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Design and Production of a Pair of Decorative Flower Pot for the Main Auditorium of Takoradi Polytechnic: Ghana

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Abstract:

Design and production of flower pots have been in existence for so many years. Presently, they are produced with much improvement and modern technology as compared to ancient times. The auditorium complex of Takoradi Polytechnic comprises two computer laboratories and other offices. The main auditorium is meant for gathering of students, and also for hosting conferences, seminars for both local and international programs. However, for the main auditorium to look attractive and beautiful, it must contain certain artifacts for the purposes of interior decorations. This study seeks to display the design and subsequent production of a pair of decorative flower pot to hold artificial flowers to enhance the aesthetic value of the main auditorium of Takoradi Polytechnic. The technique for production was the “thrown and joined” method. Abonko clay was the main material used for the production. Painting technique as a form of decoration and finishing was very efficient and effective in the production of the pots. Experimental and Descriptive Research methods based on the quantitative and qualitative research approaches were employed. It is recommended among other things, that Ceramists and other Ceramic Artists as well as students experiment with other materials and techniques in the production of flower pots, especially customized pots to bring variety in the field flower pot production.

Keywords: Clay, Flower pot, Main Auditorium, Painting, Takoradi Polytechnic.

1. Introduction

1.1. Overview of History of Vases

According to Bamber, (2001), archeological evidence, together with the example of primitive tribes in recent times suggested that the earliest containers used by the pre-historic man ranged from hollowed out pieces of stone or wood; to elaborate artifacts such as bags of animal skin, and above all baskets; which almost every region of the world has suitable materials for its production and the resulting object was both cheap and light. But they could not contain liquids; for that purpose, early technology soon found another material which was cheap, widely available and (by comparison with stone) relatively light. This material was clay, which was used to make artifacts for storing liquids called vases. Again, Bamber (2001) stated that, during the period of greatest distinction, from about 550 to 480 BC, the potters of Athens and the surrounding district of Attica were the most accomplished in the Greek world. They were the people who perfected the decorative style known as black figure and then introduced the subsequent red figure technique and other forms of vases or containers (Bamber, 2001).

In defining a vase, Cooper (2000), defined a vase as having a certain anatomy; lowest is the foot, a distinguishable base to the piece. The design of the base may be bulbous, flat, carinate or another shape. Next is the body which forms the main portion of the piece. Resting on top of the body is the shoulder, where the body curves inward; then the neck, where the vase is given more height; and lastly, the lip, where the vase flares back out at the top.

In another context, Clark (2002) defines a vase as a usually round vessel of greater depth than width used chiefly for storing and transporting of oils and cereals. Wikipedia (2015), defined vase as an open container made from a number of materials such as ceramics, glass, non-rusting metals, etc. often used as an ornament or for holding cut flowers.

Based on the previous definitions, the researchers explain that, a vase is an open container made from different kinds of materials such as clay, glass etc. into different forms and shapes to hold cut or artificial flowers for decorations.

1.2. Modern Types of Vases

Cooper (2000) has outlined modern types of vases and is named after the shapes they take in nature. They include; bottle vase, flower brick vase, mushroom-shaped vase, gourd-shaped vase, turnip-shaped vase, and several others. These kinds of vases have been defined by different authors as follows;

- Bottle Vase; - this is a type of vase which takes the form of a bottle. A bottle is a rigid container with a neck that is narrower than the body and a mouth (Yam, 2009).
- Flower Brick Vase; - it is a type of vase, cuboid-shaped like a building brick, and designed to be seen with the long face towards the viewer (Toby, 1991).
Mushroom-shaped vases; - it is a type of vase which takes the form of a mushroom. A mushroom is the fleshy, spore-bearing fruiting body of a fungus, typically produced above ground on soil or on its food source (Cooper, 2000).
- Gourd-shaped Vases; - it is the type of vase that takes the shape of a gourd. Gourd is the fruit of the two genera of "calabash tree". The term refers to a number of species and subspecies, many with hard shells, and some without (Basket, 2005).
- Turnip-shaped Vases; - this is a type of vase which takes the form of a turnip. Turnip is a root vegetable commonly grown in temperature climates worldwide for its white, bulbous taproot (Ashton, 1998).

1.3. History of Clay

Chavarria (1992) says that, pre-historic man and woman did some clay modeling by hand, making pinch and coil pots. They also employed baskets to shape various clay vessels, using them like a kind of primitive mold. These type of ceramic works fired at very high temperature were very porous and very fragile. The ancient potters looked for solutions to these problems; and one of this was to make the vessel waterproof by burnishing it, rubbing the surface with a smooth stone or pieces of hard wood before it was fired.

According to Nelson (1996), pottery which is made of clay originated before the Neolithic period, with ceramics objects like the Gravettian culture Venus of Dolni Vestonice figurines discovered in Czech Republic dated back to 29000-25000 BC, and pottery vessels that were discovered in Jiangxi, China also dated to 20000 BC. Early Neolithic potteries have been found in places such as Jomon Japan (10500 BC), the Russian far East (14000 BC), Sub-Saharan Africa and South America.

It is obvious from literature that pottery and for that matter, flower pots has been in existence for so many years. Presently, they are produced with much improvement and modern technology as compared to ancient times. Flower pots serve several purposes including aesthetic qualities.

1.4. Statement of the Problem

Takoradi Polytechnic offers technical and vocational education. The School of Applied Arts of the Polytechnic trains vocational students especially, the visual arts; yet the main auditorium of Takoradi Polytechnic lacks artifacts to enhance its aesthetic qualities particularly, the interior part of the building. Therefore, this study seeks to display the design and subsequent production of a pair of decorative flower pot to hold artificial flowers to enhance the aesthetic value of the main auditorium of Takoradi Polytechnic.

1.5. Objective of the Study

To design and produce a pair of decorative flower pot, to hold artificial flowers to enhance the aesthetic value of the main auditorium of Takoradi Polytechnic.

1.6. Research Question

To what extent can decorative flower pots enhance the aesthetic value of main auditorium of Takoradi Polytechnic?

1.7. Scope of the Study

The designed and produced pair of decorative flower pot would only be mounted at the main auditorium of Takoradi Polytechnic.

2. Materials and Methods

2.1. Materials, Tools and Equipment

Materials used for the production of the flower pots included;

- Abonko Clay: this was the main material used in the production of the wares.
- Clay slip: this is a mixture of clay and water in a homogeneous state used to join the pieces together by applying it to the scored surfaces and bringing them together.
- Acrylic paint: it was the media used in painting the vases.
- Lacquer: it was used to give the painted wares a glossy finish

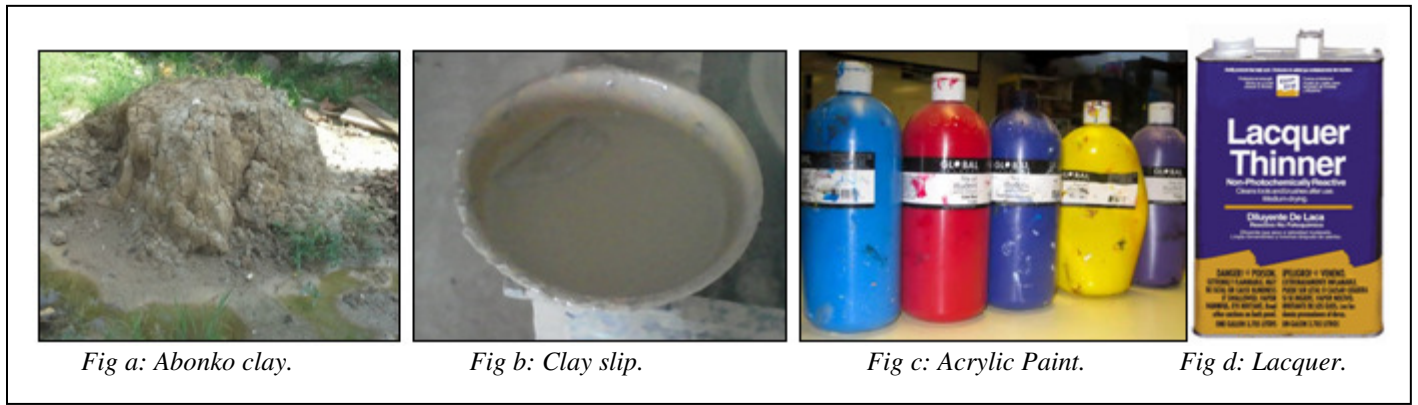


Figure 1

Tools used for the production of the flower pots included;

- Pencil: it was used in making the preliminary sketches
- Sketch book: the preliminary sketches were done in the sketch book.
- Knife: it was used to cut the inscriptions on the vases.
- Cutter: it was used to cut the design on the belly and the neck of the vase.
- Measuring tape: it was used to measure the pieces while throwing in order to obtain required sizes and heights.
- Foam: it was used to absorb water from the piece while throwing. It was also used to apply clay slip on the vase after turning so that it can be smoothen effectively.
- Turning tools: it was used to trim off the unwanted clay from the vase to render it in even thickness.
- Kidney: it was used to smoothen the vase after the slip has been applied on it.
- Fork: it was used to score the surfaces to be joined.
- Turn table: it was used to rotate the pots during decoration process.
- Cutting wire: it was used to cut the pieces from the bat after throwing on the wheel.
- Pick axe: it was used to dig the clay from the clay dump.
- Basin (bath): the clay was soaked and mixed it the basin for washing.
- Wheel barrow: it was used to transport the washed clay from the clay pit to the studio.
- Mesh: it was used to sieve the clay into the clay pit during washing of the clay.
- Clay pit: the clay was washed into the clay pit for it to absorb water.
- Painting brushes: it was used to paint the flower pots.

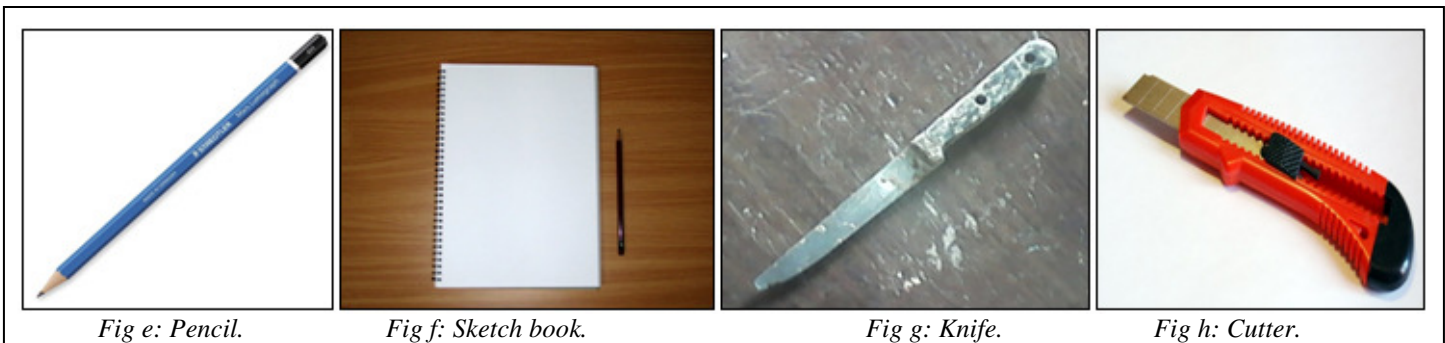


Figure 2

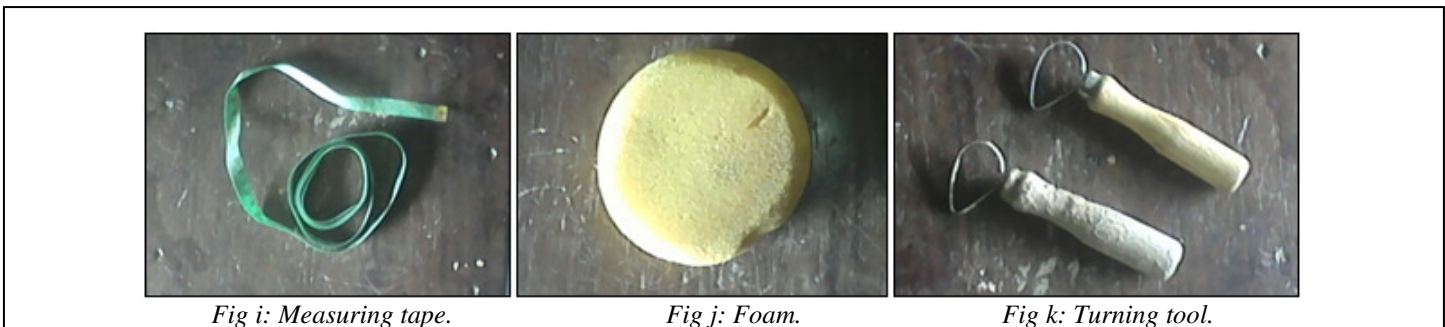


Figure 3

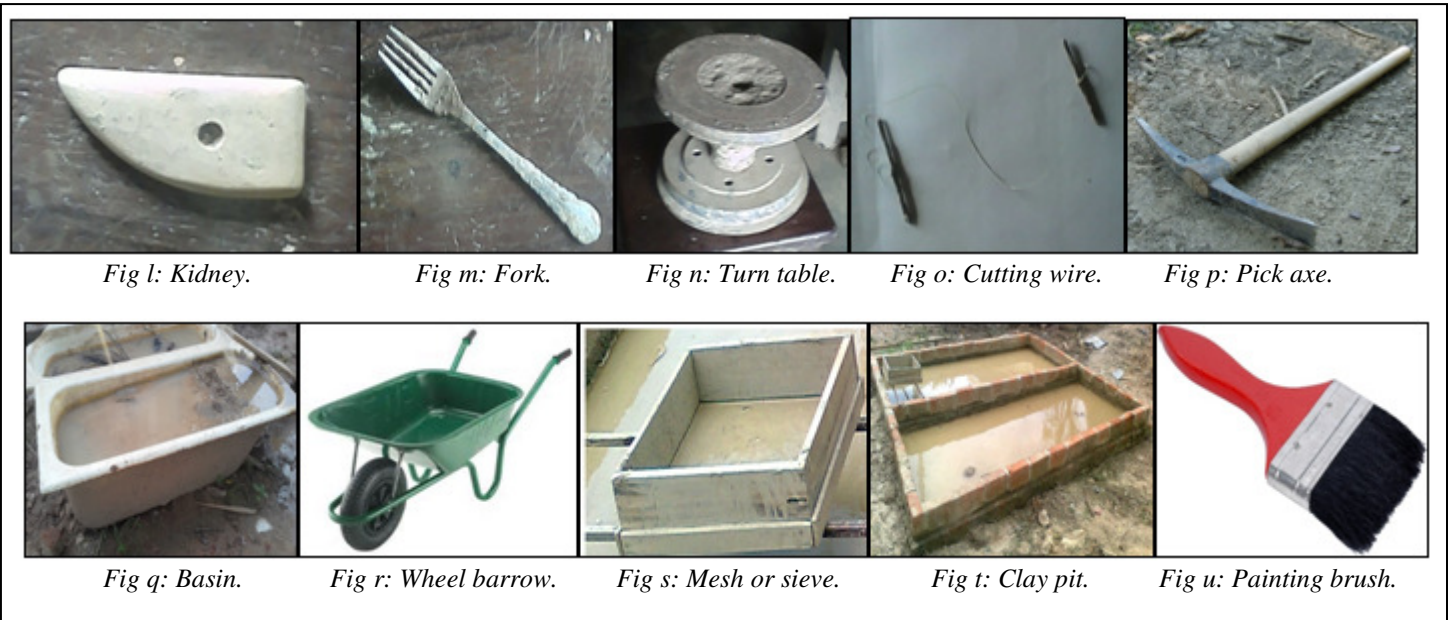


Figure 4

Equipment used for the production of the flower pots included;

- Kiln: the kiln was used to fire the work.
- Potter's wheel: this was used to throw the works in pieces and later joined them to form the vases.



Figure 5

2.2. Methodology

Descriptive and Experimental Research methods based on qualitative and quantitative research approaches were employed. The Descriptive method of research is important because flower pots existing at the market had to be looked at, described and analyzed before coming out with a design that would in the long run solve problems existing pots could not. This method was also used to describe the various materials, tools and equipment used in the study. Additionally, it was used to describe the design and production processes and the appreciation of the results.

The experimental research method was used to assess the suitability of materials, available tools and equipment used in the study (Best, 1981). Experiments were undertaken to find out the suitability of the use of either Abonko clay alone or to compose clay bodies for the production of the flower pots. Experiments were as well undertaken to find the relevant and suitable method of decorating the pots; and painting technique was finally agreed on.

The population for the study involved ceramic teachers, students and sellers of flower pots in the market. Since it is practically impossible to reach every member of the target population, the purposive sampling method was employed to select 2 lecturers and 10 students from the Department of Ceramics, Takoradi Polytechnic; and 5 flower pot sellers in the Sekondi-Takoradi Metropolitan Assembly (STMA) for interview. These formed the sample population. This method of sampling makes it plausible to randomly select people with similar characteristics from the target population to be studied.

To triangulate data obtained through the interview, observations were also made (Leedy and Ormrod, 2005). According to Amenuke (1991), observation as a research tool was also important because information provided by respondents could be untrue or biased. Observation techniques of gathering data make it possible for the researcher to obtain first hand information. The researchers thus visited the ceramic studios of Takoradi Polytechnic, and the market places to observe critically the available flower pots. This was done to specifically test the validity of data gathered through the interviews conducted. Photographs were taken where suitable for authenticity and confirmation. Flower pots found were critically assessed, analyzed and criticized to serve as the basis for the design and production of a pair of flower pot for the main auditorium of Takoradi Polytechnic.

2.3. Design and Production Stages

In order to make the pair of flower pot easily identified with Takoradi Polytechnic, the Polytechnic's crest was carefully studied and incorporated in all the designs for the pots. The idea development was thus from the crest of the Polytechnic. The study started by preliminary sketches and drawings. The final design was selected and executed by the researchers.



Figure 6: Takoradi Polytechnic's Crest.

This is the Polytechnic's crest from which all the flower pots designs were developed (Fig.1). It captures the essence of technical and vocational education in its design and emblems. The circular nature of the crest symbolizes the completeness of the training and education nurtured at the Polytechnic. These are summed up in the motto "Nsa na adwen ma mpuntu" (literally, "skills (the hands) and knowledge (mind) engender development"). An open book set against a toothed wheel or gear on a yellow background symbolizes the technical and vocational nature of the education given at the Polytechnic, a matter of theory and practice at its best. The adinkra symbol of "Ntesie" or "Mate masie" (literally, "I have heard and I have kept it") is the Ghanaian cultural symbol for learning which is set on a blue background with yellow wavy stripes representing the location of the institution near the sea with its waves.

The royal blue colour that encircles the emblems in the crest represents the global appeal of the education and training undertaken at Takoradi Polytechnic (written in blue on top of the circle) and makes the sky the limit for all trainees. The fire red colour symbolizes hard work and personal sacrifices which underlie success in all endeavours. The rich yellow colour encapsulates wealth that results from the application of the skills and knowledge acquired through the unique education at the Takoradi Polytechnic (Crest designed by Manikure-Henaku, 1993 and philosophy written by Nyarko, 2009).

Samples of the designs developed and created from the crest have been shown in figures 7-9.

2.4. Sketches Made in Different Forms

The sketches were also made in different forms with idea development from gourd-shape. It is the type of vase that takes the shape of a gourd. Gourd is the fruit of the two genera of "calabash tree" (Basket, 2005). The shapes and forms of the gourd were manipulated with the design elements and principles; and the circular shape of the pot's belly was guided by the circular nature of the crest which symbolizes the completeness of the training and education nurtured at the Polytechnic. The final sketch of the designed pair of the flower pot was obtained as shown in figure 9 on the next page.



Figure 7: Different form of pot.



Figure 8: Initial design of the pot.



Figure 9: Final design of the pot.

2.5. Preparation of Clay

The clay which has been already aged enough since it has been left at the mercy of the weather for quite a longer period of time was dug by using a pick axe. It was then soaked in the washing basing (bath) for it to age a little and become soft. The soaked clay was left for about a week.



Figure 10: Heap of clay.



Figure 11: Soaked clay.

It was then mixed into a slip consistency using a slab of wood. The slipped clay was sieved through a 120 mesh into the clay pit for a period of two weeks since it was a raining season. The pit which is lined with porous bricks absorbed water from the clay making it a little hard to be wedged and kneaded.



Figure 12: Mixing of clay.



Figure 13: Sieving of clay slip.

The clay was collected from the pit by hands and was placed unto a kneading table where it was pounded to break down lumps. The pounded clay was rolled into balls and was transported to the studio by a wheel barrow for further preparation.



Figure 14: Pounding of lump of clay.

The clay which had been transported to the studio was then wedged by cutting it into pieces using a cutting wire to remove unwanted materials such as broken sticks, stones, and lumps from it.



Figure 15: Wedging of clay.

The wedged clay was then kneaded to remove air pockets and also rendered the clay into an even consistency. It was made into balls ready for “throwing”.



Figure 16: Kneading of clay.

2.6. Methods of Production

The method used for the production of the vases was “thrown and joined”. The wares were thrown in pieces, joined and turned. The works were then left to dry up to the leather-hard stage before the designs were made. After drying, the vases were subjected to heat for firing and then painted.

2.6.1. Throwing of the Pieces

The first step in producing the wares was the ‘throwing’ method which involved centering, opening, pulling and shaping of the clay on the potter’s wheel.

- Centering: - the ball of clay was centered on the potter’s wheel by applying pressure on it while the disc on the potter’s wheel revolved anti-clockwise. The wet clay was gripped with both hands and the elbows were firmly steadied on the box of the wheel. As the left hand pushed the clay and the right hand also pulled it to the central point of the wheel, the clay stopped dangling on the wheel and became stable as the disc revolved.



Figure 17: centering of clay on the potter's wheel.

- Opening: - after the clay was centered, it was then opened by gradually inserting the right thumb into the clay while the wheel revolved to create a hole in it. When the hole created became a little bigger, all the fingers apart from the thumb of the left hand were inserted into it to open it wider while the right hand still gripped the clay to prevent it from decentering.



Figure 18: Opening of the clay.

- Pulling: - after opening the clay to the required size, the walls of the opened clay was then pulled to a higher and thinner height. This was done repeatedly until the required height was attained.



Figure 19: Pulling of the clay.

- Shaping: - the pulled wall was then shaped to the required form by using the left hand to push outward while the right hand guided it from the outside.



Figure 20: Shaping of the clay.

These processes were used to ‘throw’ all the pieces to be joined to produce the vases. One vase comprised two big bowls, two cylinders and one shaped piece for the rim. The two bowls were joined together to form the belly; the two cylinders formed the neck and the shaped piece also formed the mouth. The thrown pieces were left for a period of one and a half days for it to reach the leather-hard stage before it was joined.



Figure 21: Thrown bowls.



Figure 22: Thrown cylinders.

The design at the mouth was created by dividing the rim with a modeling tool while the wheel was revolving and the hand was used to put some portions together to create the nice pattern at the rim.



Figure 23: Designing of mouth of the vase.

2.6.2. Joining of the 'Thrown' Pieces

The pieces were joined together to produce one vase after they had been left to reach the leather-hard stage. The same procedure was followed to produce the other vase. The pieces were joined by scoring the surfaces to be joined with a metal fork as a tool and applying clay slip which served as a binding agent to put them together.



Figure 24: Joining of thrown pieces to form the vase.

2.6.3. Turning of the 'Thrown' Pieces

After joining all the pieces to form the vase, it was left for the next day so that the joints would harden a little for it to be turned without distorting the shape. The wares were then turned by using the turning tool to remove all the unwanted clay to bring out the shape of the ware and also to make it lighter.



Figure 25: Turning of the vase on potter's wheel.

Clay slip was then applied on the wares using foam to seal the pores created by the tool during turning processes.



Figure 26: Applying slip on the vase.

The kidney was then used to force the slip to seal the small pores very well with a little pressure by the hand. This action also helped to render the ware very smooth.



Figure 27: Smoothing of the vase.



Figure 28: The turned vase.

After turning and smoothing the wares, they were left for about twelve hours for it to reach the hard leather-hard state and then covered with polythene bags till the next day. The purpose of covering the wares was to prevent them from further drying.

2.6.4. Decoration Processes

The methods of decoration used on the whole vases were incision and carving. First of all, the inscriptions and the Polytechnic's crest were sketched on the vases using a pricker. After sketching, a smaller turning tool was used to carve some parts of the crest on the vases.



Figure 29: Writing of the inscriptions on vase.



Figure 30: Carving of the crest on vase.

Knife was used to incise the inscriptions on the vase and also the adinkra symbols, and a sharp cutter was also used to cut out the designs on the belly and the neck of the vase.



Figure 31: Cutting of the inscriptions on vase.



Figure 32: Cutting of the designs on vase.



Figure 33: The designed vases.

After incising and carving all the designs on the vases, they were left uncovered and allowed to dry naturally for a period of three weeks for before firing. The reason for natural drying was to prevent the pots from cracking and warping.

3. Results and Discussion

The results of this study have been categorized into 3 groups namely; firing, painting and mounting of the flower pots.

3.1. Firing Process

When the vases were thoroughly dried, they were stacked in the firewood kiln and then the door was sealed using fired bricks and laterite. The works were then pre-heated for twelve hours. The purpose of the pre-heating was to allow gradual loss of physical water and also to prevent pots from cracking. The temperature was progressively increased till full blast was also done for the remaining twelve hours; making the duration of the whole firing twenty four hours. Looking at the colour inside the kiln atmosphere which was orange, the researchers through experiences could determine the matured at the temperature between 950⁰C to 1000⁰C.



Figure 34: Firing of the vases in kiln. Figure 35: The fired vases.

The kiln was allowed to cool down for a day before the wares were removed from the kiln. It was realized that at the temperature between 950⁰C to 1000⁰C, the wares had been successfully fired as shown in Figure 49 above.

3.2. Painting of the Vases

Based upon the philosophical ideas of the colours in the Polytechnic's crest, the vases were painted accordingly. The royal blue colour that encircles the emblems in the crest represented the global appeal of the education and training undertaken at Takoradi Polytechnic; and makes the sky the limit for all trainees. The fire red colour symbolized hard work and personal sacrifices which underlie success in all endeavours. The rich yellow colour represented wealth that results from the application of the skills and knowledge acquired through the unique education at the Takoradi Polytechnic. The white colour used to paint the designs on the belly and the neck of the vases represented the joyful mood of graduating students during congregation. The adinkra symbols on the neck of the vases further demonstrated the Supremacy of God and His protection in the course of study on campuses of Takoradi Polytechnic.



Figure 36: Painting of the vase.



Figure 37: Painting of the symbols.



Figure 38: Painting of the crest.



Figure 39: The painted pair of pot.

3.3. Mounting of the Designed and Produced Flower Pots

In order to make the vases exhibit aesthetic qualities, metal stands were made for the vases. The purposes of the stands were to add aesthetic value to the wares and also to firmly hold the pots; so as to prevent the wares from breaking or cracking. The final decorative flower pots were successfully mounted at the Takoradi Polytechnic main Auditorium as shown in Figure 40 below.



Figure 40: The decorative pair of pot mounted at the Auditorium.

4. Conclusion

The results of this study have shown the possibilities of using the available resources at the Department of Ceramics, School of Applied Arts to produce sample of customized pair of flower pot for the main auditorium of Takoradi Polytechnic. It also stresses the fact that the use of 'thrown and joined' method with painting technique to produce customized flower pots was possible. The pots were produced to enhance the aesthetic value of the main auditorium of Takoradi Polytechnic.

The success of this study would give room for all ceramic design artists and students as well as designers to explore in this area to create a variety of customized flower pots for other institutions. This could foster the development of creativity and senses; something which is important for teaching and learning processes and involve critical observation and careful manipulation of design elements and principles, materials, tools and equipment.

Ceramics which plays a very important role in our everyday activities cannot be neglected in our society. Clay, if well treated could be used to produce many objects that would be useful to churches, offices, public buildings, amour sections, space centers and individuals. Thus, the study provides knowledge in the making of customized flower pots for institutions.

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