

**EXPLOITATION OF COMPOSITE TEXTILE ART TECHNIQUES
IN THE PRODUCTION OF TEXTILE MONUMENT DEPICTING
CROCODILE HAVEN**

BY

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by

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ABSTRACT

This project is an outcome of the researcher's bid to unearth to the fullest, textile art techniques that can find application in the production of monuments in the country. Research method employed is the Universal Research approach which is a studio base research method. Textiles was initially used as a mode of covering nakedness. However, the trend has changed, now in the United states of America textiles are used for artificial arteries, sutures, casts for fractured bones. The use of textiles in the production of monument is rare. Monuments are usually made of POP, cement, iron, bronze, etc, probably this is due to the following textiles properties as: Soptive, Thermal, and Light. Nevertheless, the problem was well assessed to enable the figuring of suitable plan to provide a solution to the problem.

The scope of the study covered crocodiles, tree stump, pond and grasses of Paga Crocodile Haven and textile techniques namely macramé, appliqué, quilting, painting and modelling. Concepts considered include conventional textiles, monument, Paga Crocodile Haven, taxidermy among others in the literature review. Observation and unstructured interview were used to gather data from the field to help the study. The population of the study was limited to few numbers of people in the market concerning macramé and appliqué art technique and few people at the Paga crocodile pond who were randomly selected. The non-probability sampling method was adopted with the assumption that the findings would be representative of the macramé and appliqué artists in Kumasi and that of Paga community in the Upper East Region of Ghana. This master's project therefore has sought to identify textile art techniques that can be composed in the production of textile monument in the country to promote tourism and also expand the scope of application of textile art techniques in nation building.

CHAPTER ONE

INTRODUCTION

Overview

This chapter introduces the background of the study, the problem statement, objectives, and research questions, definition of some terms, abbreviation and the organization of the text.

1.1 Background to the Study

Currently, the environment has been changing and adapting itself to a tempo that best suit human living conditions. As society develop, so do their aspiration, material and aesthetic needs. And growth in direct ratio to the quantity of data that flows between people. For Architecture, its traditional form cannot change massively, therefore adapting itself to the immediate social mayhems of the human aesthetic needs.

As such, at that place is the need to control and construct in the indoor and outdoor environment with taxidermy, flexible, light materials that can translate a space and destination such as a rest area, subject area, industrial field, playground, et Cetra in a really little time. The growing trend of textiles have made textile artists to move away from surface textile designing to the use of solid materials for making textile art pieces. Conventional textiles, known by many people to be the use of flexible materials, are gradually shifting to the use of rigid materials to depict flexibility and vice-versa.

This study refers to composite techniques as a combination of different techniques such as appliqué, knotting (macramé), and moulding as a unit, in producing a textile monument in a taxidermy form.

Appliqué is a technique whereby pieces of cloth or leather of different colours and textures are stitched or fixed on to a background as a decoration or a picture (Amenuke et al, 1991). Since prehistoric era, man has used paintings, sculpture and engravings to preserve their history and other significant events. Both indigenous and contemporary art histories suggest that textile could be used in the production of monument. However, some people have used the style and it has worked perfectly, for instance, El Anatsui's metallic fabric, Olek crocheted monumental scenes, and Sawa's architectural macramé, Jollet –a fabric sculptor, Tadman – a rope sculptor, and many others.

Offei (2004) explains that appliqué is a French word for applied; it is a process of fabric ornamentation carried out by cutting out different coloured and various shaped materials like pieces of cloth, leather, and feathers, and stitching them onto other contrasting fabric backgrounds using inconspicuous slip stitch.

Appliqué, therefore, can be defined as the use of different pieces of fabrics that are cut and pasted onto another fabric for decoration purposes. Appliqué has been used extensively by most fabric designers, for both quilting and patching. This is done either to make bed covers or make patterns in a cloth or garments (Appliqué, n.d).

Appliqué as used in quilting involves pieces of different coloured, textured, and sizes of fabric that are pasted or mounted on another fabric and it can be used to make so many items. The formation of fluffy surface on another fabric is quilting whilst the

technique used to paste those fabrics is called appliqué. Both techniques involve cutting and pasting (Appliqué, n.d).

Over the years, casting has been associated with sculpture which forms a major means of ensuring reproducibility of sculptural pieces or works and the media normally cast include plaster of Paris (POP), cement, metal and sometimes clay. Aside these conventional materials for casting, Ravi (2005) asserts that other soft material such as resin and latex rubber can also be used for casting purposes.

According to Offei (2004), casting is a process of filling a mould with a material that will harden to take exact copy of the volume and the inner surface detail of the mould. Materials such as POP, cement, bronze, copper, plastics, paper pulp, wax and sawdust are used for casting. However, in the field of textiles, fibreglass is used for casts for the healing of fracture in the medical field. Some other textiles fibres such as rubber and other polymers may be cast into forms like toys.

Macramé is a “method of using decorative knots to form multiples of designs” (The Columbia Electronic Encyclopedia, 2012). The term originated from an Arabic word which means for braided fringe (The Columbia Electronic Encyclopedia, 2012). Macramé, on the other hand, is a craftsmanship of enlivening knotting, using only the hands as the main tool for production. Hooks or needles are not needed. Using different kinds of knots, many decorative patterns can be created using assorted threads or even leather.

This craftsmanship of macramé could be created by anyone with or without experience in the field. Doing this, one has to be skilful and patient. Among the knots that can be used for macramé items are, square knot, clove hitch, half square knot, overhand, lark’s head, and monkey’s fist, to mention but few. Macramé is used

for making items such as dresses, bag, placemat, toys; chair back, seats and footwear's (Macramé, 2009).

Any solid or semi-solid plant secretion that is gauzy or clear and is “yellowish to brown in colour, are soluble in” organic solvents, and are utilized mainly in vanishes, printing inks, plastics, sizing and in medicine is considered to be a resin. They are formed from plant secretions and are obtained as ooze of recent or fossil origin (Schrödinger, 2009).

Resins can be obtained from different sources from plant and synthetics. Resin exudates from some plant in a form of plain sticky yellowish or brownish substance. Additionally, other forms of artificial substances, like polyurethane, that has related characteristics as natural resins are used for making plastic (The American Heritage Science Dictionary, 2005). Resins are often used for making polishes, vanishes, lacquers, drugs, plastics and other adhesives

Patton (2003) opines that:

monument is a piece of work obviously created to remember a person or important event, or anything that is of importance to a social group in remembrance of their historic times or cultural heritage. Patton also expresses that; monument is used as example of a historic architecture. The term 'monument' is often applied to buildings or edifices that are measured as an examples of significant architectural and or traditional legacy.

Monuments have almost always been gigantic structures, placed at a public place or an outdoor area, such as the tomb, market square playground, or an entrance of a town.

1.2 Statement of the Problem

The use of textiles in the production of monument is rare because of the deteriorating nature of textile goods. Textile materials in a text of time may change in response to change of weather. Sculpture, paintings and architecture are over emphasized considering monument.

Since prehistoric era, man has used paintings, sculpture, and engravings in different forms to preserve their history. Such major forms include the construction of monument. Many materials are used in its construction unlike the usage of textiles. Both indigenous and contemporary art histories suggest that the use of textile is rare in the production of monument (Moffat, 2007).

According to Sarpong (2009) in remembrance of the dead, the Egyptians built temples, tombs, masks, bust and others to commemorate those great persons. All of these forms of art were made in bronze, iron, P.O.P, cement, or stone. And the commonest technique used in monuments has been casting or modelling, and they are normally of one figure and not in a form of a scene. Again, the frequently seen monuments are normally of one colour. For instance, if cement is used to cast, the monument shall be gray or black, even if it will receive colour, it is sprayed in golden brown, white or gray.

Considering monuments, the use of fabrics, yarns, and other forms of textiles are usually not employed. The ancient world did not recognize the use of textile in monument building; instead, the major material considered for monument buildings later on were and have been cement, bronze, iron, clay, and other hard and rigid

materials. It is believed that such materials cannot deteriorate by the weather and is also considered as a durable material.

Wall paintings, based on material and textile techniques seem to have limited application probably because of their susceptibility to impairment with age. Since creativity through experimentation bring about innovation, textile murals can do as a hatchery for new ideas in studio art production (Howard, 2008).

Howard's opinion on mural, based on fabric and textile is not too different from that of monuments, based on textiles techniques such as macramé, appliqué, and modelling as a sculpture technique. The numerous techniques in textiles have not been given enough consideration in the production of monument. However, their usefulness cannot be ignored.

In examining the works of El Anatsui's metallic fabric, Olek's crocheted monumental scenes, and Sawa's architectural macramé, the researcher was motivated to mix discipline and media to produce monumental textile art piece. Though the enthusiasm and the experimental ability of some people elsewhere is making them popular in this area, for instance, Sawa's use of textiles in architecture, Olek's use of crocheting for project scenes, Jollet (a fabric sculptor), Tadman (a rope sculptor), and many others, these textiles approaches are not meant to be used as monuments but rather to serve as recreational purposes.

The monotonous presentation of monuments and the stringency in sculptural monuments triggered the researcher to move towards this topic because the use of other techniques such as appliqué, quilting, and macramé combined with modelling can be feasible in its own perspective.

According to Akeley (2008), the presentation of animals in taxidermy appears to be unrealistic. To make the presentation of animal realistic, the taxidermist studied the animal kingdom and ways to present them.

Although the yearn of the taxidermist to capture, control and maintain the flexibility and movement in the presentation of animals have proved futile, this is attributed to the fact that there is the possibility of taxidermist to claim life of an animal. For example, to make students understand “taxidermy” naturally, will mean to claim the life of about four to five (4-5) lioness and few cubs, so that their skins are stuffed to bring them closer to the student without any harm.

According to Patchett (2010) taxidermy may be referred to:

as specimens and displays that have gradually become irrelevant features in contemporary society. Viewed variously as historical stuffs, archaic ruins or more unkindly as ‘outrages’, they can be a source of uneasiness for many. Taxidermy stuffs have become bumpy aides-mémoires of past scientific and foreign practices which have required to capture and regulate animated life and as such have become progressively challenging objects for their owners.

There is, therefore, the need to find means of preserving and remembering history, persons, event and or scenes without tarnishing others in the name of naturality and flexibility.

In Ghana, the use of composite textiles art techniques is rare taking into consideration monuments, for instance, Otumfuo’s statue, Dr. Kwame Nkrumah’s statue and Yaa Asantewaa’s museum; hence, this study will use these techniques to generate flexibility in monuments, and to place emphasis on other avenues of textile

which will probably create job opportunities, attract tourists and serve as a decorative piece for some centres.

1.3 Objectives of the Study

The general objective of this project was to simulate Paga Crocodile Haven in the Upper East Region of Ghana through exploitation of some textile art techniques.

The specific objectives are:

1. To generate ideas from crocodile haven with specific reference to Paga crocodile pond.
2. To use appliqué, quilt, macramé, and modeling as composite textiles art techniques to produce textile monuments.
3. To exhibit the composite textile art monuments both indoor and outdoor at different places to test its feasibility.

1.4 Research Questions

The research questions are the questions that drive the focus for a study and help the researcher to find answers to such questions by aligning the questions to the objectives of the study. The study seeks to find answers to the following questions:

1. How feasible is appliqué, quilt, macramé, and modelling be combined to produce textile monument?
2. To what extent would composite textile art techniques help produce textile monument for indoor and outdoor uses?
3. How, where, and when will composite textiles monument be exhibited?

1.5 Importance of the Study

1. Textiles are used in almost any field of endeavour. This study, particularly, will set pace for further research into fusing textiles and other discipline such as sculpture as one component. This will lead to further exploration of how textiles and other related art fields may be combined into creating unique pieces for exhibition purposes and decorative pieces.
2. The study has provided the baseline data in considering textiles as solid forms rather than its flatness. This is primarily due to the findings in the fourth chapter of this study. As such, these findings may help textile artists in their consideration of these data to make generalizations concerning how textile may be used in solid forms, and not only in flat modes.
3. Moreover, through this research, young artists will be encouraged to explore all techniques possible in textiles and other related disciplines. This will eventually lead to the interdisciplinary use of textile and other related art forms.
4. Expand the scope of textile art and provide artist an innovative approach in creating monuments, thereby adding to the warehouse of knowledge.
5. Serve as resource for tourist attraction thereby promoting the country's economy.
6. Finally, in academia, this research project is expected to contribute to the existing body of knowledge as it pertains to textiles art. This body of knowledge will help other researchers continue to explore into the various aspects of textiles and other related fields of art.

1.6 Delimitation

The research was limited to the use of composite textile art techniques such as appliqué, macramé, modelling to produce a textile monument. In addition, the study was limited to the production of composite textiles art monuments of the wildlife animal, crocodile, and tree stumps at Paga crocodile pond.

1.7 Research Methodology

The researcher employed the studio base research using the universal design methodology.

1.8 Definition of Technical Terms

This study contains some technical terms which must be clearly defined as they relate to the study:

Quilting

“Quilting is the stitching which holds the three strata of the quilt ‘sandwich’ together while making a decorative pattern” (Quilting your quilt, 2015).

Resin

“Any of numerous clear to translucent yellow or brown, solid or semisolid, viscous substances of plant stock, such as coal, resin, and amber, applied principally in lacquers, varnishes, inks, adhesives, synthetic plastics, and pharmaceuticals” (Resin, 2016).

Appliqué

Appliqué is a crafting method in which slices of material are gone up to another base material. “In its widest sense, an appliqué is a lesser ornament or device applied to

another surface” (Brackman, 1993). Moreover, Brackman (1993) explains this in different context, for instance:

In sewing version, applique refers to a needlecraft practise in which pieces of fabric or other materials are sewn onto another piece of fabric to create designs, forms or images. It is mainly appropriate for work which is to be seen from a distance, such as in banner-making.

Macramé

“An decoratively patterned lacelike network made by hand, using cord, yarn, or the like, and usually used for wall beautifications, bags, baskets, clothes, accessories, etc.” (Toppo, 2011).

Modelling

Modelling consists of addition to, or building up of form. The materials used are soft and yielding and can be easily shaped, enabling rapid execution (Mahmat, 2011).

Taxidermy

“It is the skill used by sculptors for displaying animal in their natural state. In the attempt to present this, the animal is deskinning, prepared and stuffed with other materials to simulate the animal in its natural state. With animals like birds, their feathers are mounted on an appropriate material using resin to simulate it. Animals like vertebrates are mostly for displayed (e.g., as hunting trophies). Sometimes, taxidermy is the best option for preserving a beloved pet since the same pet’s skin could be useful after death (Ciccuto, 2003).

Taxidermist

“A person who applies taxidermy is named a taxidermist. Professional taxidermists may work for museums or industries supplying hunters and fishermen, or as proletarians, such as hobbyists, hunters, and fishermen. To be a taxidermist, one must be familiar with anatomy, sculpture, painting, and to some extent tanning (World Documentary Films, 2015).

Monument

Something created in remembrance of a person, event, etc., for example building, pillar, or statue: The Washington Monument, The Stone Henge (Monument, 2016).

Monumental

Something obsolete of, or relating to a sepulcher. Something of outstanding significance.

Exploitation

A process in which materials, techniques, or skills are used effectively to gain an advantage or profit.

Composite

A number of techniques merging as a single unit to aid produce an artefact.

1.9 Abbreviations

KNUST: Kwame Nkrumah University of Science and Technology

P.O.P: Plaster of Paris

PVA: Polyvinyl Acetate

UDM: Universal Design method

1.10 Arrangement of the Rest of the Text

Chapter Two is the review of the selected related literature; it involves what various writers have said in relation to the problem of the study.

Chapter Three deals with the research methodology which highlights on the method such as the universal design method which is a practical based method of executing the practical work for this project and the tools and materials used during the study.

Chapter Four entails the results and findings which constitutes the survey findings and the production of the project aimed at answering the research questions and ensuring the objectives of the study are achieved.

Chapter Five comprises the summary, conclusions and recommendations.

CHAPTER TWO

REVIEW OF SELECTED RELATED LITERATURE

Overview

This chapter reviews the writings of authorities as well as previous research on the topic and other related topics. The review is organized under the following sub-headings: the concept and conventional uses of textiles, the concept of monument and conventional materials used for monuments, a monument and monumental, composite textile Art techniques, taking into consideration Appliqué (quilting), Macramé, and modelling, what is taxidermy? wild animals such as crocodiles, lions, and antelopes, history and philosophy behind Paga crocodile pond, tree stumps, and finally, grass.

1.1 Concept and Conventional Uses of Textiles

The word “textiles means any material made of interweaving fibres” (Andrews, 2013, p. 289). Any flexible woven fabric or material consisting of a web of natural or man-made fibres considered to be strand or yarn is said to be textiles (Pop, 2013). Yarn is obtained by twisting fibres, example wool, flax, cotton, or other material to produce long threads” (An Introduction to Textile Term 2006). The following processes can be used to obtain textiles; weaving, knitting, crocheting, knotting, or pressing fibres together (Pop, 2013).

Akwaboa (1994) noted that the word “textile” is believed to have originated from the Latin “textilis” and the French “texere”, meaning to weave. The dominance of weaving concept thought of in textiles at first sight is perhaps the direct link of the concept to the Latin word “texere”.

According to Martinez (2010),

In tailoring and dressmaking industries “fabric” and “cloth” are used as synonyms for textile. However, there are little differences in these terms in specific usage. The fabrication of materials through weaving, knitting, crocheting, spreading, or bonding that may lead to the production of further goods, for example, garments is referred to as textiles

Sackey (1995) further states that, over the years, the word “textile” has undergone different dynamic changes, resulting in a wider scope to embody the development of different fibres, fabric manufacturing and improvement methods. The word “textiles” has many meanings. It is believed to have different derivatives based on its propounded origin from different writers. Akwaboa (1994) opines that “Textiles, and for that matter clothing, are considered as the second necessity of man if food is taken as the first”.

Initially as a mode of covering nakedness, the quest for clothing extended through time to comfortability. Basically, it is a type of material composed of natural or synthetic fibres (“Textile”, 2014). These comprise of protein “material such as wool or silk”, and also cellulosic fabrics such as “linen and cotton, and synthetic material such as polyester and rayon” (“Textile”, 2014).

Offei (2004) noted that a textile is the designing, production and decoration of fibres, yarns and fabrics or the processing of fibre into fabrics. Textiles in the modern age has widened its scope, hence, constituting artistic, scientific, social, economic and technological field in the world as a whole as cited by (Akwaboa, 1994). Moreover, the word textiles was originally used to mean woven fabrics; until civilization and industrial revolution expanded the scope of definition to cover any manufacture

(product) from fibres, filaments or yarns, either natural or man-made (Tettehfiio, 2009).

More often than not, the major textile activity actively practiced world-wide was weaving which made only woven fabrics to be classified as textiles, until research revealed other methods in textiles like printing, knitting, braiding, dyeing etc. and even the production of non-woven fabrics.

It can be deduced from the above literature in relation to textiles that, the early definition of textiles was primarily based on the fact that, textiles were basically woven, that is, weaving was the major means of producing fabric in the early ages. But in recent times, there has been tremendous change in human activities. This has led to technological advancement in the way production activity is done in all other fields.

Textiles is not now only woven, but other methods like knitting, lacing, plaiting, printing etc. but have been introduced into the system due to man's insatiable need for diverse ways of production to present variety in the choice of textiles by consumers. The word cloth is sometimes used interchangeably with textile. From the literature, cloth and fabric may be used synonymously, but cloth is often referred to a finished piece of fabric used for a specific purpose; hence, fabric is the end product of textiles using any of the various methods of textiles production like knitting, weaving, plaiting, lacing etc.

2.1.1 The Conventional Uses of Textiles

According to Willbanks (2006),

Woven, knitted, crocheted, et cetera products play critical function in providing man's elementary requirements. People usually only consider the apparel cloth we

put on to be textiles. Apparently, majority of textile products are produced in the textile industry to be used for apparel. However, in all facets of lives, textiles play an important role from gravel to grave (Willbanks, 2006).

Akwaboa (1994) opines that, 'Textiles was initially used as a mode of covering nakedness; the quest for clothing extended through time to comfortability.'

According to Sackey (2002) an area in textile called composite application uses treated fibres with special resins and cured to form rigid reinforced plastics that are used to manufacture light transportation vehicles like aircraft, and high performance boats, tennis rackets, fan blades, fishing poles, and surf boards.

Below are some of the field where textile products are found applicable.

a. Food Industry

In farming, when farmers are spraying their crops on their farms, they wear clothes usually made of textile to protect themselves. Fabrics are used to breed plants and cover trees to protect them from weather and insects. Likewise, strainers for coffee and tea bags are made of non-woven fabrics (Tortora, 1992).

In Ghana, a market survey provide reference have revealed that the use of polythene bags for wrapping both cooked and uncooked food is on the ascendancy.

b. Building Materials

Insulators made of textiles to prevent heat and cold are used in our homes, so as to ensure moderate or conducive environment for occupants. Aside textiles for insulation, the furniture used for sleeping or sitting is made up of various textiles

products such as foam, fabric etc. It is also used as materials for roofing, covering wire, coverings for wall, window shades, air canals (Willbanks, 2006).

This implies that, textiles form a very large component of the materials used in the construction industry. But superficially, buildings may be perceived to have less component of textiles whereas in actual fact it forms a major constituent with vital functions so far as the durability of building and comfort of the inhabitants are concern.

c. Transportation

“The transport industry is dependent heavily on textiles” in many ways. Engineers depend on textiles such as polyethylene to cover up the floors of roads before pavement begins so as to prevent the growth of grass underneath the pavement blocks. Vehicle tyres have about 75% textile fibre in it that gives it strength. Textile material known as “Kevlar” aramid is often used to reinforce circular tyres since it is lightweight and five times stronger than steel.” (Tortora, 1992; Kadolph and Langford, 2013).

Textiles, also serve a purpose in the covering of all types of interiors for transportation vehicles. Additionally, greater percentage of car interiors decorations are made of textiles products. Hundred percent of the Lear Fan Jet airplane frame is made of 100% carbon fibre. Aluminium has less than 50% in weight as compared to carbon material that is used Lear Fan Jet airplane body (Tortora, 1992; Kadolph and Langford, 2013).

d. Health Industry

“In the health industry lives are saved using textiles product.” The artificial kidney used in dialysis is made of 7,000 resonating fibres and is only two inches in diameter”. “The Jarvik-7 artificial heart is made of over fifty percent (50%) textiles and has Velcro accessories” (Tortora, 1992; Kadolph and Langford, 2013).

Also, “over one hundred and fifty thousand people in the United States of America have artificial arteries made of woven polyester, that helps in checking clotting and rejection”. Moreover, bacteria can be prevented by the use of disposable clothing. Recently, dissolvable fibres are used for sutures and with time, it dissolves in the body to enable the dissolution of the suture thread without drawing it out from the body which may cause injury or pain.

In addition, textile products may be developed for “casts for fractured bones, surgical masks, bandages and gloves which are employed in the health care industry” (Kadolph and Langford, 2013).

d. Protective Textiles

Protective textiles, primarily, protect things from harm. Such include:

Bullet resistant vests which are made of 7 layers of Kevlar 29â aramid, that are used to protect a person from a knife cut and stop a 38-calibre shot fired at a range of 10 feet. Fire-fighters and race-car motorists use clothing made of Nomexâ aramid to guard them against the dangerous heat they meet in their careers. Also, spacemen dress in suits made of Nomexâ aramid that guard them from the elements of space. Sports men also wear protective helmets and cloths made of textiles to guard their head and vital part of the human body against any accident during their sporting activity (Willbanks, 2009).

e. Recreational Products

Sports apparatus such as sailboats, tennis rackets, sticks for playing hockey, golf clubs, fishing rods, and canoes are composed of textile fibres. Kevlar aramid is again, used in this type of sports equipment because it is light weight but strong. Bags, balls, life jackets and man-made playing surfaces are also made of textile fibres (Willbanks, 2006).

Miscellaneous Textile Products

The following are textiles products that are not normally thought of as such:

1. Toothbrushes
2. Hair Brushes
3. Dental Floss
4. Man-made Flowers/Plants
5. Binders cloth
6. Wicks in Candle
7. Telecommunication Lines
8. Circuit Panels

The review of the uses of textiles gives an indication of how textiles find its way in all fields of human life. Textiles do not only find application in garment production, but in fields like agriculture, aerospace et cetra. As there is advancement in textile, so will there be the importance of textiles in our lives (Willbanks, 2006).

2.2 Meaning of Monument and Conventional Materials Used For Monuments

Monuments have been produced for centuries, and they are usually the most durable and well-known symbols of olden cultures. Prehistoric Tumuli, Dolmens, and similar structures have been created in a large number of prehistoric cultures across the

world, and many forms of the monumental tombs of more wealthy and powerful members of a society are often the source of much of our information and art from those cultures. Recently monumental erections, such as the Statue of Liberty and Eiffel Tower have become iconic symbols of contemporary states Golden monuments (2015).

1. What Is Monument?

When monument is mentioned, what comes into people's mind is a gigantic, very rigid object that stands tall amongst all other objects. These seem not to be so because the two words have different meaning. The following definitions give a clearer meaning of monuments:

1. Anything created in remembrance of somebody, occasion, etc., for example structure, column, or statuette: The Washington Monument.
2. Some structure, dolmen, etc., remaining since ancient times, and considered as historical or archaeological importance ("Monument", 2012).

Patton, (2003) is of the view that, a monument is a type of building that is formed in a unique way to remember a person or a significant event, or which is of importance to a group as part of their commemoration of important periods or ethnic legacy.

According to Sarpong (2009) in remembrance of the dead, the Egyptians built temples, tombs, masks, bust and others to commemorate those great persons. From the above definitions, a monument can also be referred to as any enduring proof or prominent example of something; an example, model, or representation of some abstract quality, especially when considered to be beyond question. An arena or a site of interest to the public for its historical meaning, great natural beauty, and so on, preserved and maintained by a government.

Considering the definitions given above, a monument can be defined as anything made as a ‘remembrance of an event or a person’. Monument can be big enough in size or small enough to fill a big space; in any case, if it is used as a remembrance, then it can be considered a monument. Monuments are usually made with conventional materials.

Some conventional materials used for monument include cement, P.O.P, bronze, iron, and clay. Materials for the production of monuments are limited to the above stated materials while other materials can be explored to find how feasible they can be used for the production of monuments in the world as a whole; hence, enabling the scope of application for other materials apart from the mostly used conventional materials. Techniques in other field like some textile art could also be employed in the country to build monuments rather than limiting oneself to the conventional materials such as clay and stone/sand.

2.3 Monument and Monumental

Monument and monumental are two confusing words due to the pairing similarities in terms of their meanings and implications. Yet, on a more critical consideration, there is some divergence between the two words. According to the Cambridge Dictionaries Online (2015), a monument is used as a noun to signify “a complex body part or construction that is built to honour a particular individual or event”, and besides it could signify “an old construction or position that is an important component of a country's history “According to the Oxford Dictionary, a legal document is seen as a memorial. Monumental could be a monument based on the definition of monumental as something outstanding or significance (Encyclopedia

Britannica). It does not necessarily mean that all monuments are monumental except they are of great significance.

According to Koshal (2011):

The ‘Arc de Triomphe’ in France, Empire State Building and the Washington Monument in America are all examples of monumental monuments. The ‘Arc de Triomphe’ is used to commemorate the victory of the soldiers. Empire State Building is a monument as it commemorates the growing American economy during that era. The Washington Monument was also built as a remembrance of George Washington after his death, as the first president of America. And also symbolize his ideas. Hence its reference as a monument. An inference can be made that a monument is built to honour an individual as well as to mark a distinct occasion.

The definition of monumental is something very large or important, or something that has lasting value. A historically notable, important, or of lasting value is termed as monumental (Your Dictionary, n.d).



Plate 1: The historic golden Maine monument statue in New York City

(Source: www.shutterstock.com)



Plate 2: Heroic cadets in Chapultepec park in Mexico City

(Source: www.bramanswanderings.com)



Plate 3: The O'Connell Monument

(Source: www.en.wikipedia.org)



Plate 4: The portrait of Constable Sheahan

(Source: www.comeheretome.com)

2.3.1 Types of Monument

a. Buildings

“A structure built on a piece of land which usually have window and doors as openings around it. It is relatively permanent or temporal depending on the type of material used. Buildings are normally used for a number of activities, as living, entertaining, or manufacturing” (Dictionary.com, 2012). Additionally, as noted on the website of St Helen’s Council is this eligibility checklist which seeks to ascertain the extent to which a building may be considered as a monument:

1. Period - the length of time it remained in use;
2. Rarity - monuments with few known comparators are more likely to be scheduled;
3. Documentation - information from earlier investigations at a site can inform on its significance;
4. Group value - where a monument forms part of a wider geographical landscape of important sites;
5. Survival/Condition - the degree to which the surviving remains convey the size, shape and function of the site;
6. Fragility/Vulnerability - threats to the site from natural agencies, tourism or development can lead to a monument being scheduled for its protection;
7. Representivity - how well the monument represents diverse similar types and/or whether it contains unique features;
8. Potential - its ability to contribute to our knowledge through further study.

(“Historic Sites and Monument”, 2016)

No wonder that Wikipedia (2016) states that buildings may be “planned as landmarks, generally built with uncommon feature such as tallest, largest or unique design”

It is clear that the list above is absolutely emphatic on what ought to be considered in determining what makes a building a monument. This implies that not all buildings may be considered as monument given the characteristics mentioned above.

a. Monoliths

“A monument, pillar, huge statue, etc., designed of a sole slab of stone” (Dictionary.com, 2012). Also, another definition of a monolith is that it is “usually a large and or tall single block of stone, and may be attached to a single or two tier stone base or cemented into the ground” (Monolith and Pedestal Monuments, n.d.).

In contrast, another explanation of “monolith is a physical feature such as a mountain containing a single huge stone or rock, placed as, or within, a monument.” (“Monoliths, n.d.”). The word ‘monolith’ is “derived from the Latin word ‘monolithus’ and Greek word ‘monolithos’, derived from ‘one’ or ‘lonely’ and ‘stone” (“Monoliths, n.d.”).

b. Statues

Statue can be considered a work of art that is in the round. It could be representative or in abstract form. Statues could be carved, casted, modelled, or formed using the following materials, stone or wood, plastic, bronze, or the like.

c. Temples

An edifice or place dedicated to the service or worship of a deity or gods. (Dictionary.com, 2012). An instance of a temple is the ‘Temple of the Four’. “This

temple lies at the eastern end of Temple Terrace, overlooking stunning views across the mounds. It was designed by Vanbrugh but remained unfinished at the time of his death in 1726; the interiors were finally decorated in 1738 by the stuccoist Francesco Vassalli. The temple had two apartments. The top portion was used by the family for refreshment and reading, and the down apartment was used by the servant for preparing food they served to the family upstairs” (Temple and Monuments, 2013).

d. Arches

A curved stonework construction for covering an opening, having a number of wedges like nuggets, bricks, and so on, set in the narrower side near the opening such that the direction of forces on the arch are conveyed as perpendicular or slanting pressures on both sides of the opening (Dictionary.com, 2012). Moreover, arch monuments attract tourist everywhere in the world. They are built to honour important people, or remember historic events. These man-made arches are great architectural landmarks, each with their own tales to differentiate. On that point are some extraordinary arch monuments all over the globe such as the Gateway Arch, in St Louis located in Missouri in the USA; the Rua Augusta Arch in Lisbon, Portugal; Arcade du Cinquantenaire in Brussels, Belgium; Arch of Constantine in Rome, India Gate in New Delhi, India and Independence Arch in Ghana among many others.

Monuments can be used in places such as the cemetery, home-hall, Independent square, Public centres, museums, Churches, schools etc.

2.3.2 Textiles Monument and their Preservation

Textile monuments are basically explained as monument made with textile material or monuments that employed textiles techniques.

This has been one of the factors behind the non-employment of textile in the production of monuments especially outdoor monuments. Textiles are known to be adversely affected by many external factors like sun and water when used outside a house or a building. Even textile monuments which form part of the interior of a house or a building, when mostly exposed to touch by people, especially children may cause abrasion of textile, hence, the tearing or degradation of the monument. These factors that make textiles seem inappropriate for monuments are as a result of the properties of the textile materials.

Such properties as outlined by Sackey (2002) are:

1. **Soptive** – that is the ability of the fibre to respond in various ways when they come into contact with different liquid agents. In this way, fibre can be considered as hydrophobic, hydrophilic or oleo phobic.
2. **Thermal property** – fibre has the ability to respond to heat in different forms. They conduct heat or resist heat to certain limits and, therefore, serve isolative purposes.
3. **Light** – textiles are generally usually used outdoors and so are constantly exposed to daylight, which has a degrading action on almost all fibres. Daylight has ultraviolet and visible rays that can act directly in a destructive manner on the fibre.

The degree of degradation of textile monument is said to depend on the period of exposure, the moisture content of the air, the amount of sunlight, and the content of pollution in the air.

Due to the nature of textile materials they are not mostly kept in the open, especially they are not left under the mercy of the sun and rain, because of the deterioration ability of the weather. It is strongly believed that, some textile made monuments are kept under a roof to protect it from the weather, unless it is strong enough to withstand the conditions of the weather.

However, the where and how to keep the textile monument depends on the type of fibre used and the period that particular monument will stay in the open.

Importance of Textile Monument

1. It helps in historic preservation – for instance the activities of Yaa Asantewaa can be made in a series of Marquette and arranged in a whole room as a museum.
2. It will help to provide a source of tourist attraction.
3. It makes provision for job creation.
4. Commemorate a person or an important event.
5. To conserve an area or a place of concern to the community for its historical connotation and its usual beauty.
6. Serves as an example, model, or a representation of some abstract character, especially when taken to be beyond doubt.

2.3.3 Some Textile Materials Used For Monument

There are numerous textile materials that can be cast into forms. Some of these materials can withstand the open (that is, all forms of weather), while others do better in an enclosure. For example, gum, which is a form of resin is used for making indoor sculptural pieces.



Plate 5: Monument made with textile material (gum)

(Source: www.mymodernmet.com)

Aside gum, fibreglass is also used to cast figure of different forms. Fibreglass can withstand both high and low temperatures, therefore it can be used to build outdoor monuments such as the Plate 6.



Plate 6: Monuments made with fibreglass

(Source: www.gillieandmarc.com)



Plate 7: Monuments made with fibreglass

(Source: www.sculptureinthevineyards.com.au)



Plate 8: A monument made with polyethylene

(Source: www.sculptureinthevineyards.com.au)



Plate 9: Fabric butterflies monument

(Source: www.ohmisterfinch.tumblr.com)

2.3.4 Some Techniques Used For Textiles Monument

So many techniques can be adopted to make the textiles monument. These include weaving, knotting, crocheting, casting, quilting, appliqué, modelling, and others of which casting is widely used.

2.4 Composite Textile Art Techniques (Taking into Consideration Appliqué Quilting, Macramé, and Modelling and Few Textile Techniques)

In the field of art, there are a number of techniques in every field of art. These techniques serve as procedures for the production of artwork. Techniques in one field of study may differ or may be similar to the techniques in another field of art. Sometimes, there is the composition of techniques from different field to bring out new things or method(s) of production.

The term composite can be utilized in different ways and the definition can range from general to very specific. In the broader sense composite can be defined as “engineered materials made from two or more basic materials with considerably different physical, mechanical or chemical properties and which remain separate and distinct within the finished structure” (Alankar, 2012).

According to Dictionary.com, the word “composite” refers to something made up of disparate or separate parts or elements; compound (composite, n.d).

It was derived from old French composite, from Latin “composites” which means placed together; to put together or to collect a whole from several parts (Composite, n.d).

materials which are stronger, lighter or less expensive when compared to traditional materials (Alankar, 2012).

Below are some of the art techniques in the textiles field considered based on the fact that the study is narrowed to the use of textile art techniques such as applique, macramé and modelling for the production of the monument in the study.

2.4.1 Quilting

The word "quilt" comes from the Latin ‘Calcutta’ meaning a stuffed pocket, but it came into the English terminology from the French word ‘cuilt’. The roots of quilting remain unknown, but sewing techniques of piecing, appliqué, and quilting have been used for clothing and fittings in various regions of the universe for several millennia. The earliest known remaining European quilted bed is from late 14th century. It is made of linen and stuffed with wool (Wikipedia, 2009).

One of the recognized methods of sewing is quilting. This sewing method can be executed either by using the hand, electric sewing machine or manpower sewing machine. Also the Long arm quilting system could also be used. In quilt making process needle and thread are often used to seam sheets of fabric together to make a complete artefact. A distinctive quilted work has three layers, which include the top fabric or quilt top, the middle fabric called the insulator material and the fabric place at the back of the quilt and this is called backing material. All the three layers of the quilt are sewn together passing the needle to and fro the piled layers of the fabric.

The act is repeatedly done across the entire piece of the fabric to make the quilt. Commonly used stitches include running and tacking and all other straight stitches. These stitches can either be of functional or decorative uses and are sometimes of intricate designs. Some items made using quilting include bed sheets, wall hangings, clothing, and other textile products (Howard, 2014).

There is a belief that, emphasis has been placed on the usefulness of quilt since its origination rather than beautification. Additionally, earliest Egyptian monuments which show statues wearing quilted clothing suggest that, quilt was possibly used for warmth in the chilly desert evenings. In contemporary era, artistic quilts have started becoming popular for their beautiful and artistic qualities rather than for functionality (i.e., their use on a bed have become less significant rather than displaying them on walls for aesthetics purposes f). Designing, piecing, appliqué, and binding are all processes involved in quilt making in general.

Piecing is the stitching topmost part of the quilt, which is made up of pattern arranged with small pieces of cloth. A part of the pattern that can be repeated is called a block. These blocks are stitched together, either edge to edge, or with separator trimmings called slashing. Piecing is not done if an entire section of cloth is used for the top sheet in some quilts.

To put the backing, batting and the top of the quilt in place, layering is then done. Quilting encompasses fastening three sheets together and decorating it as well as finishing the edges and securing the edges with trimmings. Borders are sometimes added before it is fasten (Howard, 2014 as cited in Wikipedia, 2007).

2.4.2 Dyeing

According to Sackey (1995), dyeing can be simply explained as the uniform application of colour to a textile material or other materials that can take in dye. Archaeological findings indicate that dyeing was an industry widely practiced in Egypt, India and Mesopotamia around 3000BC. A major discovery in the dyeing industry was the development of synthetic dyes in 1856 by William H. Perkin which ended up in the development of more effective and less difficult dyeing techniques (Sackey, 1995).

Sackey (1995) further States that, the earliest forms of dyestuffs were natural, obtained from trees, animals and mineral resources. There is historical evidence of the use of red ochre in Stone Age burials. Safflower obtained from *Cathamus tintorius* are known to have been used to dye cloth. Examples of such dyed cloths date back from 300BC are known to have been found in Egyptian tombs. Some of these cloths are found to have blue and scarlet stripes with indigo and colour obtained from a scale insect called Kermes. By 1600BC, Tyrian purple obtained from a type of shellfish was used in Crete to dye cloth.

Dyeing technique is also used in the production of batik and tie-dye cloths. Batik dyeing is a resist dyeing method that makes use of resistant material (mostly wax) on a fabric before dyeing. Molten wax is applied to a spread fabric to prevent the entry of dye to those areas during the application of dye. Block printing of wax (wax printing) came about to increase the rate of production due to the increase in demand of batik fabrics. Tjanting was introduced to help in the application of wax on the fabric. Technology has led to the use of rollers in the application of wax onto fabrics. The waxed fabric is then passed through the dye bath after wax application and later

dried, dewaxed and washed. This has made it possible to produce batik clothes in a large quantity to meet the high demand of the people within a short time.

‘Tie and dye’ is a term used by contemporary artists but it was coined in the mid-1960s in the United States for a set of earliest resist dyeing methods, products made from these techniques. (Sense of Fashion: Tie-dye gets modern, 2013). All the following process are seen in a typical tie and dye; folding, twisting, pleating, binding, crumpling bunching, tying object into fabrics or garment and binding with string, and then immersing fabric in a dye bath solution. The manipulation of fabric to prevent portions of the fabric from receiving dye prior to immersion of the fabric into the dye bath is called resists, this process prevents the fabric from receiving dye partially or completely. However more complex tie and dyes involve other stages, with a preliminary application of dye preceding to the resist, numerous consecutive dye and resist stages, and the use of other forms of resists for example tritik, the use of stencil and discharge, which involves the use of bleaching agents (‘Tie-dye’, 2013).

Batik is another dyeing technique that has found application in fabric decoration for clothing and making pictorial art on fabrics. Batik Guild (1999) cites that, this technique is from a Javanese word and has been interpreted as "good points or dots." The Indonesian patterns have some tiny dots that give them interesting and lively quality and it also show the Indonesians mastery of the technique. A standard definition of batik is that; it is a method of applying colour to fabric by immersing it in the dye baths to produce a design, by using wax to prevent dye from entering certain areas of the fabric.

2.4.3 Crocheting

Crocheting is a method used to create fabric by interworking hoops of yarn, thread, or any strand that is useful for textiles purposes to fabricate fabrics or cloth using a suitable hook.

As a textile art technique, the term ‘crocheting’ is one of numerous methods that can be used to produce fabric with cord, yarn, thread and any pliable material. Crocheting as a word was obtained from the French word "crochet", meaning ‘small hook’. Crocheted products manufactured commercially and are mostly produced in artisan workshops. To begin crocheting fabric, a slip knot is created as a bait, on which a long chain of loop is created by pulling another loop through the first loop. This process is repeatedly manipulated to create a chain of a suitable length. Crocheting, deals with pulling loops through other loops with a crochet hook aiming at fabrication. Sometimes, the meaning of crocheting and knitting is conflicted. The relevant difference between crochet and knitting is that, in knitting loops are made around loops while in crocheting long continuous chain of loops are made and directed as desired by the artisan or the producer. The chain is either turned and worked in rows, or joined end-to-end and worked in rounds. Stitches are made by pulling one or more loops through each loop of the chain. At any one time at the end of a stitch, there is only one loop left on the hook. During the completion of a stitch there may be multiple loops on the hook (Wikipedia, 2009).

This method distinguishes crochet from other methods of fabric-making, such as knitting, as it is composed entirely of loops made with a single hook and is only stopped up when the liberal terminal of the strand is taken out through the last loop.

“Crocheting is an ancient technique that has evolved into the perfect contemporary craft. It’s fun, easy to learn, and versatile. Basic stitches, used in innovative combinations with the fabulous variety of yarn available today, create stylish designs far removed from the doilies and granny squares of yesteryear” Silverman (2006).

2.4.4 Macramé

Macramé is an existing form of art believed to have originated in the 13th century with Arabian weavers. It is believed that they knotted the excess thread and yarn at the edges of their hand woven fabrics into fringes as decorations on bath towels, shawls, and veils.

Macramé is an art of making decorative knots with the hand using cord or any pliable material. Many ornamental patterns can be created by using a series of knots. any kind of material can be employed to make macramé knots. You can use fine thread to make macramé lace or even use leather strips. By a special technique, the macramé craft keeps the knots in place while the work is being done. One has to be creative, skillful and patient when it comes to creating macramé patterns. It may even take many months to finish a complex piece of macramé work with complex design.

Below are some materials used for macramé:

1. *Cross-stitch floss*: This makes use of strong cords in a variety of colours. The knots using this cord type are strong and difficult to untie.
2. *Cotton crochet*: It is a soft cord which is so easy to work with. It is better used for knotting intricate designs.
3. *Polypropylene*: It is strong and durable man-made fiber
4. *Hemp*: This is a strong natural material that wears well.

5. *Rattail*: This type of cord lends a satin feel to the crafted object. It is available in a variety of colours and sizes.
6. *Soutache*: This is a kind of flat-ribbed satin cord often used for trimming.
7. *Waxed linen*: This is best-suited for creating crisp knots. It is slightly stiff and can hold well.
8. *Wire*: This is used in macramé jewellery. Copper is the best choice as it provides strong and durable cord.

Macramé is known to be a delightful craft employed in making numerous useful things from bags and hanging baskets to purely decorative objects like jewellery and wall hangings. Exquisite macramé patterns are used in plant hangers, creative arts, clothing and much more. The ornamental knots of macramé can be even used in knife handles, bottle covers, table cloth; being used to cover lampshades, in a handbag or even a fine pair of shoes ('A short history of macramé', n.d).

2.5 Taxidermy

Taxidermy is the art of arranging, stuffing, and mounting the skins of animals (especially vertebrates) for exhibition (e.g., as hunting trophies) or for other sources of study like classes proof of identity. It can also be simply explained as the preservation of a beloved pet. Mammals, birds, fish, reptiles, and amphibians are the most used vertebrate species of animals used for Taxidermy. Taxidermists; people who practice taxidermy may practice professionally for museums or as businesses supplying hunters and fishermen, or as amateurs, such as hunters, hobbyists, and fishermen. The familiarity with anatomy, sculpture, painting and tanning aids taxidermists in their production.

2.5.1 Taxidermy as Art

Victorian era has been the golden age for taxidermy. During this era mounted animals became a common part of interior design and decoration. The father of contemporary taxidermy is considered to be John Hancock, an English ornithologist. A keen collector of birds, started modelling them with clay and casting them in plaster of Paris (Davie, 1900). In order to present the birds in their natural state, the feathers were fixed on the cast or modelled clay or plaster of Paris to bring out reality.

2.5.2 Methods in Taxidermy

The animal is first deskinning in a process like the removal of the skin from a chicken before cooking. This can easily be done not necessarily opening the body cavity, so the taxidermist usually does not see internal organs. Depending on the skin type, chemicals for preservation are applied or the skin is tanned. It is then mounted on a dummy made from wood, wool and wire, or a polyurethane form.

The following processes are followed in mounting taxidermy specimen.

1. Scientific measurement
2. Skinning
3. Stuffing of the skin
4. Labelling

Taxidermists strive for maintaining their skills to ensure eye-catching, lifelike results. Most taxidermists usually use bears, although some use creatures such as snakes, birds and fish. Although mounting an animal has been considered an art form

long ago, often involving months of work, not all current taxidermists' traps or hunt for prize samples (Morgan, 2005).

Freezing is a preservative method used by taxidermists to save or store taxidermy specimens for later use. The skin of the animal is removed by the taxidermist to be darkened and treated at a future date. Measurements are then taken of the residual body. One method used to obtain a mould in taxidermy is to form the skeleton in plaster of Paris, a copy of the animal is then made using one particular methods. A polyester resin and glass cloth is then used to make the final mould; from which a polyurethane form is made for last production. An old method that remains common today involves maintaining the original skull and leg bones of a sample and using them as the basis to create a dummy made basically from wood wool and galvanized wire. Previously, pulled or hemp wool was used to make the dummy before wood wool is introduced. The body is then removed and the shape is used to produce a cast of the animal called a 'form'. Animals could also be sculpt first in clay to make the 'form'. Nowadays, a lot of companies produce 'forms' in many sizes. In some cases, the following features are added to project reality in the display; glass eyes, artificial teeth, jaws, and tongue. For some birds, artificial beaks and legs are usually added to make it lifelike ("The Vaults Gallery, "The Museum House of Death", 2014).

Sometimes, taxidermy samples do not include a body at all. Taxidermists do not use the skin of a particular animal, especially in the case of sporting fish, such as trout and bass, for which the practice of clasp and release is gradually becoming predominant. Detailed photos, and measurements of the animal are rather taken, a resin or fiberglass is used to great the animal by the taxidermist, mounted and displayed as a specimen. The actual animal is release afterwards. A taxidermy in

vegan form is seen in the works of the artist Charlie Tuesday Gates ("The Vaults Gallery, "The Museum House of Death", 2014).



Plate10: A vegan form of taxidermy

Source: ("The Vaults Gallery – The Museum House of Death", 2014).

2.6 Wild Animals

Animals could be primarily divided into two parts; wild and domestic. A wild animal is defined as an animal that lives in nature (is not provided shelter by a human), is responsible for getting its own food and water (is not provided food or water by humans), and is not cared for by humans. Examples include red foxes, pheasants, songbirds, channel catfish, or white-tailed deer. Animals that live in wild conditions without being domesticated are the wild animals (Naveen, 2012).

A domesticated animal is an animal that depends on humans for shelter, food, water, and general care. Domesticated animals generally do not have the ability to hunt or provide food for them, or find sufficient shelter. Examples include house cats, dogs, parakeets, cows, or pigs. Understanding the meaning of domestic animal and wild

animal is not so difficult, by sight, as there are many differences exhibited between them, they can easily be identified.

Naveen (2012) cites that, the definition of domestic animal includes three types known as companion, livestock, and working animals

Some distinguishing features of wild animal from domestic animals as cited by Naveen (2012) is that; animals that live without direct influence from human are said to be wild animals. They are highly aggressive, while domestic animals live under influence of humans. Wild animals are not taught to obey human instructions like the domestic animals. In agriculture wild animals are pests whereas domesticated animals are friends. Domestic animals are useful for various anthropogenic activities, but wild animals are not.

Examples of wild animals are lion, crocodile, fox, tiger, elephant and some domestic animals' such as horses, elephants, donkeys etc.

To consider animal wild or domesticated depends on the situation. For example, a wild cottontail rabbit can be domesticated as pets. Most horses are domesticated, but some states in the West have wild populations of horses.

There are also feral animals which are once domesticated animals that are now living on their own in the wild. Examples of feral animals include some cats, occasionally dogs, and sometimes pigs (Naveen, 2012).

i. Crocodile

Crocodiles are big reptiles found in humid areas of Africa, Asia, the Americas and Australia. They live in tropical regions based on the fact that, they are cold-blooded and cannot generate their own heat. During colder months, they hide or become inactive. Crocodiles will also be inactive during long seasons of drought. To create a place to hide, they dig out a hole called burrow at the river bank or lake and relax for a long sleep.

Thirteen species of crocodiles are known so far, and so there are many different sizes of crocodile of which the dwarf crocodile is not left out. It grows to about 5.6 feet (1.7 meters) in length and weighs 13 to 15 pounds (6 to 7 kilograms). The largest crocodile is also one of the species which lives in saltwater. The largest crocodile ever found was 20.24 feet (6.17 m) long and weigh up to 2,000 pounds (907 kg) - (Bradford, 2014).

They are normally found near lakes, rivers, wetlands and even some saltwater regions.

Crocodiles reside in rivers, lakes and dams. They are mostly found in parts of America, Asia, Africa and Australia. Some Australia crocodiles live in salt water as cited early on. These crocodiles that live in saltwater normally grow bigger than the ones that live in fresh water. Although crocodiles use most of their time in water, they sometimes come out and stroll on the land. Crocodiles breath air just like human beings, as such they cannot breathe underwater: They can only hold their breath for a maximum of about two hours underwater hence they are always seen on water surface.

Often crocodiles are taken to be alligators and vice-versa, but there are some differences in their features. According to the San Diego Zoo, the crocodile has a V-shaped jaw while an alligator's jaw is U-shaped. Aside that, crocodiles have teeth that is shown over their upper lip when their mouths are closed.

Again alligators differ from crocodile in the sense that, there are salt glands on the tongues of crocodiles unlike an alligator. These salivary glands enable crocodiles to acclimatise in living in salt water. Due to the fact that, the alligator does not have the ability to eject excess salt through the tongue glands, as such they prefer living in freshwater zones rather than saltwater. (Bradford, 2014).

It is also believed that. when the alligator closes its mouth, the fourth tooth in the lower jaw cannot be seen so easily. On the other hand, the fourth tooth in the lower jaw of a crocodile can easily be seen even when the mouth is closed. Crocodiles are said to have slimmer snouts than alligators, but there are also some crocodiles with wide snouts (Wikipedia, n.d).

2.7 History and Philosophy behind Paga Crocodile Haven

The mystical Paga crocodile pond is made up of live crocodiles believed to have its oldest crocodile's age as 90 years old. These reptiles are indeed huge in sizes and deserve a physical look by another.

In a normal sense, one would say crocodiles are wild and deadly creatures, but from Paga crocodiles pond are lively, friendly and very entertaining. These crocodiles are very friendly and could allow visitors to sit, touch and even take photographs with these live crocodiles. The crocodiles freely move in the ponds and it is unthinkable

that anyone harms them or they harm anyone (Ghana Tourism, “Ghana facts and history” (n.d).

Historically, it is believed by residents of Bolgatanga and the entire region that a very long time ago, one of the huge crocodiles led a dying, dehydrated man to the pond to quench his thirst without causing any harm to him. The man after recovering his strength pronounced the crocodile pond “sacred” and ordered that no man born of a woman should harm any of these reptiles.

Nevertheless, it is also believed by the people that the soul of every member of Paga has a crocodile in the pond. Psychologically, the people at Paga believe there will be a dead of a crocodile in the pond if a soul in the society is lost especially important figures in the community.

The Paga crocodile haven is the most popular crocodile pond in the country. It is located in the north-eastern border of the country, some forty (40) km from Bolgatanga, along the Burkina Faso border and 12 km from the town of Navrongo. The Paga crocodile pond is the sacred haven for crocodiles, which are believed to be the totems of the Kassena residents in Paga and its neighbouring villages. For this reason, the crocodiles move freely within the environs of the ponds and even, at times, visit some of the homes of the local people (Paga Crocodile Pond, 2012)

According to Ghana Tourism, the history of the crocodiles of Paga is tied to Nave (Nah-vey`), Paga`s patriarch and founder. The Nave`s story goes back more than a dozen generations to Tampela and Kampala in the present day Burkina Faso and begins with Nave`s father, Prince Panlogo. Upon his father`s death, Panlogo contested for the position of Pio (chief) but lost to his junior brother. Dissatisfied with this turn of events, Panlogo left his sympathizers to the land of Tampela. People

who supported his brother followed and the dispute escalated into violence. Panlogo and his people fled the hostilities on horseback, and the enemy gave chase.

Panlogo and his followers came to a raging river with no means of crossing the water. In the midst of their desperation, the people saw a crocodile at the water's edge. Panlogo's people believed the spirits of their ancestors resided in crocodiles. Sensing that this was no ordinary crocodile, Panlogo approached the animal and pleaded for help to cross the river. In beseeching the crocodile, Panlogo swore that in return for its support, from this time forward, neither he nor his followers or descendants would kill or harm any crocodile. This is regarded as the basis for referring to crocodiles at Paga as sacred.

Performance of libation is done by a priest every day before people are exposed to the crocodile based on the fact that, it is believed the non-performance of libation to the crocodiles who are believed to be sent by the spirits of their ancestors will become unfriendly. Below is a picture of the interaction of human being and a crocodile at Paga.



Plate 11: A friendly interaction between a human being and Paga crocodile

Source: Ghana Tourism

2.8 Tree Stumps

After cutting a tree down, the small remaining stem plus the root remaining in the soil is usually referred to as tree stump. The process of intentionally cutting a tree to a stump for reproduction purpose is known as “coppicing”. (Buckley, 1992). The age of a particular tree can be determined by the number of rings on its stump. The study of these rings is known as “dendrochronology”.

. Often, a deciduous tree that has been cut will re-grow in multiple areas around the edge of the stump or from the roots (J. & Götmark, 2014). This is however dependent on whether the tree is removed forever or whether the forest is anticipated to recover. Stump shoots can grow rapidly and sometimes become trees themselves either for beautification or timber, due to the surviving root structure; however, the cut area of the stem may deteriorate the shoots and introduce disease into the newly forming tree. A tree stump is gotten out of the tree. A tree is a woody-stemmed plant with a minimum height ranging from 3 to 6 meters. A tree contains the following parts:

1. Root: is the part of the tree that remains underground. Its main function is to hold the tree and absorb water and minerals from the soil. Most trees have one main root from which secondary roots emerge.
2. Stem: The stem is the tree structure that separates the roots from the crown, where the branches and leaves are. In the case of trees, the stem is called a trunk.
3. Leaves: They are one of the most important parts of the trees since they are responsible for carrying out photosynthesis, respiration and plant transpiration.
4. Branches: Branches are the side shoots that originate from the buds.

5. Flowers: Flowers are the sexual organs of the trees. Flowers become fruits.

(‘Characteristics of trees’, 1999)



Plate 12: A freshly cut tree stump

(Source: en.wikipedia.org)



Plate 13: Young spruce (picea) on stump - saprobitic

Source: (‘Characteristics of trees’ 1999)

Tree stumps are known to be deforested trees. It basically externally constitutes the root, a portion of the stem/trunk, and various layers in its cross-section of the trunk. Inside the trunk of a tree are a number of rings which are grown annually and it is

usually called annual rings. The rings are actually made up of different parts which include bark, cambium layer, sapwood, heartwood and pith (Leanne Guenther, n.d).

The trunk of a tree fortifies and ensures stability of the whole part of the tree. The trunk has growth tissue called cambium. The stem of the tree gives its shape and support and also holds up the top. The stem transports liquid and other nutrients from the roots and sugar from the leaves (Leanne Guenther, n.d).

i. Bark

The very external layers of the tree stem, branches and twigs consists of bark (tree physiology: Michigan forests forever teachers' guide, n.d). The bark serves as a protective layer for the more delicate inside wood of the tree. A tree has inner bark and outer bark: the inner layer of bark is made up of living cells and the outer layer is made of dead cells. There is a layer in the inner bark scientifically called phloem, which is responsible for transporting fluid that contains a lot of sugar from the leaves to the other parts of the tree. The inner layer of bark is also responsible for Series of handy things made from bark, including latex, cinnamon and some kinds of poisons. Since bark is a shielding layer of the tree, it is responsible for keeping it safe from insects and animals. The strong flavours, scents and toxins can often be found in the bark of different types of trees (Leanne Guenther, n.d).

ii. Cambium

Just before the bark of the tree, there is a living cell called cambium. This living cell makes new cells to help the tree to grow wider and bigger (Leanne Guenther, n.d).

iii. Sapwood (Xylem)

Sapwood is scientifically named as xylem. It consists of a network of living cells through which water and nutrients are taken up from the roots to the branches, and to the other parts of the tree. When the inner layers of the sapwood die it becomes a heartwood (Leanne Guenther, n.d).

iv. Heartwood

From the centre of the wood, just after the pith, there is a dead sapwood which is very hard. It is the hardest wood of the tree that gives it backing and strength. It is typically darker in shade than the sapwood (Tree physiology, n.d).

v. Pith

Pith is the small dark area of spongy living cells right in the middle of the tree trunk. The plant receives its essential nutrients through the pith. It is located right in the middle, hence, it is mostly protected from damage by the wind, insects, or animals (Leanne Guenther, n.d)

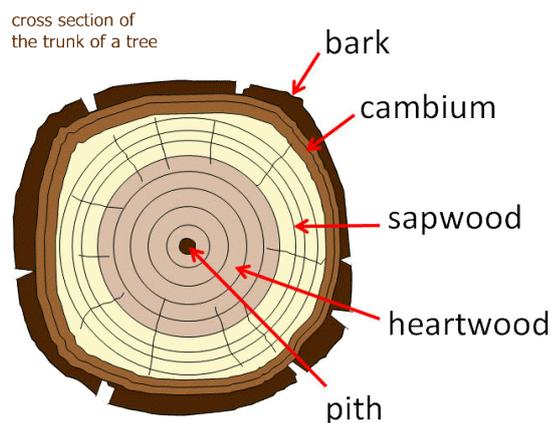


Plate14: Parts of a tree stump

(Source: www.glogster.com)

2.9 Painting

Paint is a fluid substance made of pigment suspended in a liquid binder that is used to cover or decorate a surface (The Art of painting, n.d). Painting is the art or process of applying paints to a surface such as canvas, to make a picture or other artistic composition (painting, n.d). Merriam-Webster dictionary explains painting as a product of painting; especially: a work produced through the art of painting (painting, n. d). According to Marion (n. d), painting is a method of creating images on a surface using colorants on a substrate such as paper or canvas. The pigment may be in a wet form, example paint, or a dry form, example pastels. Painting can also be used as a verb, to mean the action of creating such an artwork. Painting is the process of applying, pigment, colour and other colouring matter to a surface. The medium is usually applied to the base using brush, other implements may also be used, such as knives, sponges, and airbrushes. (Painting, n. d). Painting is the process of applying paint to a surface using tools such as brushes, a roller, a painting knife, or a paint sprayer (The Art of Painting, n. d).

Some major types of painting are landscape, portrait, still life, real life and religious work. A landscape is an outdoor scene. With this type of painting, a landscape artist uses paint to create not only land, water, and clouds but air, wind, and sunlight. A portrait is an image of a person or animal. Besides showing what someone looks like, a portrait often captures a mood or personality.

A still life shows objects, such as flowers, food, or musical instruments. The skills of an artist in painting shapes, light and shadow are revealed in a still life while a real life scene captures life in action. It could show a busy street, a beach party, a dinner gathering, or any place where living goes on. A religious work of art shares a

religious message. It might portray a sacred story or express an artist's faith (“Major types of painting”, n. d).

2.9.1 Painting media

In painting, there are many different media used. Medium or media is the material and tools used to make a work of art (‘The Art of painting’, n. d). New introductions are being made due to exploitation of the environment. Media refers to both the type of paint used and the substrate to which it is applied. Pigments make use of solvent to make them applicable on the ground (substrate) The paint’s medium that carries the paint colorants, is also called a "vehicle", "base" or binder. A painter can mix a medium with diluters, colorants, and other materials in order to make paint, and control uniformity in terms of the viscosity/fluidity of the paint.

i. Acrylic paint

A fast drying paint containing pigment suspended in an acrylic polymer emulsion is called Acrylic paint. It can be diluted with water, but become water-resistant when dry. Acrylic paint has the resemblance of a water colour or an oil painting depending on how much the paint is diluted (with water) or modified with acrylic gels, media, or pastes, or may have its own unique characteristics not attainable with other media. Acrylic paint is characterized by quick aeration after its application. From Wikipedia, the free encyclopaedia, the main real difference between most acrylics and oil paints which gives acrylic paint a unique character is that, the inherent drying time is very quick. On the other hand, oil paints permit more time to mix colours and apply even coatings over paintings (‘Painting’, n.d).



Plate15: Jungle Arc" (Acrylic painting)

Source: Burggraf (1998)

ii. Oil Paint

Oil painting is a method of painting where pigments bounded with a drying oil medium is used especially in early contemporary Europe. Often an oil such as linseed was mixed with a yellowish extrusion from plants such as pine resin or even frankincense and boiled; these were called 'varnishes'. Oil paint eventually became the main medium used for the production of artworks due to its numerous advantages. ('Painting', n.d).

The Art of painting (n. d) propounds that, pigment for oil paint is mixed with a binder: linseed oil. It can be diluted to make it workable by using vehicles (solvents) such as turpentine, mineral spirits. Oil paint is usually applied to substrates like prepared canvas, paper; wood, however Oil paint is opaque/translucent/transparent and dries slowly/permanent. It is considered as versatile media.



Plate16: Oil painting

Source: Honoré Daumier (1808–79), *The Painter*

iii. Tempera

Tempera is another type of paint used in painting. It is also known as egg tempera and can be explained as a lasting, fast-drying painting medium comprising of coloured pigment mixed with a water-soluble binder. Paintings done with this medium is as well called tempera. Tempera paintings usually last longer as compared to other paints. (Painting, n. d).

According to ‘The Art of Painting’ (n. d), tempera is characterized by its opaque, fast drying, matte surface which employs a binder such as gum Arabic plus water (vehicle). With egg tempera, it can be made enamel-like and permanent by adding an egg yolk. It usually finds application on paper, prepared wood panel.

iv. Watercolour

With watercolour painting method, the paints are made of pigments that are water-soluble. The oldest and most common substrate for watercolour paintings is paper, however other support like papyrus, bark papers, plastics, vellum or leather, fabric,

wood and canvas could also be of importance. In East Asia, watercolour painting with inks is known as brush painting or scroll painting. It has been the dominant medium in China, Korea, and Japanese painting and is often in uniform black or browns. Hand-painting with watercolour paints initiated in China. ('Painting', n. d). It is characterized by transparency to translucency in its application and fast drying ('The Art of painting', n. d).

v. Gouache

Gouache is a water built paint containing colouring and other ingredients intended to be used in a solid painting process. Gouache has a larger particle size comparatively to watercolour, and an additional, inactive, white pigment also existing in the gouache, thereby, making gouache denser and cloudier, with greater reflective potentials. Gouache is diluted like any water media with water (Marjorie and Lafo, 1977).

vi. Pastel

Mayer (1970) states that, pastel is a medium in a form of stick used for painting. It consists of pigment in a pure powdery form and a binder. The colourings used in pastels are the same as those used to manufacture all pigmented art media of which oil paints cannot be left out. The colour effect of pastels is nearer to the normal dry dyes than that of any additional method (Mayer, 1991). To preserve pastel painting there is the need to put in place protective measures such as edging under glass due to the fact that, the surface of a pastel painting is delicate and easily soiled; it may also be sprayed with a protective agent. Nevertheless, when made with lasting colourings and well cared for, a pastel painting may withstand all conditions for years without deteriorating. Pastel is easy and comfortable to work with due to its softness.

The next chapter shows the detail of the research methodology used in answering the research questions posed in the first chapter of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

Overview

The study uses the universal design method as the main approach for the way the project was executed, beginning from the design brief through to actual production.

It includes answers that will help address the research questions put forth in the first chapter.

The research uses observation as a method of data collection, where the researcher visited few artisans to observe how they use the various techniques and where they were applied in their works. As part of the observation, the researcher took notice of few applique works done in children clothes and some children shoes made of crochet. Pictures were also taken of some monuments to ascertain monument production in Ghana.

Below are three Universal Design Methods (UDM) that were reviewed out of which one of them was selected and applied in the design process;

3.1 Universal Design Process Cycle

The conceptual framework or the overall plan for the study is a universal research design approach. “The sequence of the universal design process as a guide is useful for people who work in this area, such as designers, researchers, students, etc” (Elokla, Morita and Hirai, 2006).

Before selecting an appropriate design centred approach, analysis and evaluations were made on a number of issues to consider the outcome of the project. In fact, this project was borne out of the realisation of a number of UDM approaches, a typical example is shown in Figure 1. It is one of the processes used in universal design methods.

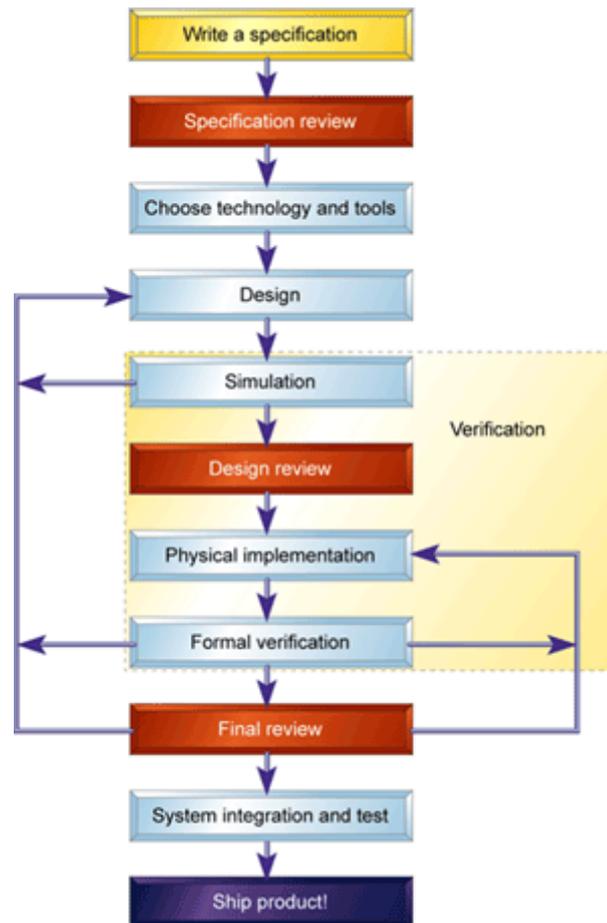


Fig. 1: Steps of Universal Design Methods

It involves a number of process and these process may be summed up in the following:

1. *Writing and reviewing a specification:* This stage involves writing down the necessary information needed for a particular design and then reviewing it

critically to determine if all the necessary requirements needed for the project are intact. Once the researcher is done with this stage, then, the next stage can be tackled, that is choosing technology and tools.

2. *Choosing technology and tools:* Knowing the right specifications and tools will help you choose an appropriate technology and the right pricing to charge for your work. If certain about the technology and tools, you may proceed to the next stage.
3. *Verification:* This is one of the biggest steps in the process and as such it contains various steps found in UDM. The precise steps that cause the verification may be subject to debate and may also diverge depending on the intended object to be produced. However, verification can be divided into stages applicable to the whole process: simulation, reviewing the design, production, physical application, and proper authentication. (Zeidman, 2013).
4. *System incorporation and test:* At the stage for system integration and test, you are accountable for determining that, the complete system, including the designed device, works correctly and effectively. (Zeidman, 2013).

Moreover, another proposition by Zeidman (2003) gives designers the chance to:

1. create a device that is free from built-up faults and work reliably over a period of time and function correctly in a system.
2. design the device efficiently, using the least amount of time and resources, including personnel.
3. plan the design efficiently by creating a reasonable schedule that allows one to understand all the necessary resources and allocate them early in the design process.

In addition, there are three main stages in this universal design methodology as proposed by Zeidman (2003) and these include the analytical phase, creative phase and executive phase. As shown below is Figure 2 which captures exactly what this particular design approach ought to be followed.

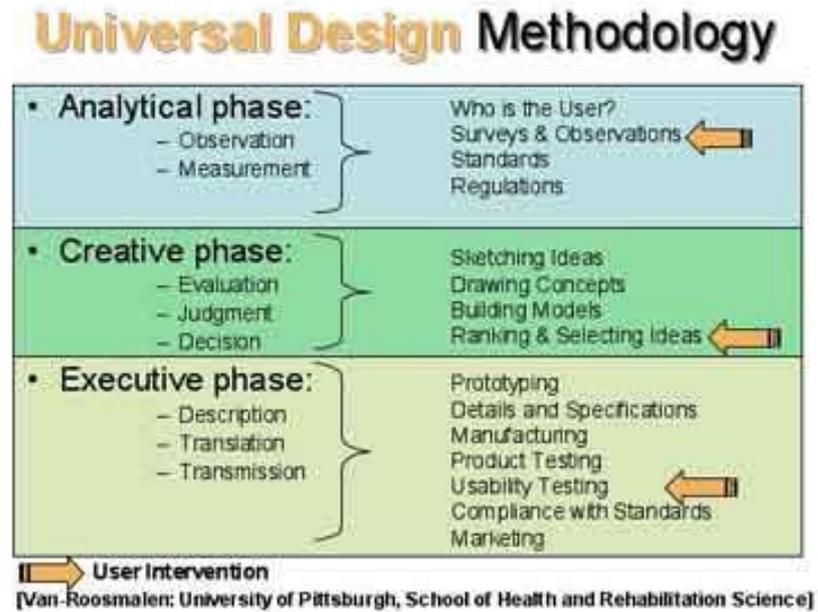


Fig. 2: Universal Design Methodology

Again, the UDM as shown in Fig. 3 proposed by Zeidman (2003), gives the designer the opportunity to operate through the following five processes, the design brief, identification of user's needs, analysis of user's tasks and goals, creation/redesign, and then test and evaluate for usability.

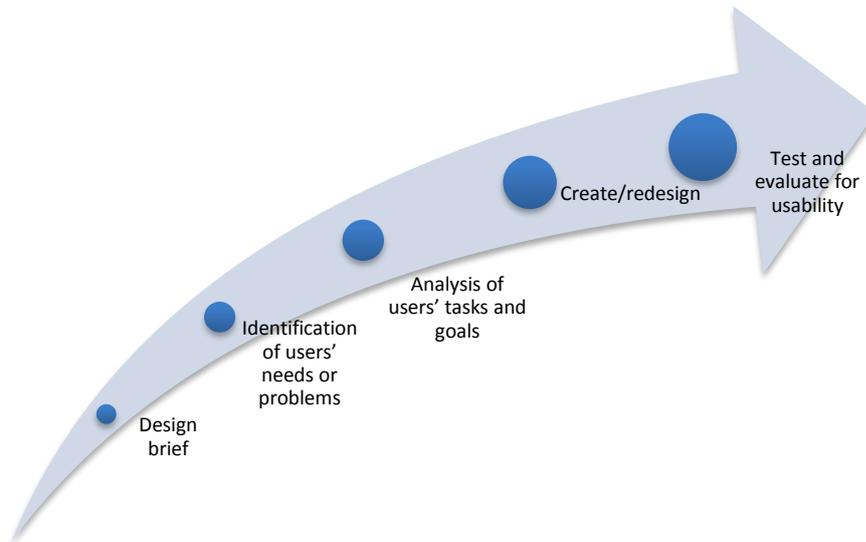


Fig. 3: Universal Design Process

Comparatively, the third UDM is more brief and user friendly. The researcher therefore opted for the later due to its appropriateness for the project. This structure is also flexible and gives the designer enough room to create, recreate and alter for better results, and that the designer is at liberty to begin the work from a narrow perspective to a wider scope, as shown in Fig. 3.

To commence with the project, the researcher identified what the users' need, that is, what she was about designing; what does the designer need to know etc. The following processes are then followed: gathering data for the work to be produced, a work that fits the intended users' need. For instance, their aptitudes, goal and experience. The researcher also considered the users' environmental needs and also the artefact situation and its marketing.

Secondly, the designer identified and assessed the users' desire and defined the problems they have and tried to find solutions to them.

Thirdly, the designer analysed users' tasks and goal: this is a very critical step in the designing process because sometimes what users' claim to practice is not what happens in reality. After using a product, users' may tend to forget the exact process involving the usage of the product.

Fourthly, "produce/reshape" involves idea development, elementary plans and application. In each case, the product is assessed and checked by both the producer and the user, to satisfy the user's necessities and authorised standards. Idea development basically concerns mental images of the needed products. The images respond to the data gathered from the users' and producer's experience.

Idea development is required regarding the selection of ideas for drawing such as design, units, and angles in order to give users fair knowledge about the finished product. The user at this stage selects the idea that best suits the product and can help produce the work effectively to meet the users' needs.

Fifth stage "inspect and evaluate for usability": Once a sample has been done, a producer requires to test it, to be sure of its appropriateness. And also modifies it if necessary in order to meet the users' requirement.

UDM is a planned technique for developing and designing hardware. Although the basic technique remains the same, some differences befall in designing dissimilar hardware types.

Stages in Universal Design Methodology propounded by Zeidman (2003) are as follows:

1. Designing defects free product, that works unfailingly throughout the product's lifetime and that works correctly for its intended purpose

2. Designing the device efficiently, utilizing the least quantity of time and resources, including personnel.
3. Designing the product efficiently by making a fair schedule that allows you to see all necessary properties and assign them early in the conception procedure.

UDM stipulates steps that enable researchers to reach their destinations. The particulars of each phase vary among designs and engineering sciences, but the steps remain basically unchanged. The researcher gets to comprehend how to programme and allot resources by understanding each step. Bugs in the role and problems are ascertained by the researchers at various steps with the description that will then necessitate to set up and backtrack in the method.

Requirement review is done after writing the specification. People with different backgrounds are advisable to take constituent in this recapitulation, because the specification is the base for the whole production process, and the researcher desires to recognize right away if something is incorrect or absent.

The specification includes the testing procedures, which are too often left for later in the design procedure. As well notice that the specification written forms a lasting document of which many sections consist of best guesses will later become more precise during the invention procedure. The researcher ensures that all vital conclusions discuss the specification, and all succeeding alterations enter into the specification.

3.1.1 Authentication

Verification is considered to be an important step in universal design process. The steps that make up authentication may vary by the brand of product the researcher is

to design, but mostly, verification involves the following stages: simulating the product, reviewing the design, physical implementation, and formal verification.

The imitation went on through the course. The researcher reworked the project and repeated the recreation to get the correct functionality. Minor segments of the design were imitated separately before attaching them to form bigger segments.

Once the researcher is done with design and simulation, another design review was held. Now the researcher involved other researchers' who did not commence the project with her to assess the simulations and comment on the area that needs to be corrected, and also shared their expectations to make sure nothing was missing.

They are regarded significant reviewer because, only with correct and whole imitation will the researcher recognize if the product will function properly for its intended purpose. Other researchers who are into the same field of study raised issues that the researcher may have missed. These issues challenged the researcher's assumptions and discovered corner cases that she had not simulated, that revealed problems in the design.

Next is the proper verification stage, but the physical application that deals with the actual production of the work was checked initially. Proper verification was done to guarantee that the design that has been made fully simulates its function. At this stage, it is also important that the researcher verifies usage in terms of timing, and any other serious limitations contrary to the requirement made in stage one. Formal verification implies verifying whether the implementation done here matches with the specification made in the first stage. If not alterations are made to suit the specification.

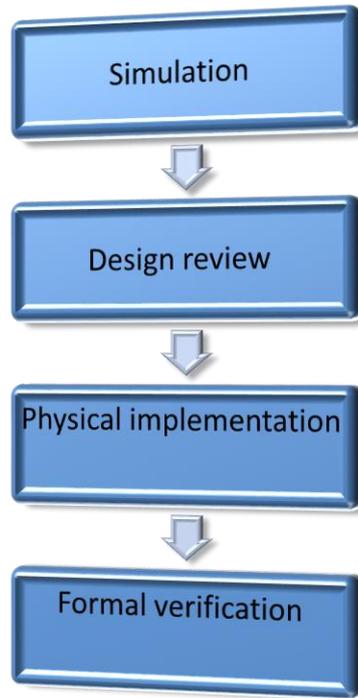


Fig. 4: Steps in Verification

3.1.2 Completion

If all the other steps have been adopted and the analyses have been heeded to, then the last inspection of the project becomes a formality. It often becomes a simple sign off.

Nevertheless, design incorporation and trying are required to confirm that, all other portions of the project work properly and fits together.

During the system incorporation and pilot stage of the UDM, the researcher has the duty of determining that the whole project functions correctly. A test to ensure that any production defects discovered are done before the researcher brings out the product. There is the likelihood that the project will function well if the researcher considered all the processes up to the last stage. Minor defects can often be turned around by slight adjustments. These problems need to be examined and acknowledged in order to make amendments in the subsequent revision of the device, if needed.

3.1.3 The Ethics of Universal Design Method

The Center for Universal Design at North Carolina State University expands these rules:

1. Reasonable use
2. Flexible to use
3. Simple and instinctive
4. Appreciable evidence
5. Error acceptable
6. Little physical energy
7. Size and space for method and use

3.2 Findings From Observation

Data collected via survey was by observation of artisans in their studio practice.

- Application of The Various Textile Art

Textile art is known to play vital role in the lives of people all over the world. They are primarily meant for clothing. Aside clothing which is known to be the third basic necessity of man according to Abraham Maslow; a social scientist, textile art is used for aesthetic reasons in our environment. Some of the various textile art is appliqué, embroidery, crocheting and much more. The mentioned textile art is finding application primarily in accessories and other items.

The field survey revealed that, textile art such as appliqué was used for the production of accessories like bag and for mural, designing of clothes (garments). Plate 18 gives an illustration of some of the uses of appliqué. Appliqué including

other textile art like embroidery, crocheting do not have a wider scope in their application. That is, they are limited to the production of few items, which under-utilized the art.



Plate 17: A macramé artist producing a bag

Source: a picture from field survey



Plate 18: A macramé bag

Source: a picture from field survey



Plate 19: Appliqué (car) on a shirt

(Source: www.sixpeas.co.uk)



Plate 20: Crocheted babies footwear

(Source: www.pinterest.com)

1. Conventional Material used for the production of monument

Monuments are considered monumental in the universe. They are made in remembrance of an important event or an individual who had a profound impact in the society. In Ghana, monuments are usually found in museums such as Manhyia Palace museum and places like the Centre for National Culture in the various regions in Ghana. The monuments in wood, cement, stone commemorates the past, persons'

or event of the people in Ghana. These monuments such as statues are produced by mainly sculptors. An architectural monumental building such as Elmina castle is made with sand and stone. Textiles find less application in the production of monuments in Ghana with the exception of clothes that are put on by important figures such as Yaa Asantewaa who stood in for the people of Asante in the olden days. Below are pictures of monuments captured during the field survey (Plates 21, 22).



Plate 21: Yaa Asantewaa's monument
(Source: madinghana.wordpress.com/2010/02/20/yaa-asantewaa-monument/)



Plate 22: Komfo Anokye's monument

(Source: nzemayouthassociation.wordpress.com)

2. Characteristic features of Paga crocodile haven

Paga Crocodile Haven is one of the well-known tourist attractions in Ghana. This tourist attraction is as a result of the friendly nature of crocodiles at Paga in the northern part of Ghana. Crocodiles in Paga relate to humans without harming them. It is believed to have existed for years. A lot of different but similar stories are being told about the pond. It is believed that, an heir of the people in Paga was being chased out of the town and was able to cross the pond safely by the help of one of the crocodiles in the pond. It is believed that, their heir had an agreement that, he and his people will never harm the crocodile and its descendants due to the help it granted to him (Atule, personal communication April 22, 2015).

It is also believed that, the crocodiles are considered as gods in the land. The death of a crocodile leads to the death of an important figure in the town. Due to this, the people cared for the crocodiles. Libation is done every morning to the crocodile by a

priest. It is believed that, the libation makes the crocodile friendly to the humans (Awuni, personal communication, April 22, 2015).

Paga crocodile pond is characterized by crocodiles, grasses, tree stumps. The tree stumps are usually found along the pond with Spirogyra and some grasses that have grown on their surfaces. Some of the grasses are pale while others are green in colour. The crocodiles swim in the pond and sometimes suspend on the surface of the pond with their eyes. These amphibian crocodiles also come out of the pond to the surface of the land. They usually feed on chicken.



Plate 23: A shot of Paga crocodile pond

(Source: Ghana Tourism)

3.3 Tools and Materials Used

Sewing machine

This instrument was employed to join piece goods and other materials together using yarn. It was used to stitch fabrics together during the production of the grass.



Plate 24: Sewing machine

A pair of Scissors

It is a hand-manipulated shearing tool, consisting of a couple of metallic blades whirled so that the sharp ends slither against each other. When the levers reverse to the axis the blades shut.

Foam

It is a subject matter that is made by trapping pockets of gas in a fluid.



Plate 25: Foam for modelling

Macramé cord

It is a cord made of jute, leather, linen or any synthetic yarn etc. used in the craft of macramé.



Plate 26: Macrame cord

Lining fabric

In sewing, a lining is an inner mesh-like layer of fabric inserted into clothing, hats, etc. Different coloured lining fabrics were used in this study to satisfy the superficial appearance of the project.



Plate 27: Lining fabric (left)

Other tools and materials used include:

1. Glue
2. Brush
3. Torch
4. Tape measure

3.4 Design Brief

Design brief constitutes what the designer needs to know about her target. This is attained after the observation the designer made at some artisans' workshops in some textile art techniques such as Macramé. The researcher aimed at producing a textile monument of crocodile and tree stumps to depict the friendly nature of Paga Crocodile Haven using the following as composite technique in the production; macramé, applique, modelling, and painting.

Monument could be monumental (refer to chapter 2: 2.3) which means is a symbol of great significance or maybe for the other mere purpose that might not be of great importance. Many monuments are highly produced by artists in the sculpture field in

the world as a whole. Monument are made with materials like clay, P.O.P, etc. but with less textile materials.

So the aim of the researcher was to explore and experiment with various textile materials and composite textile art techniques such as macramé, applique, quilting, modelling in the production of textile monument to depict Paga crocodile haven in the Upper East Region of Ghana. That was a novelty and another line of departure from the conventional materials, and technique used in construction of monuments.

Preliminary investigation from the field revealed that, macramé is usually done on a pole with twine. At some points in the production, needle/hand is used. Knots are created in the process to secure two or more twines; that is, twines are intersected (Plate 28).



Plate 28: Intertwining of yarns in macramé production (Field survey)

According to Osei (2014) personal communication, a macramé artisan at KNUST, twine used strengthens the art or product. He further states that, macramé finds application in accessories like bags, wrist band, etc. but not in monument production in Ghana. Colourful twines are used based on the design plan of the product to be

produced using a macramé technique. Aside the art of macramé, a survey into the art of appliqué and quilting outlines that, appliqué and quilting do not find application in monument production. These arts are not commonly used in practice, but for few fashion designers in the production of garments for aesthetic purpose in Ghana.

Ofori (2014) another artisan at Afful Nkwanta supported the view of Boamah that, fashion designers are into appliqué as one of the new trend for decoration of garments. Those are usually practiced by students in KNUST are for solely academic purpose. These textile art techniques are being restricted to the production of fewer products for a very long time without extending them to other applications to exploit their feasibility so as to increase the scope of the various textile art techniques. Textiles art monuments in Ghana are very rare and even the available ones such as toys have little significance in the lives of Ghanaians.

Textiles art techniques such as macramé, quilting, etc. are not used in making monument in Ghana (Ofori, personal communication, October 21, 2014).

Many artists from the survey support the opinion of Ofori that textile art techniques are not used to produce monuments in Ghana, rather than to even use them for the production of a monumental monument of people, places or things of great significance in the country (Boamah et al, personal communication, October 21, 2014).

3.5 User's Need

The term user's need as it relates to Universal Design Method simply put means that the designer has to first of all identify what the user is in need of and then based on that need, research into how the need could be solved. For this study, the main site

was Paga Crocodile Haven, which is a tourist attraction in Ghana at the Upper East Region. It exhibits crocodiles that are friendly other than naturally wild animals in the other part of the world. Due to the wonderful sight at Paga, a lot of tourists go there to view and interact with the friendly crocodiles at Paga but not all have gotten this chance due to the distance from places like Accra or Kumasi to Upper East Region to view the wonderful sight of Paga Crocodile Haven.

3.6 Analysis of User's Task and Goal

Users aimed at getting access to Paga Crocodile Haven at the Upper part of Ghana, hence, viewing how friendly the environment is makes it a serene atmosphere for tourists and people living around and beyond the community to visit such a place on special days. The researcher decided to depict that kind of environment at Paga Crocodile Haven with composite textile art techniques at other places like Kumasi to enable people far from Paga to have a sight of how Paga crocodile Haven is. From the survey, a lot of people wish to see how Paga crocodile haven is but are unable to go to Paga due to the distance and financial constraints.

As a textile art researcher, the monumental Paga Crocodile Haven should be depicted in the form of monument at other regions to suit the environment at Paga so as to enable other people in Ghana to have a view of crocodiles at Paga Crocodile Haven. The researcher therefore decided to use textile art technique such as macramé, modelling, applique, quilting and also application of resin to create such environment in the form of a monumental textile crocodile and the tree stump monument. This will extend the scope of textile art techniques if it becomes feasible in the production of monument.

3.7 Create

After gathering and analysing the data collected from the field, the researcher developed ideas based on the data collected to produce a feasible and suitable monumental monument (crocodile and tree stumps) to depict Paga Crocodile Haven using composite textile art techniques such as macramé, applique, quilting, modelling etc. Sketches of ideas were developed, appropriate idea that suits the needs of the people was chosen and then a prototype was done (implementation of the design).

3.8 Idea Development

With the idea development, the researcher worked on realistic tree stumps and crocodiles. This is due to the fact that, the study aimed at production of monumental crocodiles, tree stump and grass monuments that simulate Paga crocodile haven in the Upper East region for users especially in the southern part of Ghana to depict how friendly the crocodiles perceived to be at Paga. Artificial grass was created around the tree stump with the use of varied materials and composite techniques to depict the constituents of realistic tree stump. Some real life tree stumps also have Spirogyra on them.

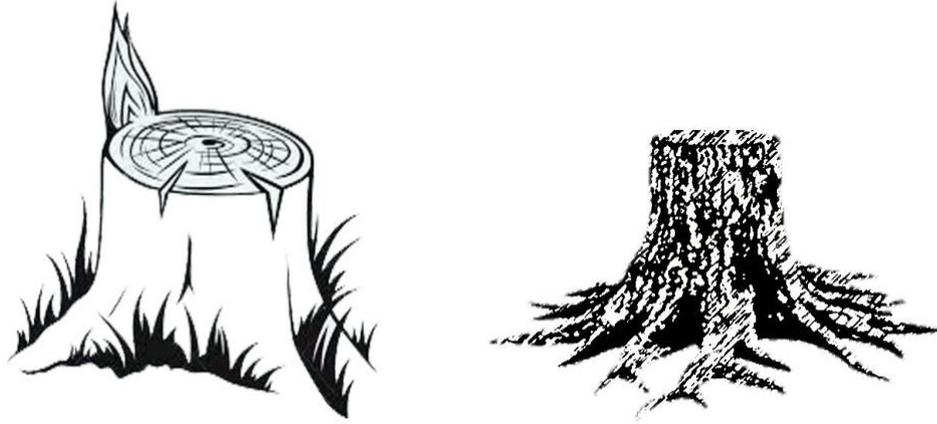


Fig. 5: Sketches of tree stumps



Fig. 6: Sketches of tree stumps

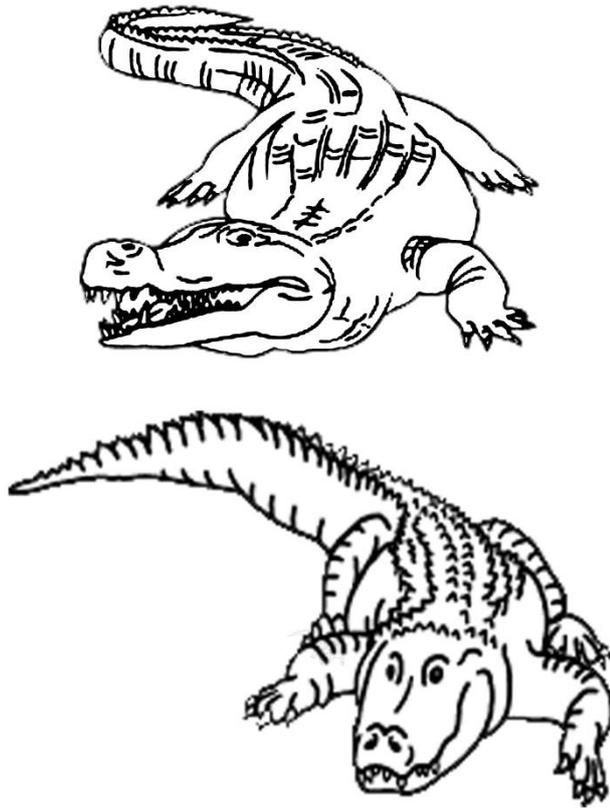


Fig. 7: Sketches of crocodiles



Fig. 8: Sketch of the crocodile

All the ideas are suitable, but the tree stump in Figure 6 (right) was chosen for the study while the crocodile in Figure 7 (down) was chosen for the study due to the

exhibition of the qualities in commonly found tree stumps (afforested tree) and the nature (detailed back to enable production of the monument) of Paga crocodile respectively. This stage of creation or production is followed by the production of the main work. In summary, this phase relates to the physical implementation stage of the steps used in verification.

3.9 Production of the Crocodile Monument

Since the project was a novelty that involved experimental and exploratory methods with different textile materials and techniques, a prototype model of the main project was produced to ascertain the expected challenges that the researcher might be confronted with.

3.9.1 Production of Prototype Crocodile

A prototype model of the crocodile was made. Foam was cut into pieces and adhered together to form the crocodile model using glue.

The cross- sectional outline of the crocodile was perceived and drawn on paper, cut and placed on the foam. The outline of the cut-out paper on the foam was drawn and cut on the foam as in Plate 29 and 30.

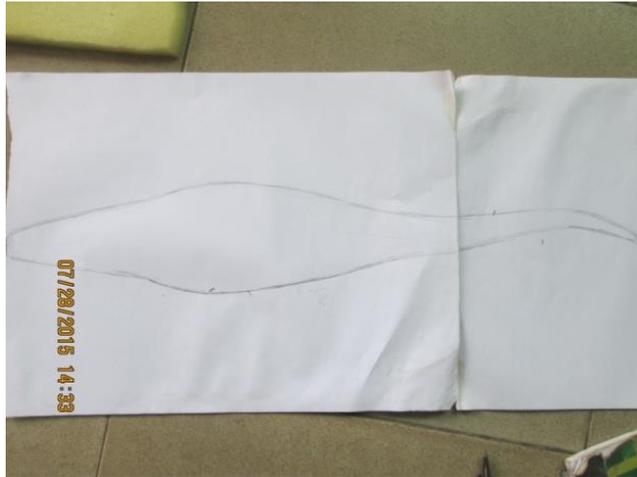


Plate 29: The outline sketch of the crocodile model



Plate 30: Cut-out shape for the crocodile model

The upper part of the crocodile was drawn, cut and adhered to the lower part to form the main body. The head of the crocodile was altered to suit/simulate the head of a crocodile (Plate 31). Extra length of foam was cut to extend the tail of the crocodile model.



Plate 31: Main body of Crocodile model

The legs of the crocodile model were made with folds of foam as illustrated in plate 32 and 33. They were attached to the main body of the crocodile model. The form of the crocodile was well shaped by filling in the model with foam to prevent the indentation or deformation of the form.



Plate 32: Modelling of the limb of the crocodile model



Plate 33: Limbs attached to the main body of the crocodile model

To portray the scale on the back of the model, small triangular pieces of foam were cut and adhered to the back of the crocodile model as in plate 34.



Plate 34: The final crocodile model

3.9.2 Dimension of the crocodile

The researcher used similar dimension of a natural adult crocodile for the big crocodile monument.

Table 1: Dimension of the Crocodile

| | |
|-------------------------|------------|
| Full length | 127 inches |
| Head length | 33 inches |
| Jaw to Jaw | 25 inches |
| Snout Ida | 23 inches |
| limbs length | 17 inches |
| Diameter | 16 inches |
| Stomach diameter | 58 inches |
| Tail | 53 inches |
| Back scale | 1 Inches |

3.9.3 Modelling of the crocodile

Foam was used to model the crocodile as in the production of the prototype. The same steps in the production of the prototype were used in the production of the crocodile model in plate 35. The attachment or adhesion of the various parts of the crocodile into a unit was made possible by the use of resin (glue).



Plate 35: The crocodile model

A green lining fabric which depicts the superficial appearance (colour) of Paga crocodiles were used to simulate the crocodiles at Paga. The linen was cut in excess to be able to cover the whole of the crocodile foam model.



Plate 36: Crocodile model covered with green lining fabric

Afterward, the lining fabric was then cut to the appropriate size of the work. The scales that protrude on the surface of the crocodile were exposed on the surface of the crocodile by cutting through the lining fabric and then passing the scales out.

Macramé was made to suit the size of the crocodile. It was done by using a cord and measurement taken by the researcher as shown in Plate 35.

It was initiated by making a knot with a length of cords as shown in Plate 36. The making of knots was continually done to achieve the required length of macramé mesh for the crocodile as shown in Plate 39.



Plate 37: Measurement of the appropriate length of cord for the work

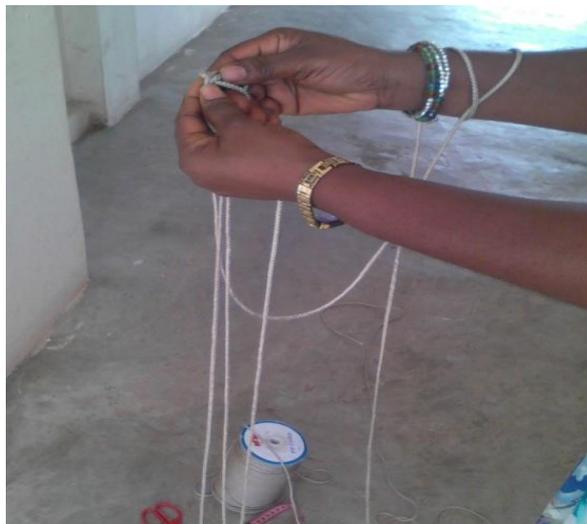


Plate 38: Creating of knot by intersecting the cords



Plate 39: Knot created after pulling the various intersected cords



Plate 40: Knot created with the cords (First stage in Macrame)



Plate 41: Macramé lace/mesh

The macramé mesh was then laid on the crocodile model, exposing the scales of the crocodile as in Plates 40 and 41 while the ends of the cords were secured by burning as illustrated in Plate 42. The sides and the limbs of the crocodile was covered with macramé mesh while the scales were covered with green lining fabric as indicated in Plate 43. The eyes of the crocodile were later fixed with macramé as seen in Plate 44.



Plate 42: Three quarter view of the project



Plate 43: Back view of the crocodile



Plate 44: Joining cord to continue the knotting of the tail and the lymph's of the crocodile by burning



Plate 45: Covering of the crocodile limbs and the sides with macramé mesh



Plate 46: Final monumental crocodile monument

3.10 Production of Tree Stump

A similar process for the production of the monumental crocodile was used for the production of the tree stump. A model was created with pieces of foam with the help of a glue to suit the form of the selected design. A brown lining fabric which depicts the nature of tree stump was adhered and crumpled to create creases on the surface of the tree stump model to depict the creepy nature of a tree stump (Plate 47). Green yarns were glued on the tree stump used to simulate grass/Spirogyra which grows on tree stumps as seen in Plates 47 and 48.



Plate 47: Model of tree stump



Plate 48: Application of glue on the surface of the model



Plate 49: Attachment of the lining fabric to the tree stump model



Plate 50: Crumpling of lining fabric on the tree stump model



Plate 51: Green yarns to depict grass/Spirogyra on the tree stump

3.11 Production of Grass



Plate 52: Mixture of yarns and fabrics for grass simulation

The green yarns in combination with other fabrics were used for the production of the grasses around the pond by a method known as quilting. Monochromatic brown was also used to depict some areas of the grass that have withered. The yarns were scattered on a base fabric that was laid on a table. The yarns were employed to be used as the grass and the base fabric as the founder for the grass to enable the undertaking of quilting technique. A green lining fabric was then laid on the yarns, sewn in rectangles and then cut to expose the yarns which depict the grass (Plates 50, 51 and 52).

The researcher then used a pair of scissors to open up the lining fabric.

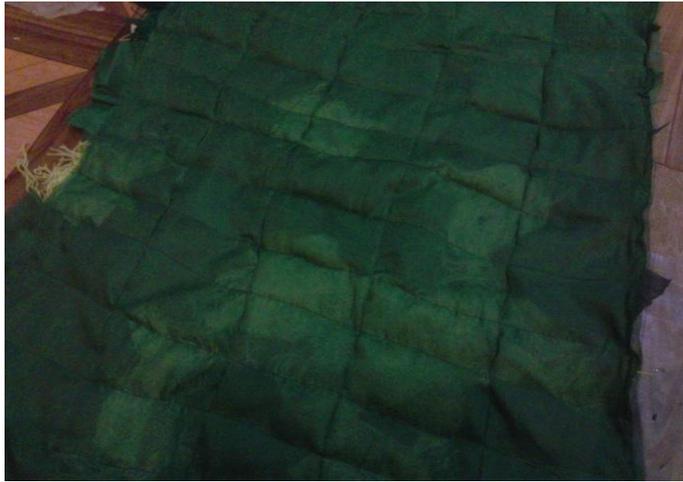


Plate 53: Sewn fabrics and yarns



Plate 54: Cutting and opening of lining fabric



Plate 55: Exposure of yarns by cutting the top lining fabric

3.12 Simulated pond

i. Painting of Pond

Painting on a blank substrate (carpet) was done to depict a pond. Based on the fact that the study aims at depicting a pond, blue colour was used for the painting so as to simulate coolness of the pond. Tints and shades of blue were introduced by adding white and black respectively to depict lighter areas and darker areas of the pond. Areas closer to the grasses were given darker tone, that is, areas closer to the land, while areas far from the grass were given lighter tones.



Plate 56: Simulated pond (Painting)

CHAPTER FOUR

RESULTS AND DISCUSSION

Overview

This chapter presents and discusses the results of the study. This was performed based on the aims of the survey. It analyses the results of the simulated monumental monuments with composite textile art techniques based on the design brief to address the need of users, that is, simulating Paga crocodile haven. The study exploited macramé, modelling, appliqué, and painting, to reflect friendly crocodiles, pond, grasses and tree stumps at Paga Crocodile Haven in the Upper East Region of Ghana.

The artefacts produced in the study include crocodiles, tree stump, water, grass.

Crocodiles were made in macramé due to the flexible nature and characteristic features of their skin, to commensurate with the use of macramé. To depict tree stump, applique was used due to its rough surface appearance. The water could be simulated very well with painting, and quilt was best for the grasses. These artefacts came together to simulate Paga crocodile haven very well, because the pond naturally has all the above features.

Objective one was

1. To generate ideas from crocodile haven with specific reference to Paga crocodile pond.

The second objective was

2. To use appliqué, quilt, macramé, and modeling as composite textiles art techniques to produce textile monuments

Objective three was

3. To exhibit the composite textile art monuments both indoor and outdoor at different places to test its feasibility.

4.1 Crocodile Monument



Plate 57: Crocodile monument

This crocodile was made to simulate the realistic crocodile at Paga. The features of the crocodile at Paga were studied by the researcher. Notes on the specific features of the crocodiles were taken to aid the production of the monumental crocodile monument. 1/8 inches thickness of foam was used to model the body of two crocodiles. Initially the researcher used thicker(1/4) foam for the modelling, in order to get the groove and ridges of the crocodiles, sharp knife was used, but the aim was not met. For example the ridges at the back, close to the stomach looked

very sharp and too pointed. Joining also became difficult. The attainment of flexibility of the crocodiles also became problematic, due to the heavy nature of foam. The researcher therefore resorted to the use of a 1/8 inches foam that was able to model all the parts of the crocodile well.

Having obtained the modelled crocodile, macrame technique was used to bring the details. Though macramé is known to be a delightful craft employed in making numerous useful things from bags, hanging, baskets and the likes to objects purely for decoration and to some extent adornment like jewellery and wall hangings. Attractive knotting designs are employed to make plant pots, pot hangers, textile art pieces, clothing to mention but few. ('A short history of macramé', n.d).

Macrame technique was exploited for the skin of the crocodile based on the fact that, the skin of Paga crocodiles are not smooth, but looks like a network, hence, the exploitation of the skin of the crocodile with a macrame mesh. The skin of the crocodile was knotted in layers to simulate natural crocodile.

Pale green lining was manipulated using the applique technique as a base on which the macrame must be placed to give a holistic green skin colour for the crocodile.

The macrame(reef knot) for the upper part of the crocodile was sparsely done due to the sparse scales at the back of the crocodile. The limbs and the sides do not have scales so the researcher compactly created a macrame mesh so as not to project openings like how the macrame for the back was done. Closely meshed macrame was used for the lymphs, stomach area and tail. Another type of knot (clove hitch) was used for the side of the eyes due to the folds around the eyes, of the crocodile to

let them stand out of the back of the crocodile. Modelling and macrame techniques were combined to produce this project.

The idea created in this project combines a variety of local materials such as cord, foam, glue, et cetera. aiming at encouraging textile artists to make good use of the various textile art techniques in the production of works of art of significant places in the country with aesthetic and philosophical significance to help in tourism for national development in Ghana.

4.2 The Tree Stump

The production of tree stump was vital to give an illustration of the site of Paga Crocodile Haven. The selected design was modelled with foam and lining fabric attached to the model by the use of the adhesive. Brown lining fabric was used to suit the colour of tree stumps. The fabric was crumpled to give a creasy effect so as to depict the natural surface of a tree stump. Grass-like effect was depicted using green yarns on some portions of the tree stumps with the aim to depict grass on a tree stump. The tree stump was stuffed with fabric after modelling. But it was realised that it will be too heavy to be transported, the researcher then stuffed it with foam to make it light weight.



Plate 58: Tree stump monument

4.3 The Grass

With the grass, different colours such as shades of green, and brown of different shades, and wool balls were used. Consideration was made in relation to the arrangement of the colours from light green to dark green or from light brown to dark brown or in general from light colour to dark colour. This is based on the fact that, grasses due to their exposure to sunlight and other abrasions at the top mostly make the top lighter as compared to the base of the grass as observed at the haven. Grasses taper towards the end, neither applique nor quilt could help achieve that. An innovative quilting technique was used to obtain this results.



Plate 59: Grass monument

4.4 Painted Pond Sheet

Already made carpet was initially used to simulate the pond. It was realised that the pond looked like artificial created sky instead. The back of the carpet was then painted to simulate the wavy nature of water. The background of the carpet was painted turquoise blue, then white was used to achieve the surface waves. The painted pond sheet looked rigid at its edges when water is taken into consideration. The edges were cut into indefinite shape, rearranged to simulate the irregular water bank.



Plate 60: Painted pond sheet

The works were then arranged to simulate Paga crocodile haven in the morning and evening to note how the environment looked like.

The second objective was to exhibit the composite textile art monuments both indoor and outdoor at different places to test its feasibility.

4.5 Test and Evaluation of Project for Usability

The final stage of the UDM in Chapter Three (see Figure 3) used for the production of the monument has to do with the test evaluation of project for usability. This process helped the producer to ascertain the usefulness of the product so as to alter for better results.

Composition of the monuments (Indoor)

- Positioning of the grasses

After painting, the researcher composed the crocodiles, tree stump and the grasses to simulate Paga crocodile haven. This was done in arrangement so as to enable the choice of appropriate composition that well-simulate Paga crocodile haven.

The various compositions were exposed to viewers to assess and give their opinion on the appropriate composition that gives the sense of Paga crocodile haven both indoors and outdoors.

Table 2: Total population of respondents at the exhibition site (indoors)

| Respondents' Portfolio | Number of Respondent |
|-------------------------------|-----------------------------|
| Lecturers | 7 |
| Students | 24 |
| Other workers | 9 |
| Total | 40 |

About 40 viewers comprising lecturers, students and other workers were present to see the composition. Thirty-two of the total population of respondents, representing

eighty percent of the viewers' chose the composition in Plate 67. A reason for the choice of composition in Plate 4.8 was that, it well-simulate a crocodile haven and it was well composed, but not crowded at certain areas as seen in the other Plates. According to the viewers, it gave a sense of reality of the composed crocodile haven especially when viewed from a distance.

Below are the pictures of the composed crocodile, tree stump, grass and the painted pond sheet in Plates 61– 70.



Plate 61: Setting of the grasses on the simulated pond



Plate 62: Introduction of shade before the grasses

- **Positioning of the crocodile monument**

The crocodile was placed at different positions so as to choose the appropriate one to suit the study as illustrated in Plates 63-65



Plate 63: Setting of the two crocodile monuments in the composition



Plate 64: Setting of crocodiles in the composition



Plate 65: Setting of the two crocodile monuments in the composition

1. Composition of tree stump, grasses, crocodiles and simulated pond

The tree stump, grasses, crocodiles were arranged on the simulated pond in different compositions as in the illustrations below so as to finally select the appropriate composition based on the views of the respondents.



Plate 66: Composition A



Plate 67: Composition B

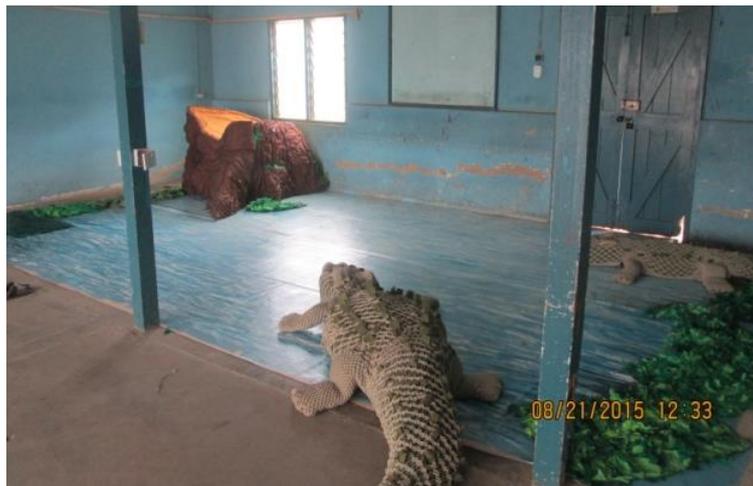


Plate 68: Composition C



Plate 69: Composition D



Plate 70: Composition E

Total population of thirty-four representing about eighty-two percent opted for composition B Plate 67

The composition of the tree stump, grasses, crocodiles and the pond in Plate 67 was selected out of the lot by the inclusive views of people based on the fact that, the

features were well-organized and well-simulate a Paga crocodile haven in the Upper East Region of Ghana. Again there was enough light to aid perceiving the haven.

A composition of the crocodiles, grasses, tree stump and the simulated pond in an open natural environment

Aside the monuments not being friendly to the open environment due to rainfall and exposure to the sunlight, the researcher exposed the monument to the open at the new site of Faculty of Art to take note of the effect of composition outside to that of the composition done in the room. About forty viewers, comprising of lecturers, students and other workers came to perceive and give their comments on the composition and the monuments produced.

The viewers easily recognize Paga Crocodile Haven at a glance. They were able to identify the various components. The composition in the open as compared to the enclosed ones gave a clear perception of a simulation of the Paga crocodile pond. The simulated pond was cut irregularly based on the fact that, a pond, especially Paga crocodile pond does not have a sharp straight edge. The researcher, aimed at composing the monuments closer to real grasses, and the sandy floor to introduce reality in the composition.

It was said that, it would have been appropriate for the researcher to come out with a crocodile with an opened mouth due to the fact that, crocodiles usually open their mouth on land. Five of such suggestion were made.

Plate 76 was considered by viewers as with a good composition in relation to the other compositions. Twenty-nine respondents made this suggestion.



Plate 71: Composition A (Outdoor)



Plate 72: Composition B (Outdoor)



Plate 73: Composition C (Outdoor)



Plate 74: Composition D (Outdoor)



Plate 75: Composition E (Outdoor)



Plate 76: Composition F (Outdoor)

After a good comparison between the outdoor and indoor compositions of the monuments, the respondents suggested that, bright light is required as seen in the open area composed monuments whiles the monuments should be kept in a large enclosed area so as to prevent the adverse effects of rain and sunlight in the open.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Overview

The final chapter for this study entails the summary of the project, conclusion drawn from the findings and considerable recommendations for future researchers. The brief description of the objectives of the study, and the processes through which the objectives were attained including the particular research method, sample population and other relevant features of the study. Individuals were interviewed in relation to finding answers to the research questions and also the opinions of viewers about the work and the composition of the monuments were well noted to well simulate the Paga crocodile pond hence, fulfilling the objectives of the study.

5.1 Summary

The general objective of the study aimed at simulating Paga Crocodile Haven in the upper east region of Ghana. Universal Research Method was used for the study that involved experimentation and exploitation methods. Five major steps, including Design brief, Identification of users' needs or problems, Analysis of users' tasks and goals, Create/redesign, Test and evaluate for usability. The design brief gives out the employment of textile in the production of monument in Ghana. A particular need of Ghanaians was identified and analysed as the troubles encountered due to the far distance of the Paga Crocodile Tourist Centre in the Upper East Region from other regions in Ghana especially the southern part of the country. Tree stump, grasses, painted pond and two crocodile were created using textile composite techniques like appliqué, macramé etc. and then composed to suit the study. The results were

evaluated to establish the feasibility of the study. Related literature to the study was reviewed to give preliminary ideas in relationship to the production of the monuments in the study. The study was narrowed to the production of crocodiles, grasses, tree stump and pond monument based on the fact that, the study aimed at simulating Paga Crocodile Haven in Ghana. During the production, the researcher encountered difficulty in adhering onto the foam modelled monument.

Although lots of techniques were identified, some, such as appliqué, macramé, modelling painting was used for the project. It was revealed that textile techniques can best be used for the production of monuments when two or more techniques are combined in its creation. For instance, foam modelling can be worked out effectively alongside with appliqué, macramé and painting techniques. Fabric, foam and yarns were the major medium used alongside with other materials in composite manner.

However, the study reveals that selecting compatible and matching materials to create a particular theme solves this problem. Moreover, lightweight materials work better with fabric than heavier materials. Substrate for painting must be strong and smooth enough to support the acrylic paint that is applied to it for stability. Foam was appropriate for modelling so as to bring out the form of the objects. In addition to this, PVA adhesive proved excellent to join fabric and other materials together due to its strong adhesive power. Materials that found application in the project other than fabric include PVA adhesive, cushion foam, and acrylic paint. These materials were used in combinations with two or more techniques to produce a variety of works, including tree stumps, grasses, simulated pond and crocodiles.

The main findings of the study are:

1. Initially, the composite techniques included casting, but it was realized that the flexible nature of crocodiles could not have been achieved. The technique was then changed to modelling with foam.
2. Some areas of the crocodile models needed to be knotted compactly so the researcher used more resources and time than scheduled.
3. Respondents suggested that, models of open mouthed crocodiles should have been made, because most crocodiles come out of water with their snouts open.
4. Monument exhibited outdoors simulated crocodile haven well, more than the ones exhibited indoors. However, this challenge was surmounted by the idea that a stronger light source could facilitate the easy perception of the monument.
5. It turned out that lighter stuffing materials were the best option for easy transportation, since the work was meant to be exhibited at different sites.
6. Some respondents also talked about the simulated crocodiles floating on the water instead of submerging in the water.
7. Some respondents also suggested that since the materials used could not withstand all weather conditions, it would be appropriate if it could be set up in a museum or a big room where it could receive enough light and protection from the vagaries of the weather.

5.2 Conclusions

Textile art is an innovative area that play vital roles in the lives of people in most parts of the world for aesthetic and economic development. Its benefits, uses and significance are many and should not be ignored in countries that are still under development. Nevertheless, this form of art is not popular in Ghana and as a means

of popularizing and making it significant in Ghanaian art, this research was embarked upon to explore the subject of building textile monuments that can equally simulate the scene of Paga crocodile haven, though there were few limitations that hindered its simulation. The crocodiles had to be manipulated such that it could simulate submerged crocodiles in water. It was also found out in the study that;

Textile art techniques could be combined effectively to create any monumental artistic piece of high aesthetic value.

Wild and fearful animals can be made friendly by simulating their natural settings as proven in the study.

The idea of taxidermy could as well be represented using textile techniques and materials.

Though most monuments are exhibited in rigid forms, they can as well be exhibited in their natural flexible state.

5.3 Recommendations

The following suggestions have been recommended:

1. Textile artists should be able to use the numerous art techniques and employ different textile materials to create relatively expensive and highly aesthetic works of art that bear a lot of significance for national development.
2. Artist should be able to employ and manipulate the numerous art techniques to present monuments in their natural state.
3. Textile artists should use the numerous art techniques to simulate animal and scenes which are not accessible to make teaching and learning easy and assessable

4. Ministry of tourism adopt such technique as a means for promoting tourism in Ghana.
5. Textile artists should be able to explore with different textile materials and techniques to create relatively high aesthetic works of art in order to promote textile art and also use it as a model for artistic expression.
6. Textile art is also recommended for artists as a means of exploring different materials other than those employed in this study to bring about variety in textile art and to foster creativity.

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