia (FDPM) has listed 12 species of bamboo are used for making a variety of products which include chopstick, furniture, musical instruments, toothpicks, pole, satay skewers, picture frame, ornamental, and handicrafts. 5 out of 12 species are fittingly used for making bamboo handicrafts. Traditionally, bamboo was a useful material to support simple suspensions of bridges, scaffolding, split and woven bamboo and supplemental and/or decorative elements in buildings (Towseef, 2014). National Forest Policy 1987 (Revised 1992) has underlined the need for non-timber forest resources sustainable management and its implementation is timely to make sure the interests of resource-based industries. FDPM has introduced an initiative known as bamboo cultivation project to introduce the results of non-timber resources that have the potential for commercialization. Plant fibres and parts from bamboo are useful for hand-woven crafts. A wide range of handicrafts which have utilitarian value is produced from the weaving or plaiting of parts from bamboo. The physical qualities of bamboo crafts make it as one of the unique crafts in Malaysia and it comes from the more locally sustainable resource as compared to other crafts. In addition, the properties of bamboo and its laminated products attest to its potency in substituting wood (Anokye et al., 2016)

In short, the craft is recognizable as a discipline and practice of its own. This discipline requires material understanding, skilful hands, and artistic mind to produce good quality products. Likewise, the production of bamboo craft is a discipline which involves its own practices to prepare materials and in the making process. In Malaysia, the bamboo craft development is promising and the used of non-timber forest resource requires promotion for sustainability of craft production. In the context of education, students should get exposure to the bamboo craft development because it is more sustainable and has the potential for commercialization. Also, bamboo as manufacturing material has become more globally attractive today.

THE IMPORTANCE OF EDUCATIONAL TRIP ON LEARNING

Educational trip or field trip is important moments in learning. It is a shared social experience that provides the opportunity for students to meet and explore novel things in an authentic setting. Many researchers have investigated knowledge gain and learning that occurred during field trips (Salmi, 2003; DeWitt & Storcksdieck, 2008; Behrendt & Franklin, 2014; Nadelson & Jordan, 2012). Many authors have given attention to the significance of field trip such as Behrendt and Franklin (2014) asserts that field trips can “deepen and enhance” classroom study. DeWitt and Storcksdieck (2008) assert learning in field trip give impacts on learning as the outcomes from the field trips can range from cognitive to affective outcomes. In addition, experiential learning at formal and informal field trip venues increases student interest, knowledge, and enthusiasm (Behrendt & Franklin, 2014). This quality learning is one that extends beyond the walls of the classroom. Educational visits are important in many ways. According to Nadelson & Jordan (2012), educational visits should have a major educational element and the impact of the visit can extend further.

The above reviews of past studies reveal that the educational trip offers three benefits and gives impacts on learning. First, the educational trip has the advantage of providing the students with the opportunity to experience new environments outside of classroom study. Field trips allow students’ experiences outside of the classroom at interactive locations designed for educational purposes (Tal and Morag, 2009). Second, the educational trip allows students to gain new insights as DeWitt and Storcksdieck (2008) posit that the positive outcomes from the field trips stem from the authentic, first-hand, and sensory-based learning. Learning consists of grasping or gaining new insights, increasing knowledge and developing skills and then transforming it into an application. Finally, students can undertake informal learning atmosphere through observation. The direct observation is important towards learning that provides students with experiences outside their routine activities in studios or classrooms. The educational trip and its benefits are summarized in Figure 1.

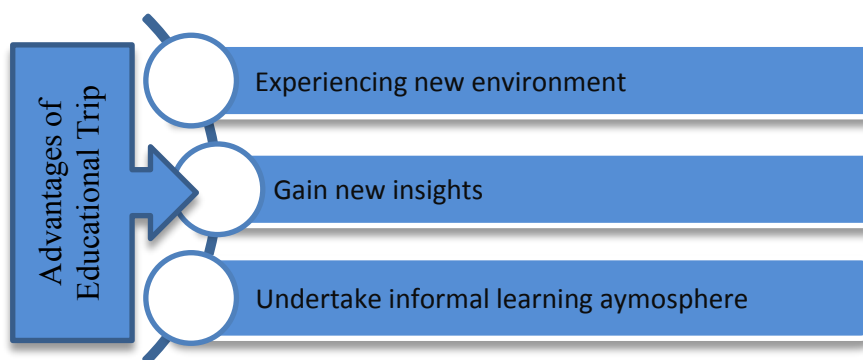


Figure 1: The educational trip and its benefits

The Applied Arts and Design (AAD) Studio is one of the important core subjects for Bachelor of Applied Art and Design programme at the Applied Arts and Design department, Kulliyah of Architecture and Environmental Design. Projects introduced in this studio encompass the needs of different majoring areas, namely Interior Design, Industrial Design and Conservation. Students receive guidance to enhance their creativity in solving design problem for small-scale environmental design. In the second year of study, this course serves as the continuation from fundamental level and as a development stage to further expose and develop students' skills in the design project. The learning goals of the studio-based subject, in general, are to teach students on advanced skills of design and building process, and to enhance student's capability on handling various applications of materials and technical design solutions. Emphasis is also given in instilling Islamic awareness and ensuring that students will be able to apply Islamic concepts in their design.

Educational trip plays a significant role in giving exposure and developing students' skills for studio-based subject. These components are very essential for the studio design project with a single or particular emphasis. A field trip with a single focus will provide a potential impact to students' cognitive skills, knowledge, interests, and future undertaking (Kolb, 1983). Therefore, the field trip offers an opportunity to motivate and connect students to appreciate and understand the requirements of the studio project, which increase a student's basic knowledge. This promote further learning and higher order of thinking skill which is essential for technical design solution in the design project. In addition, field teachers should set clear learning objectives and carefully plan the experiences they intend students to have, taking into account educational aims, time available, distance, student readiness, and availability of localities and resources (Lonergan and Andresen, 2006).

The following paragraphs elaborate the importance of educational trip for AAD students that has given them the opportunity to experience new environments, gain new insights, and undertake informal learning atmosphere.

IMPORTANCE OF EDUCATIONAL TRIPS FOR AAD STUDIO: DIRECT OBSERVATION AND EXPERIENTIAL LEARNING

Educational Visit for Experiencing New Environment

Kolb (1983) posits that learning consists of experience and then transforming it into an application or result. Meanwhile, the experiential learning as asserted by Behrendt & Franklin (2014) is authentic, first-hand, sensory-based learning. The experiential learning involves many activities which include exploring, touching, listening to, watching, moving things, dissembling and resembling things. Krepel and Durall (1981) define field trip as a school or class trip with an educational intent, where students interact with the setting, displays, and exhibits to gain an experiential connection to the ideas, concepts, and subject matter.

At the Applied Arts and Design department, a field trip has been part and parcel of Applied Arts and Design studio course. The learning objectives of the Applied Arts and Design studio-based subject, in general, are to teach students on advanced skills of design and building process, and to enhance student's capability on handling various applications of materials and technical design solutions. Hence, the department has planned the field trips as student experiences outside of their studios for educational purposes which include: 1) to get the first-hand experience, and 2) to stimulate interest and enhance students' understanding. In relation to this, the department has conducted an educational trip to Pusat Inkubator Kraf Buluh (PIKB), Negeri Sembilan, Malaysia. The purpose of the trip was to expose the second-year students to the craft of bamboo which has become the focused project for the Applied Arts and Design (AAD) Studio 3 in semester 1, 2017/2018 session. During the visit, the students have the opportunity to experience the practices of bamboo craft workshops at the centre. At the workshops, the staff of PIKB, Nazmir Jamaludin, gave inputs on the whole process of making bamboo crafts. During this session, the staff introduced students to the different types of machines and instruments used in the process. They have conducted several demonstrations on the usages of the different machines such as the cutting machine as shown in Figure 2.

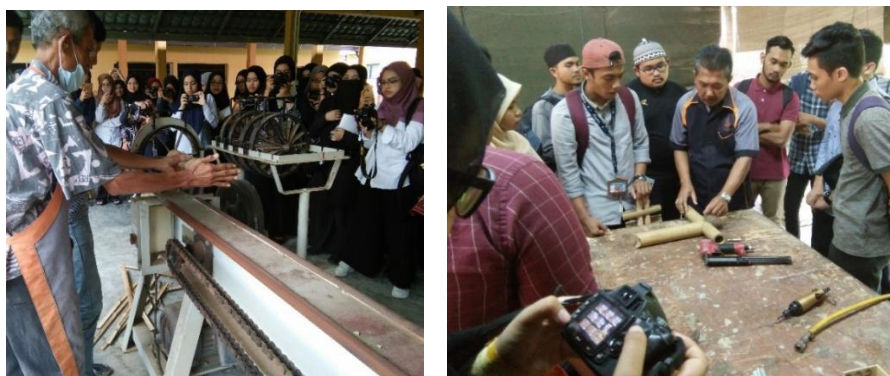


Figure 2: Direct observation by the students on the usage of different tools

Apart from obtaining the first-hand knowledge from the craftsman during the demonstration, the students were exposed to the different types of instruments used for making different parts and pieces of products from bamboo while observing the correct

way of handling the materials and tools. Few students had been given opportunities to use the machines during the demonstration for interactive learning experiences (Figure 3). This has become new experiences for them which could increase their interest and engagement in the studio project at a later stage.



Figure 3: A student's participation in interactive learning experience

The visits to PIKB's workshops have been a good experience for the students to interact with the new setting outside of a classroom. Apart from visiting the workshops, the students have obtained some opportunity to see a variety of bamboo craft products in the PIKB's gallery. Crafts made from bamboo falls into three categories including daily utensils, furniture, and decorative items. Most of the products have good quality with high technical and aesthetic values. Among the three product categories, bamboo seats are the most adorable due to its design complexity, different techniques, and forms. While observing the product and with the help from PIKB staff, the students have been able to understand the different techniques and materials used for making the bamboo products, particularly for the bamboo seats.



Figure 4: 3 Categories of bamboo craft: daily utensil, furniture, and decorative item

Based on the visit, the students should have been able to understand the method, materials and tools, and techniques involved in the making of bamboo crafts. After participating in the demonstrations and viewing the displayed products, the students have gained inspiration and ready to apply the knowledge gained through experiences into their studio project which is bamboo products. They can produce innovative and creative products if they have gained some understanding during the visit. The visit has enabled them to gain an experiential connection to the ideas, concepts, and subject matter that relate to bamboo craft. Educational visits should have a major educational element and the impact of the visit can extend further (Nadelson & Jordan, 2012).

Educational Visit for Acquiring New Insights

The rationale of conducting the educational trip to the related places is that the visit is essential to give inputs and exposure to the students before they can proceed with design process in the studio. In this essence, the students have learned and gained new and extra knowledge while having new experiences in the visited places. The inputs and exposure are vital since the making of bamboo craft is all-embracing and is bound to the full understanding of production method, sensibilities of materials and handling of techniques in the making process leading to the craft production with high technical and aesthetic values. The following paragraphs elaborate the inputs and exposure as acquired by the students during the visit.

Method of production

Bamboo craft is the method of forming craft product from treated bamboo using specialized tools and equipment. The hard and soft raw bamboo has a smooth surface that is suitable for finishes as desired by using tools with specific functions. This method of bamboo work involves six different stages: 1) identifying and choosing the bamboo, 2) cutting the bamboo into shorter pieces, 3) boiling of the bamboo, 4) drying of the bamboo pieces, 5) forming of bamboo craft, and 6) applying finishes with colour paints and finishing with protective layer. Figure 5 illustrates the stages of making the bamboo craft.

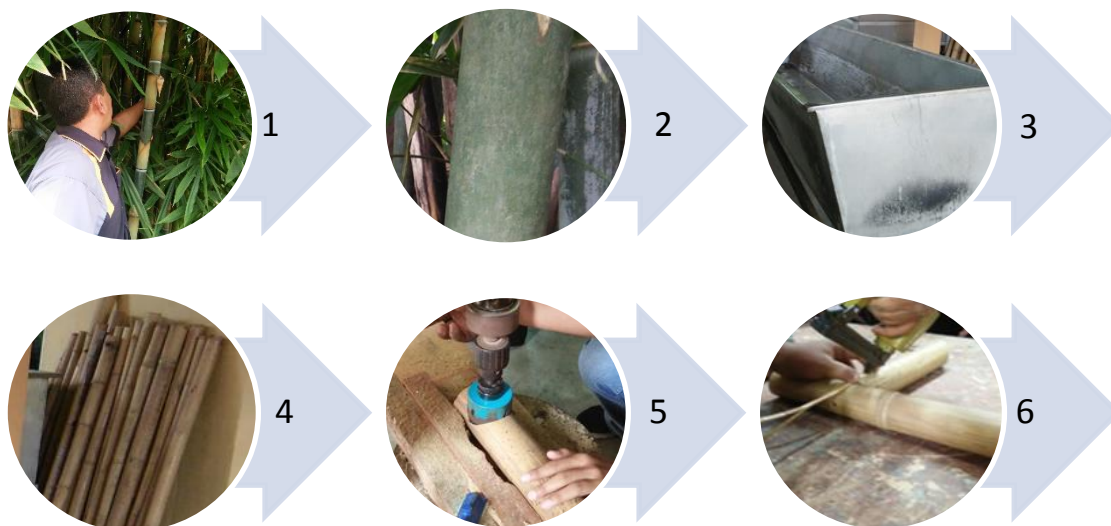


Figure 5: The stages of making bamboo craft

In a nut shell, the session has exposed students to the different stages of making the bamboo craft. Figure 5 shows the summary of the process. The students received the knowledge of bamboo craft production and they can apply them for studio practice at a later stage. The exposure at the PIKB's workshops has given them the opportunities to gain fundamental knowledge in the bamboo craft production which can be very useful for their studio project. The connection between the field trip venue and the classroom links the field trip's experiential learning with earlier experiences and learning from the classroom (Krepel and Durall, 1981).

Handling of materials and instruments

A range of project instruments including materials, tools and machines are available at PIKB and the students have gained some opportunity to explore and use them throughout the bamboo craft making process at the centre. These include line drawings, preservative substance, treated bamboo strips, crafting tools and machines, and finishing materials. Figure 6 shows bamboo of *Bambusa* species as the main material is suitable for different uses which include: 1) bamboo cane furniture is made from mature type, 2) bamboo panel, and 3) bamboo strips for weaving and plating are made from soft type. Bamboo cane furniture is usually made from bamboo and rattan as shown in Figure 6A. Figure 5 (5) shows the fundamental instrument used to make perforation into a bamboo cane which is suitable for making a furniture. The whole process of producing the bamboo craft is called instrumentation. These include selecting of tools and instruments and the conditions under which the tools or instruments would be used and administered. Conducting or applying effective tools to a prescribed method and steps determines the end output in bamboo crafting. Quality and beautiful product depends greatly on selecting the right tools and effective application of crafting techniques which require some degree of technical skills.

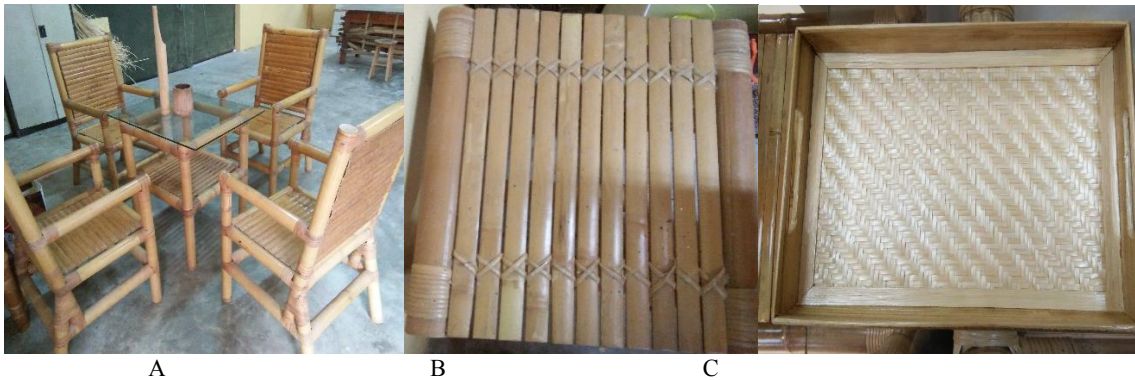


Figure 6: Bamboo cane furniture, bamboo panel and a weaving from bamboo strips

In short, students may find it impossible or difficult to successfully carry out the bamboo craft project without prior field trip which can effectively support their learning. The students have been exposed to the various aspects of instrumentation on bamboo craft during the field trip. This exposure is imperative for the effective and skilful handling of instruments throughout the making process of bamboo craft, especially for their studio project. Similarly, the understanding of the different steps involved in the making of bamboo craft as shown in Figure 5 decide the effective learning process, particularly for the studio-based course. Also, the students' understanding of the process determines the quality of bamboo craft product. Intuition in the understanding of materials and processes, of aesthetic, emotional and cultural issues is attainable through extensive experience of (manually) working with materials and processes (Wood, Rust and Horne: 2009). These qualities enable craft makers or practitioners to acquire knowledge and skills through experience, that are largely tacit, and that are the basis of ability and competency.

Techniques of Bamboo crafting

Crafting of bamboo involves a wide range of techniques using hand tools and crafting machines as demonstrated at the PIKB's workshops. These include bamboo joinery techniques, splitting, tying, weaving, plating, to name a few which give different visual and textural effects. The students can craft objects made from bamboo in many ways using different materials and the response of these materials to crafting work is highly distinctive. By becoming more familiar with the nature of the materials and tools to make the object, for example in the case of bamboo furniture, students can gain a more thorough understanding of the material strengths and weakness thus be better equipped to explore the potential yields of the material use through a course of learning time. Students of Applied Arts and Design have benefited from the demonstration by the PIKB's craftsman on methods and techniques of bamboo craft production in a short-term of training and experience. In the later process of learning, they should make efforts to keep up the best-practice standards of conduct learned from the craftsman for their studio projects.

Educational Visit for Informal Learning Environment

In educating the design students about the bamboo crafting, the direct observation is important towards learning that provides students with experiences outside their routine activities in studios or classrooms. Educational trips provide valuable educational opportunities away from the studio setting, without using conventional tools and instruments used in a normal setting. Students on educational visits can often learn and gain new or extra knowledge while having new experiences in a more informal environment. The visiting students get excited to learn if the visited places during the educational trip, for examples, a craft workshop, craft centre or other related institutions have staff members, craftsmen or trainers who conduct hands-on teaching and interact with the students.

Another important aspect in the visit for education is that the students can record and document the process of the visit from background briefing by the PIKB staff to the visits of bamboo craft workshops and gallery of bamboo products. This process allows photographic documentation of related images and documentation through sketches and drawings of bamboo craft ideas and techniques. At the end of the process, a report and visual presentation in forms of poster become the output of the educational visit. They can document and record their formal and experiential learning in many forms of work, for examples in their studio workbooks and group presentation. Experiences and knowledge gained from the visit is well-kept through documentation and the students can present them to their lecturers and peers through the poster presentation. Students were keen to later transfer good workshop practices as observed in the informal setting to their studio and should show how their experiences during the visit are useful for their future progress.

CONCLUSION

A quality science curriculum is one that extends beyond the walls of the classroom. Educational visit is one of the learning experiences that give students the opportunity to undertake informal learning atmosphere that has many potential outcomes. The educational trip offers many benefits which include experiencing a new environment, acquiring new insights and undertaking informal learning atmosphere. Prior knowledge and interests of the students' learning during the visit is with follow-up in their studio. The students should make an adequate preparation with clear learning objectives to make sure that the experiences and

novelty of the visited places can fruitfully impact their learning. A successful field trip empowers and enables students to develop an interest in the craft of bamboo, which may lead to improved understanding and handling of instruments and later to the production of beautiful products. Apart from these, educating students on bamboo craft would create awareness about the potential of bamboo for the local craft industry. It is a low-cost material that is strong and durable which is suitable for anything from house building to functional and decorative objects. The properties of bamboo and its laminated products attest to its potency in substituting wood (Anokye et al., 2016). In Malaysia, the bamboo craft has a fewer reputation and it is not as well-known compared to a wood craft. However, the Malaysian government should promote further the development of bamboo craft for socioeconomic benefits and to become a notable economic and cultural significance in the nation. People in Asian region have endowed bamboo for many uses and this plant has played an important part of their cultures. Educating students on the bamboo craft means instilling some awareness to them about the art from nature whilst saving environment from non-biodegradable wastes. Bamboo is part of natural resources and the plant offers many benefits to the environment because it is biodegradable (Mohamed, 2007). As such, bamboo craft development is a reflective practice as a means for saving the Malaysian environment in particular and the Asian environment in general because bamboo is a very sustainable material and is one of renewable natural resources.

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