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# The Recycling Concept in Art Education at Sultan Qaboos University

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## Abstract

Regarding the overall economic characteristics and innovation levels of developed countries. Projects on wastes which include the three ‘Rs’ – reduce, re-use and recycle – as part of a waste reduction strategy are being applied in education to progress the efficiency of training students in this field and thus generate a collaboration between academia and production. Art crafts created from recycled materials as part of the economy are relatively new. It requires a new teaching methodology to allow the implementation of the recycling concept in the creation of new artistic products. This can be carried out by activating the students' skills to be effective in solving problems solving, thinking creatively, gaining aesthetic value, self-evaluating and self-recognition in order to keep up the innovations of the age. This study establishes the attempt conducted in the art education department at Sultan Qaboos University to examine the use of waste materials in teaching the course of Experiment with Different Materials. The research adopted the exploratory and descriptive research methods where the created designs were analyzed from the aesthetically and practicality points of view. Results indicated differences in the student performance when recycling the waste products. This is because the art application become more practical, interactive, interesting and real in creating aesthetic recycled products. As a result, this research paper introduced how to educate the future generation how to make recycled artistic products, regarding the recovering and reusing waste products from household use, and thereby reducing their burden on the environment.

*Keywords:* Art Crafts, Art Education, Creativity, Higher Education, Recycling

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## 1 Introduction

Waste has been defined as any product or substance that has no further use or value for the person or organization that owns it, and which is, or will be, discarded. The amounts of generated waste are actually have a potential negative effects on the environment and are matters of concern to governments, industry and the community for many reasons. The most often three reasons are: the waste disposal which could be harm the human health and environment; space for landfills is claimed to be becoming scarce as councils strive for zero waste targets; costs are increasing to use existing and replace landfills and waste is the end of a products life cycle that causes costly environmental impacts and depletes valuable resources.

Some people also take an essentially moral view of waste generation, arguing that it is symptomatic of wasteful and undesirable overconsumption. (Caulfield, 2009).

In this era of heightened awareness of our environment, the sustainable development and the environmental conservation are considered as the challenging key faced by countries and communities across the world to explore and engage the issues of environmental sustainability (Vani Sreekanta,2009). This is because waste disposal or burning is not just a serious problem, it is also a growing problem. Because of the significant and growing environmental, social and economic challenges presented by waste. In this regard, the researchers believe, rather than throwing away waste or burning them to pollute the environment, they can be recycled to create useful instructional resources for teaching and learning, to give meaning to the global call to “reduce, reuse and recycle as the only acceptable ways of disposing trash, where this can only be done through explorations with waste materials and through education by focusing on

waste recycling to ensure the protection of human health and the environment against the harmful effects of waste. (Schiesle, et al 2007; Katkar & Bairadar, 2010)

Recycling and remanufacturing from waste products have attracted a great deal of attention from academia to achieve the economic benefits to the society (Liao et al, 2018)

Nowadays, education has been taken the most important role to develop individual's high level skills, especially for thinking critically and creatively and on having self-effectiveness ( Jitgarun & Tongsakul, 2009; Nogueira & Moreira, 2013; Hüseyin & Didem, 2014).

Art education allows individuals to think freely to be productive and creative to be able to express themselves easily and to develop a different perspective to the problems they faced by developing individuals' cognitive and affective skills and by gaining individuals analytical and questioning thinking ability in order to communicate easily by enhancing their artistic feelings and to keep up the innovations of the age, gaining aesthetic value, self-evaluating and self-recognition (İşlek, 2012; Freedman & Stuhr, 2012; Hüseyin & Didem, 2014). Furthermore, art education is a requirement for the societies that provide modern education in the 21st century (Taşdemir, 2010). It makes a great effort to possess significant contribution to the economy and social life to facilitate the transmission of knowledge, cognitive skills to support the innovation and to stimulate the creation of new knowledge and technology of recycling (Bektaş and Tayauova, 2014). So, it is an undisputed fact that art education has an important role to pass modern society from a traditional society and it is effective on individual's social development and having qualifications which are required by the age.

*Recycled Art* has been organized to demonstrate the creative use of recycled materials and found objects in contemporary regional art. (Papanek, 2005)

It is well known that Creative industries as part of the economy are relatively new, so the universities and departments of arts have to emphasize through their pedagogical structured programs on their graduates' professional life to give them the chance to behave in the competitive arena of creative industries are highly necessary for successes in the global markets to satisfy their urge to create while still caring for our planet (Dreesmann et al, 2014).

The Department of art education at Sultan Qaboos University aims through its programs to achieve creativity and functionality in art work. This provides students with several teaching strategies that develop critical thinking and problem-solving skills. Also, it enables students to give aesthetic and critical judgments in the field of fine arts. On establishing the recycling of waste as a fourth concept due to the great demand for it. This research paper introduced a novel pedagogical approach through the course "*Experimentation in Different Media*". This course provides the students the advantage of having control over their learning activities to use the greatest potential goal of recycling and remanufacturing from waste products to create an art craft work.

## 2 Methods

### 2-1- Educational Experiment

Experimentation in Different Media **ARED 3240** is a selective course in the Art Education Department at Sultan Qaboos University with 3cr and 5h of teaching for 16 weeks. It is based on directing students towards empirical thought in arts. As a result, they can benefit from the available materials in the environment whether they are natural, artificial, or any pre-

made materials depending on the empirical system. Thus, they know-how to deal with them in order to produce artworks.

In the previous years, the attempts of teaching this course were based on using new commercial materials; museum boards, plaster and clay, wood, glass...etc., which are considered as an expensive way, especially when the student needs to redo their design several times to reach their goal. Thus, considering a new methodology in teaching not only through the economical point of view but also the environmental awareness as well, regarding the overconsumption of waste products, which cause pollution and environmental degradation.

Thus, in Fall 2017, twelve female students joined the course, and the instructor began to think deductively and intuitively about the three Rs of conservation; Reduce, Reuse and Recycle in order to implement a waste reduction outreach. This will be via designing and building a functional recycled art craft. In the beginning of the experiment, the students didn't realize or imagine how easy it can be to make small changes in their work routine that can save them money, energy and make them healthier with more creativity. In addition, their work will lead to improve the world they live in for many generations to come.

### 2-2- Practical work

The student project was based on I) a research about the use of recycling materials in art craft, II) applying the design process through ideation sketches, III) assembling technique of the recycled materials to create the final design idea, III) positioning the finished art craft model in an existing environment. Practically, the work was divided into four steps. Step one focused on studying the elements and principles of design. Step two based on collecting the handled and available waste products. Step three, was to design several sketches in order to finally reach the last step; step four was to create a recycled art craft idea. The students worked on a number of different projects. These projects are summarized as follows:

## 3 Results

The art works in this research were analyzed in terms of the principles of design and the concept of Formalism which is the study of art by analyzing and comparing form and style. They are concerned with describing the organization and arrangement of the elements to construct the purely aesthetic visual aspects (Carroll ,1999) according to the following axes:

1. The visual elements in art which are the building blocks of composition in art where they combine to create the overall effect of the artwork (Thomas and Evan, 2012; Merrit, 2010)
2. Principles of art which are the relationship between the elements in the art work or the ways in which the elements are used or mixed to illustrate the purely visual aspects (Merrit, 2010)
3. The aesthetic foundations which add to the work of art logical and aesthetic values such as unity with diversity, balance, rhythm ... etc. (Wong, (1993; Poulin, 2018).

On the other hand, the researchers follow the approach of the American critic Edmund Burke Feldman (1924) of the four stages of analysis: Description, Analysis, Interpretation and Judgment as indicated in the following design ideas.

### *Art work 1: (Alharthy and Balkhair, 2017)*

The art work dimension is 120 cm x 80 cm. The structure of the idea depends on the principles of recycling through which the daily consumables are formulated in an appropriate manner and employed for a useful purpose. This was based on a variety of consumed raw materials in different

shapes and sizes such as empty water bottles and some plastic pipes of different diameters, lengths and remnants of metal foil.

The emphasis or the focal point of the design is the clock at the top of the work station. The functional value or the useful purpose was designed in the most distinguished position; the top of the pyramid configuration, which is the most stable geometric shapes and the back of the frame with tangible effects compatible with the tangible effects of some parts of the composition as a kind of formal unity and optical connection.

The vertical in a linear image is in an ascending rhythm on the base of the work destined for the entrance to confirm its importance and display. The elements were recited in different places and different positions to achieve balance in the work such as the color which exhibited in different values through the spraying technique to make visual effects. The metallic colors provided a visual richness as evidenced by the distribution of neutral spaces and the interfaces that formed proportional relationships between what is internal and what is perimeter of a consensual free. It was denoted that the objective of the work was achieved at a very high rate where the functional purpose was achieved through the re-formulation of the technical consumables according to the values of formality.



Fig. 1.1 Design

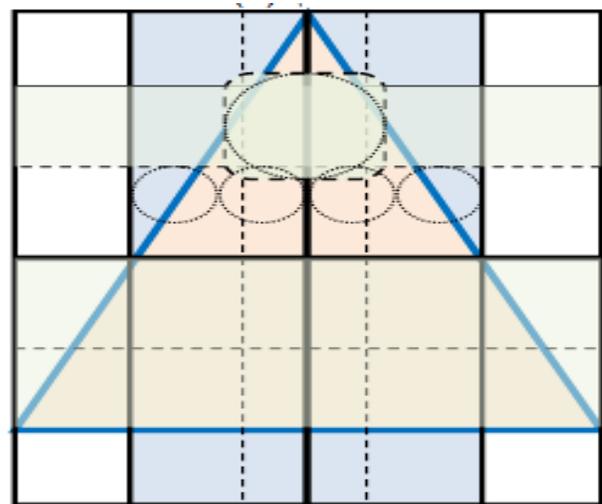


Fig. 1.2 Structural analysis

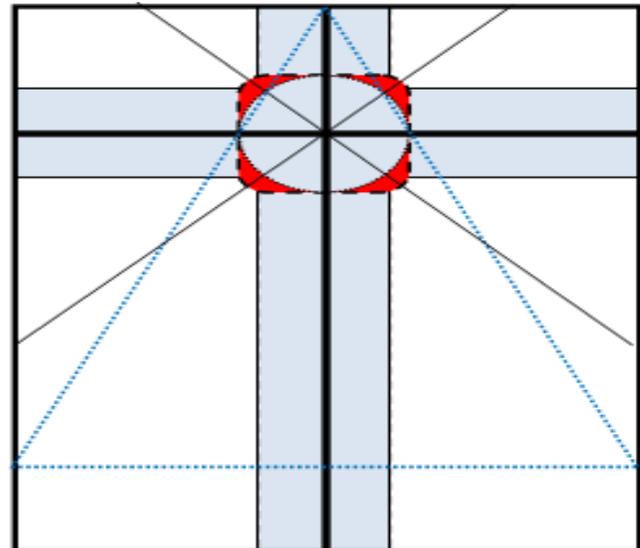


Fig. 1.3 Main axes of design

*Art work 2:* . (Balkhair, 2017)

The design dimension is 60 cm x 40 cm. It is an Omani ship with a maritime history. It is named by several names such as: Baghla and Ghnja. The design was based on the recycling of different raw materials to form a sailboat with three sails. This was carried out by using cardboard coated with white paper graduated from a composite of cork on the background which was fragmented into vertical ribbons with the addition of natural sea shells



Fig.2.1. Design

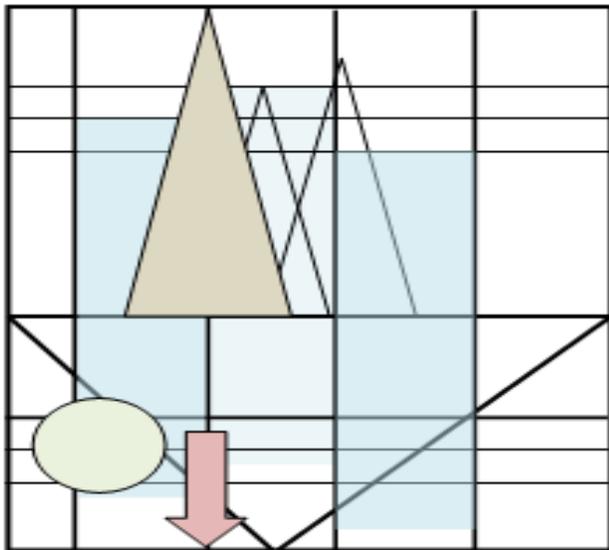


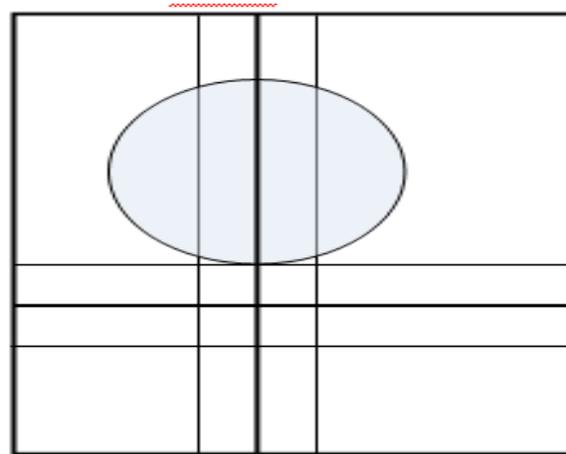
Fig. 2.2 Structural analysis

The emphasis of the design is the sails at the top of the middle center which appeared in a partially overlaid and light-colored position in order to determine the area of visual interest. These sails emerged from a core block of cork whose surface was shaped with some prominent and deep details to reflect the simulation of the traditional Omani shape. At the bottom right of the work is the steering wheel of the composite as a kind of optical and chromatic interconnect between the levels to achieve the

Fig. 2.3 Main axes of design

optical unit. All the elements on a background are in blue color with different optical and symbolic values. The background was divided into three

vertical parts in a rhythmic form in terms of spaces and lengths for the three sails.



There were external curved lines echoing the sails which established the link between the shape and the floor. It was seemed that the design has a whole external free line so that overlapping the whole area with the included elements to enrich the unity of the design form. As a result, the idea is glowing in terms of description and formation through the principle of recycle consumables where the varied values of the surface materials are consistent and suitable for the purpose of design.

**Art work 3:** (Al-Khatry, 2017).

The design dimension is 100 cm x 150 cm. The idea was to rely on the consumption of wood and fabrics to design a traditional Omani chair in an innovative way that can be used for a functional purpose. It was made from some wastes of wood boxes and was decorated with some copper pieces in forms of circles and triangles.



Fig. 3.1 Design

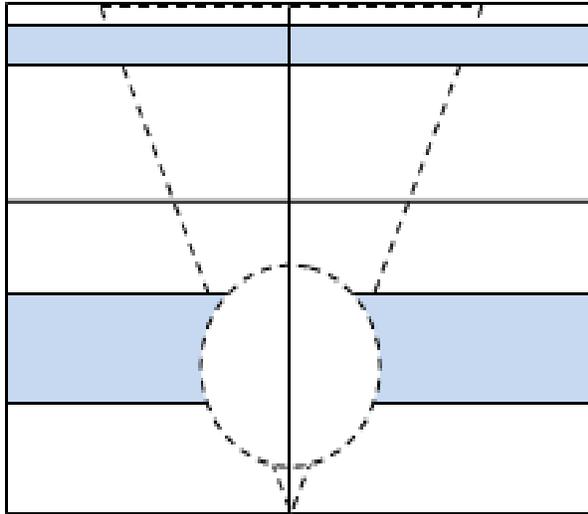


Fig. 3.2 Structural analysis

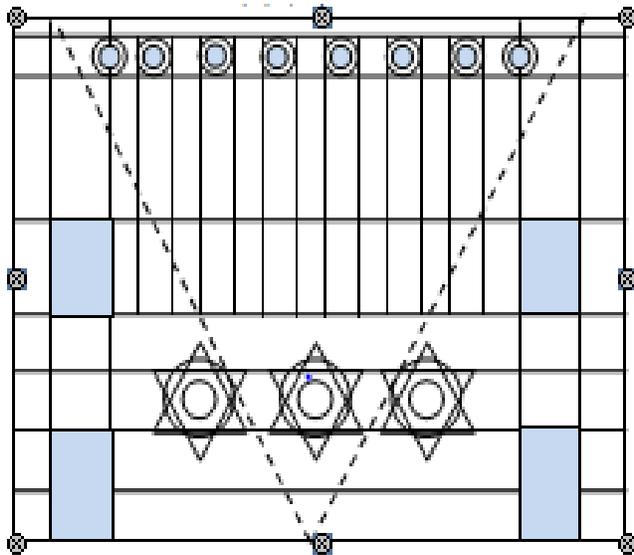


Fig. 3.3 Main axes of design

The construction of the chair is symmetrically balanced to achieve the functional purpose. There is a variety of values, techniques and methods of formation in the design between the geometrical forms of the grafted copper that were distributed in rhythmic shapes at equal intervals on the wood and the textile fabric printed by tie and dye technique. The back of the chair has the same forms to achieve optical connectivity and to form unity between the components of the design. On the other hand, the natural texture of the wooden material among the different surfaces enriches the visual contrast between rough and soft surfaces. Also, the color scheme of the complementary blue and orange colors in addition to the natural color of the wood plays an important role in the design.

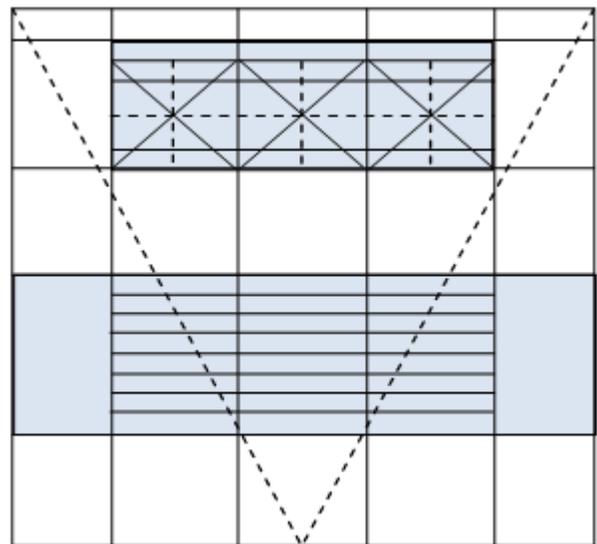
**Art work 4:** ( Al Mazroey and Al Makhbaly,2017)

The design dimension is 100 cm x 70 cm. The main idea of the work was how to implement an appropriate outdoor chair by using the waste of rubber tires and fabrics.



Fig.4.1. Design

Fig. 4.2 Structural analysis



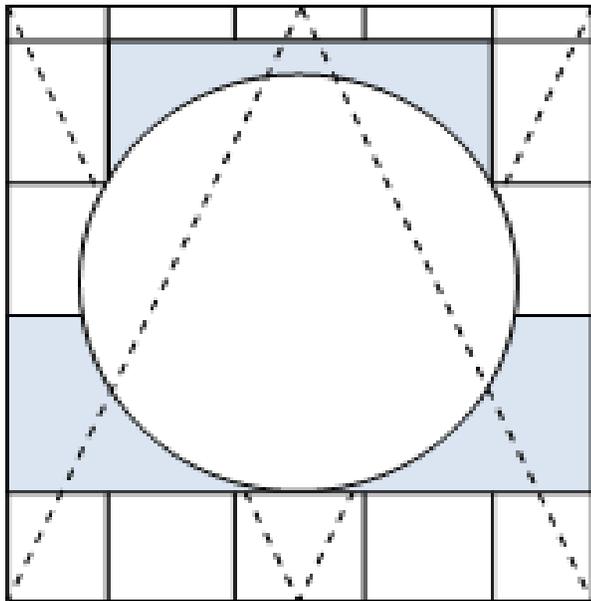


Fig. 4.3 Main axes of design

The design shows a set of aesthetic values that have been achieved through some of the structural foundations and surface formations in addition to the appropriate selection of the complementary warm and cool colors in red and green respectively. The colors were equally distributed among the components of the work to achieve visual balance and determine the formal importance of each element. Also, the composition was balanced with symmetry around the main axis in the middle of the work as well as the reliance on the actual texture of the material, which emphasized the formal richness among the components of the work. It was also based on some techniques such as the interlock between wood in the basic structure and the fancy in assembling the printed tie and dye fabrics to unify the color atmosphere of the work.

## Conclusion

There is always the question in art education, if the learning and teaching methodology could be done in a different way. This research paper shows a straightforward approach to adopt a clear philosophy of teaching and learning the three 'Rs' – reduce, re-use and recycle Rs in the art education institutions to enhance the co-operation between these institutions and industry. It is concluded from this research paper that there is a need for art to be an agent of the recycling activism to reinforce the gallery experience and broaden curriculum concepts and facilitates the transfer of knowledge and cognitive skills to the field of production. Thus, it is a better tool of enhancing aesthetics, functionality and artistic contemporary themes into the developed recycled products to ensure sustainable development and improvement in industry and production.

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