

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND
TECHNOLOGY, KUMASI, GHANA**

**Effective Utilization of Designed Patterned (Motif) Fabrics in Garment
Construction: Dressmakers in Ghana as a Case**

by

Mercy Ampofowah Amoakoh
(B.A. Integrated Art and Industry)

**A Thesis submitted to the Department of Integrated Rural Art and Industry
College of Art and Built Environment,
in partial fulfilment of the requirements for the degree of**

MASTER OF PHILOSOPHY

MARCH, 2019

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CERTIFICATION

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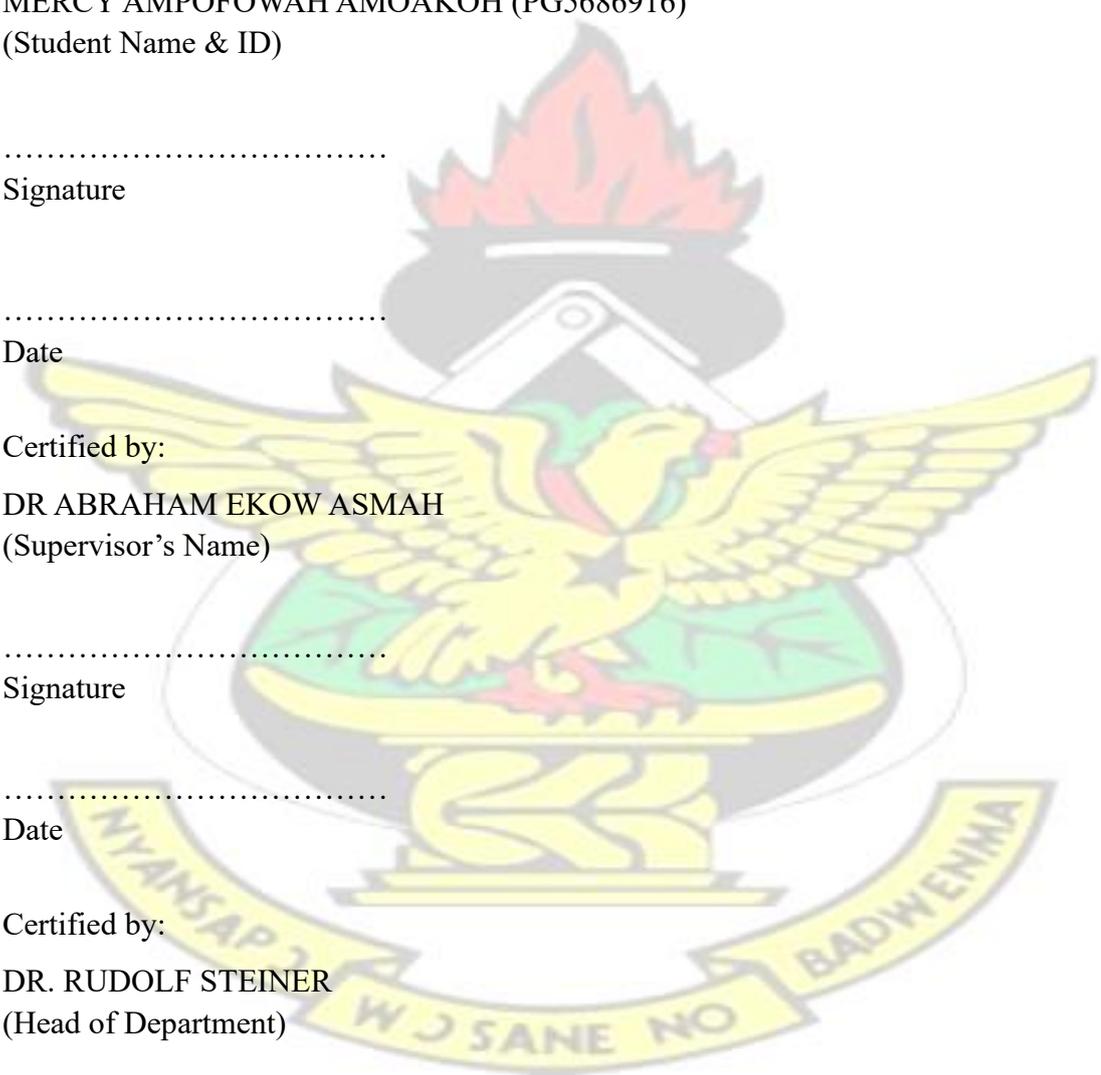
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ABSTRACT

Most fabrics used in Ghana have communicative values, especially the African prints and must be portrayed as such. It has been observed that although consumers and garment designers are able to choose fabrics in terms of colour, style, trend, among others, most dressmakers overlook the need to match motifs in the fabric during garment construction. This study therefore aimed at improving the effective utilization of designed patterned fabrics in garment construction by providing a simple practicable repeatable learning methodology for Ghanaian dressmakers. To achieve this, the following objectives were set: to assess dressmaker's level of competence (Skills and Knowledge) in designed fabric in garment construction; identify the various methodologies they use in garment construction; formulate an innovative fabric utilisation methodology that addresses the mismatching of motifs by the dressmakers and test the new methodology formulated through an expository workshop on some selected dressmakers to ascertain its efficacy. The study adopted qualitative approach and employed descriptive and action design to purposively and conveniently assess 63 dressmakers at Awoshie/Anyaa zone of GNDTA. The ADDIE instructional model was used as the framework in formulating the methodology. Data were collected using semi structured interviews and observation. Findings from the study revealed that majority of the dressmakers had no knowledge in pattern arrangement and lacked the skills in manipulating effectively motifs in the designed patterned fabrics to match in all the parts of garments. To stem the identified problems, innovative principles were formulated by the researcher and their efficacy tested during a series of workshops proved successful. It is recommended that the researcher in collaboration with GNDTA and textiles firms should frequently organize seminars, workshops and fora for

dressmakers, textiles and fashion students in SHS, tertiary levels and make available a manual from the formulated principles.

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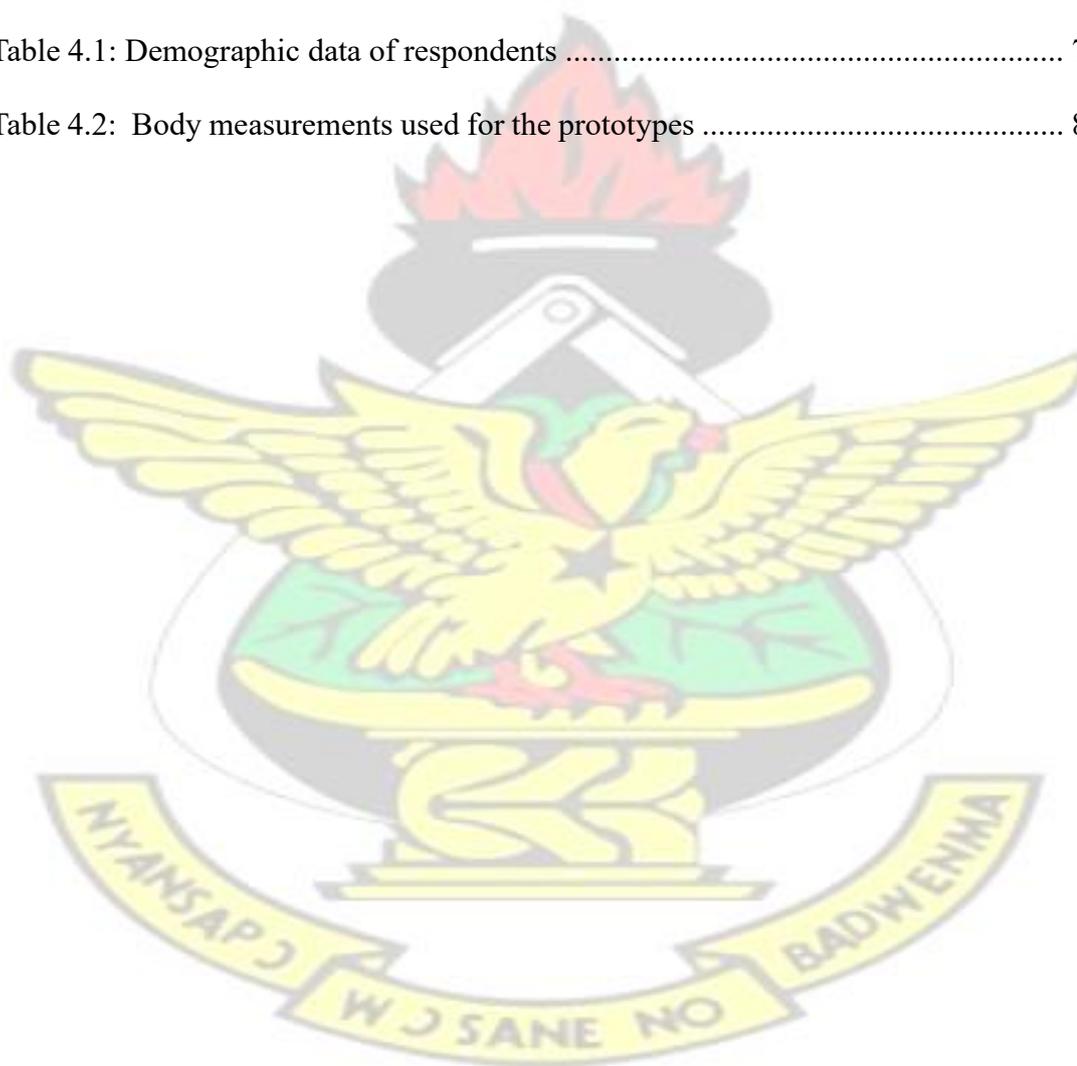
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CHAPTER ONE

INTRODUCTION

1.1 Overview

The chapter states the background to the study, statement of the problem, research objectives, research questions, delimitation, and significance of the study and the organisation of the rest of the text.

1.2 Background of the Study

Globally, the garment industry is considered to be one of the primitive income generating manufacturing sector which does not depend heavily on sophisticated technical skills or technology (Gerefi, 1999). It encompasses the clothing and the textile industry. Gerefi (1999) and Biney-Aidoo (2006) have indicated that, garment manufacture is considered to be one of the “starter industries” for a country’s development. The industry has become profitable to the extent that, Bangladesh, second only to China, accounted for 77% of its foreign exchange from the export of this industry.

In recent times, the African continent is becoming recognized for its garment industry. The low technology has made it imperative to accommodate the surplus labour existing in the primary segment. The advance of textile and garment industry is of unlimited significance to developing economies.

In Ghana, traditions and culture forms an integral part of an individual. These are expressed in the form of clothing and other art accessories. Clothing is an item or fabric which is made to cover part of the human body, including shirts, dresses and coats. According to Forster (2014), clothing is anything worn or carried on the body to modify personal appearance. Researchers have established that, of every 100% of fabric

purchased for clothing approximately 85% of the fabric are in the finished garment, with the 15% ending up as waste (Cooklin, 1997). Cooklin referred to the 85% figure as the material or fabric utilisation. The success of effective utilisation of the motifs in the designed fabric depends on the competency of the dressmaker and the understanding of the style chosen by the client. When styles are tailored to perfection and motifs in the designed fabric are matching at all parts of a garment, not only does the garment become aesthetically pleasing but also promotes the sale of the fabric and garment as well as convey non-verbal messages to the audience. It is possible also to set a trend which others might like to follow. Keane and Velde (2008) asserted that the growth of the garment and textile business is important in economic and social terms, therefore, providing income for the dressmakers and foreign currency for the nation at large which is significant for economic growth.

It is however common to notice that most dressmakers overlook the need to match the motifs in all parts of the garment during garment construction. One such challenge could be the issue of relating textile designing in pattern arrangement to garment construction. Sarpong, Howard and Ntiri (2012) in their research noted that the competency of dressmakers was low in the design and construction of garments that meet the required standards. They observed that, the quality of the design and construction details made by the dressmakers were not good enough to attract consumers as well as for export. Textile designer's aim at conveying messages through their patterned designed fabrics and this was also often distorted. The development of the motifs in relation to the pattern arrangement in a designed fabric plays a dynamic considerable role. Ideally, the elements and principles of design should be efficiently applied and maintained during the construction of the garment to create a harmonious sensation.

Imirhe (2004) observed that, in Ghana, garment production is essentially a domestic industry for both men and women. According to Asare (2015), garment production is often categorized as a low or unskilled occupation. The practicality of the skill makes it to be regarded as providing little challenge to the intelligence of the learners. The general impression, therefore, is that, to be trained as a dressmaker connotes an informal training where learners acquire little or no knowledge about the relationship between the textile fabric and the garment to be constructed (Acquaah-Harrison, 1997). Erwin and Kinchen (1992), however, argued that sewing develops one's creative ability which involves the use of one's imagination. Jones (2002) stated that, competency in garment construction is not only the ability to sew but also the ability to create, design, draft, and innovate styles of clothing that are new and interesting. Downey and Kelly (1979) described creative behaviour as including such activities as inventing, composing, planning and designing. These types of skills, to those eminent scholars, are recognized as 'creative'.

In garment construction, four preparatory processes have to be carried out preceding cutting the fabric. It includes the pattern, as a medium of communication and as a production tool; grain lines, establishing the linear relationship between the garment pattern and the cloth; pile direction, how this influences pattern component arrangements; and fabric pattern, what has to be taken into account (Cooklin, 1997). The fabric pattern is the form of the pattern on the right side of the cloth (motifs), which, when taken into consideration prior to cutting out can greatly reduce cutting mistakes. The motifs on a printed fabric dictates the direction the fabric should be placed before cutting out. For example, if the motif on a particular fabric is an inscription of a school's name or logo, then it is preferable that the name reads as such and the logo is represented as expected in the finished garment. This desires for the expertise of dressmakers.

Historically, the traditional role of dressmakers and tailoring, by virtue of an apprentice-type of training system, have embraced a number of other duties and tasks. These including assembling, separate dress pieces by pinning or arranging them together; consulting with customers to decide on appropriate style, material, additions and quantity; fitting dresses and other garments on clients and taking note for necessary repairs or alterations; ironing or steam dresses or garments for customers to pick-up; machining and hand-sewing garment sections and accessories such as buttons, hooks, zippers among others and providing price estimates of orders and process payment. These require skills such as artistic abilities, problem solving skills, seamstress expertise, strong attention to detail and time management. Dressmakers work with patterns and free-hand to cut, sew and repair dresses and other similar garments. These require excellent cutting and sewing technique and an ability to provide detailed embellishments. Dressmakers may fulfil individual customer orders or large commercial size orders. The cutting out of a fabric is a technical subject which needs to be much examined in every clothing manufacturing shop. The cutting out determines how the finished garment will appear.

Cutting is an operation where severe mistakes are sometimes very difficult or even impossible to rectify (Cooklin, 1997). Most dressmakers in Ghana are very conversant with the freehand method of cutting out and clothes are custom-made. In situations where the pattern is to be used, flat pattern becomes the alternative where the customer's measurement is used to create the pattern for that particular style (Asare, 2015). The work is done on paper on a flat surface. For freehand cutting, patterns are drawn directly on the fabric and cut out. Skills acquired determines the method the dressmaker is conversant with. Howard (2013) describes teaching as an attempt to bring about desirable changes in human abilities and behaviours. Similarly, Farrant (1990) affirms

that teaching is a process that facilitates and enhances change in behaviour of learners, adding that it requires someone with a professional skill to transfer skills and knowledge to learners. Thus, the transfer of skills in dressmaking is dependent on the influence of the teacher to impart effective competence to the learner.

According to Sarpong, Howard and Osei-Ntiri (2011), the approaches suggested for the development of the Ghanaian fashion industry among others include; organising regular proficiency training for skills and competency upgrading to equip dressmakers to produce to meet global standards. These are worth investigating and implementing.

1.3 Statement of the Problem

The significance of intervention for economic competitiveness in this era is a matter of necessity for survival. The increase in the number and usage of African prints by western designers to the western audience, seems to establish a greater competitiveness for the garment industry in Ghana. In the light of this, it has become necessary for Ghanaian dressmakers to construct garments which are aesthetically pleasing and motifs in garment matching for harmonious sensation to effectively compete with the international world.

In fashion, fabric design and garment construction component are interrelated and interdependent and any time one is overlooked, it results in unpleasing effects and the desired aims are not achieved. Much is spent to conceptualize ideas of consumers into special cloths regardless of the nature of the design fabric and other related principles in textile production. It is the textile designer's expectation that the dressmakers will understand this concept and factor them in their construction in their quest to convey non-verbal messages as a means of social education to the citizenry.

Observation reveals that about 40% of dressmakers are taking patterns or motifs in fabric into consideration probably due to higher levels of education while a good percentage of the remaining 60% are not able to transcend the idea of the textile designer in their garment construction probably due to less formal education in textile design and fabrication. It has also been observed that although consumers and designers are able to choose fabrics in terms of colour, style, trend, to mention but a few, most dressmakers overlook the need to match motifs during garment construction.

It is a common phenomenon to see most dressmakers turning designs upside down, lines not converging, improper balance in designs and not paying attention to other concept in the design of the fabric, when constructing the garment. These are highly noticeable where there are seams and where basic garment parts are joined, such as necklines, collars, sleeves and pockets. This seems to be the outcome of inefficient use of the fabric during laying and cutting out, to lay emphasis on the appropriate joints. This trend is not only worrying to the viewer or wearer of the garment but also to the textile designers aiming at conveying messages through their patterned designed fabrics as it alters the main communicative idea the textile designer wants to convey, distort aesthetic appeal, optical illusion, the wearer's symmetric balance and where lines are outstanding, distort the height and size of the wearer.

It is impossible to prevent cutting mistakes, but this can be greatly reduced by the thorough and conscious preparation or positioning of the fabric prior to cutting the garment. The essence of patterns in fabric in relation to its usage, therefore, becomes a necessity and a tool to educate dressmakers of its importance in garment construction if maximum benefits are to be derived from the textile designer's idea; hence this project.

1.4 Objectives of the Study

The objectives of the study were to:

1. Assess dressmaker's competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction.
2. To identify the existing methodologies used by the dressmakers for garment construction.
3. Formulate an innovative fabric utilisation methodology that addresses the problems identified among the dressmakers.
4. Test the new methodology formulated through expository workshop on some selected dressmakers to ascertain its efficacy.

1.5 Research Questions

1. What is the dressmakers' competency regarding the effective arrangement of motifs in the designed fabrics in garment construction?
2. What methodologies do dressmakers use to execute fashion construction?
3. What innovative methodology can be formulated to stem the problems identified?
4. How effective is the new method formulated for the selected group of dress makers?

1.6 Purpose of the Study

The purpose of this study is to provide a simple, practical repeatable learning methodology and also to generate strategies that will help with the judicious use of the design fabric in garment construction so as to improve on the existing methods of fashion construction by Ghanaian Dressmakers.

1.7 Significance of the Study

This study will

1. Aid dressmakers to make a good and informed decision about the fabric in hand before cutting out, taking the placement of motif, style, quantity and size of the wearer into consideration.
2. Effectively communicate the fabric meaning if the motifs are centrally placed during garment construction, such that, there is a centre of attraction thereby promoting the sales of the African prints.
3. Set the stage for further research into the relationship between the fabric design and fashion construction and also enlighten other researchers conducting studies into education and various interventions.

1.8 Delimitation

Geographically, the study focused on “Madams” and “Masters” (trainers of prospective Dressmakers/tailors) in *Awoshie* Zone of GNDTA living in the Ga South Municipality in the Greater Accra Region of Ghana because they have the same characteristics as other dressmakers. Among the numerous textile fabrics, the study focused on the use of African wax prints.

1.9 Abbreviations

GNDTA - Ghana National Dressmakers and Tailors Association

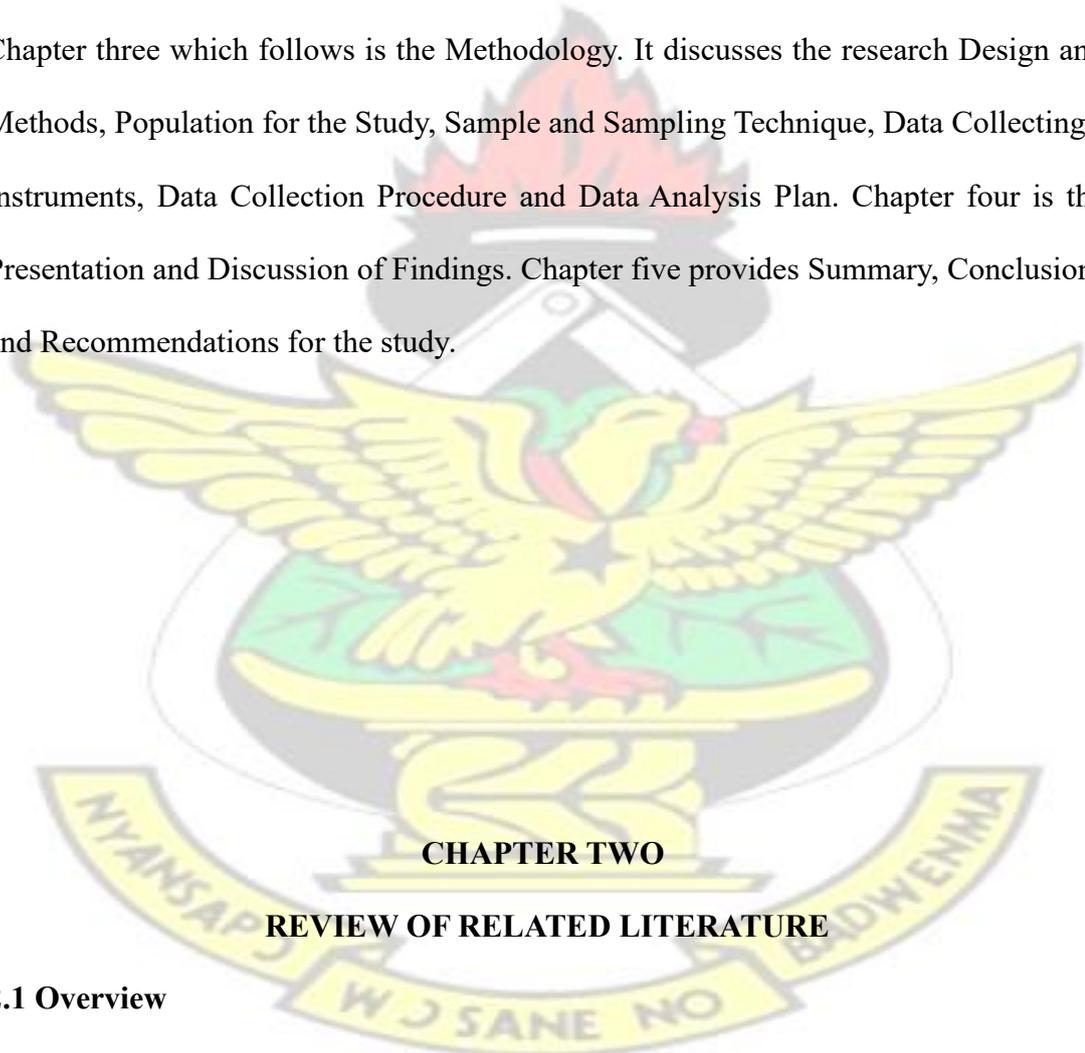
J.H.S. - Junior High School

S. H. S - Senior High School

1.10 Organisation of the Rest of the Texts

The research has been divided into five chapters, including this chapter. Chapter two reviews literature related to the topic. It deals with; Dressmaking in Ghana, Mode of Acquisition of Skills and Knowledge, Competency of GNDTA, Application of Elements and Principles in Garment Construction, Fabric Design Concept, Technical Factors in Fabric and Garment construction, Innovation of Fashion in Ghana and Workshop as an Intervention in Garment Industry.

Chapter three which follows is the Methodology. It discusses the research Design and Methods, Population for the Study, Sample and Sampling Technique, Data Collecting Instruments, Data Collection Procedure and Data Analysis Plan. Chapter four is the Presentation and Discussion of Findings. Chapter five provides Summary, Conclusions and Recommendations for the study.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Overview

The review of the literature shares the results of other scholarly works closely related to this study. The reviewed literature limits its scope of investigation and expresses the importance of studying a topic to readers (Creswell, 2007; Frankel & Wallen, 2003).

The outline of the review generally was divided into the following sub-headings:

i Model for the Subject Matter ii Dressmaking in Ghana iii Mode of Acquisition of Skills and Knowledge iv Competency Assessment v Methods of Construction (Pattern, Free-hand cutting) vi Application of Elements and Principles of design in garment construction vii Fabric Design (Motif) concept/ arrangement viii The African wax print ix Technical factors in fabric and garment pattern x Innovation in Ghanaian clothing xi Workshop as an intervention

2.2 Model for the Subject Matter

Learning is an unending means of acquiring knowledge. Dressmakers' ability to learn other innovative methods in the garment construction industry is a means of improving on existing skills and knowledge. In formulating an instructional guide for competency upgrade, the 'ADDIE model' propounded by Kolb (1984) is applied. The 'ADDIE model' is a framework usually used by instructional designers and training developers. It offers a flexible and definite structure that ensures efficient instructional guideline. As the instructional plan serves as a communication tool between the learner and teacher, the ADDIE model provides a step by step process of the instructional plan. This systematic instructional design model consist of five phases: Analysis, Design, Development, Implementation and Evaluation (Branch, 2009). Each step has an outcome that is reviewed and feeds into the next step in sequence and these have been explained below (Jennyfer, 2018);

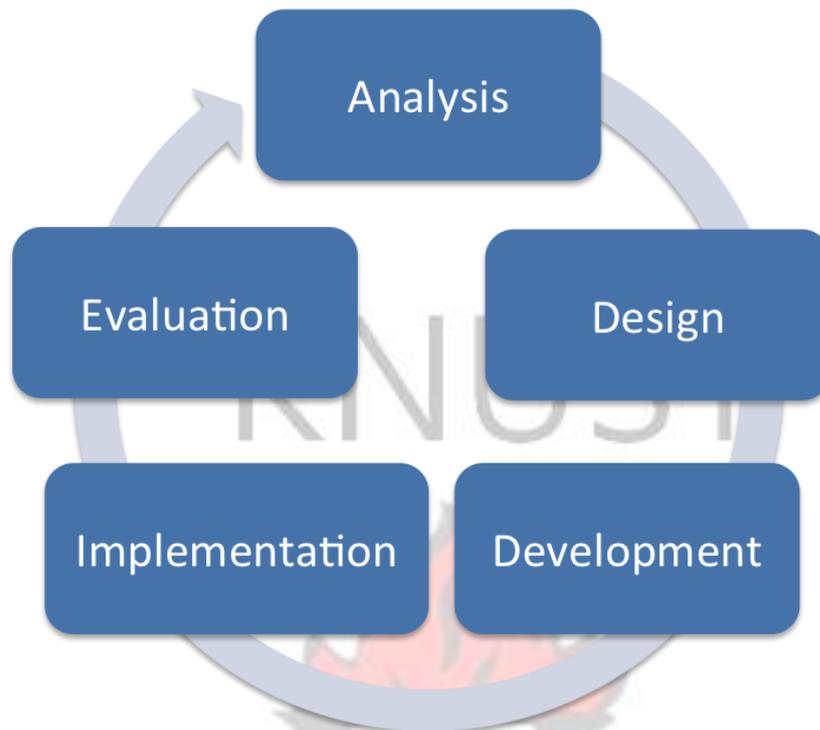


Figure: 2.1: The ADDIE Instructional Model (Source: educationaltechnology.net, 2018)

2.2.1 Analysis

During analysis the instructional problem is identified and the instructional goals are established. It is the phase where learners present skills and knowledge and the learning environment is identified. The following activities are considered during the Analysis phase;

- a) Clarify instructional problem and instructional objectives
- b) Determine the learners and their characteristics
- c) Identify the existing types of learning constraints
- d) Identify the new behavioural outcome
- e) Determine the delivery options
- f) Determine the timeline to complete the project

2.2.2 Design

It is the organized process of specifying learning objectives, making of prototypes and determining the look and the feel, graphic design, user-interface and content of the teaching material. The design phase considers the assessment tools, lesson planning, learning objectives and content by using a systematic and specific approach. The following procedures are utilised in this phase:

- a) Documentation of a projects instructional, technical and visual design strategy
- b) prototyping the creation
- c) application of visual or graphic design

2.2.3 Development

This is the actual making (construction) and assembly of the content assets which were blueprinted in the design phase. The following activities are conducted during the Development phase:

- a) Acquisition and /or creation of required media
- b) Determine interactions through creativity, innovation and exploration
- c) Planning of activities that allows the construction of a supportive social environment.

2.2.4 Implementation

The plan is put into action and the procedure for training the learner and the teacher is developed. Materials are supplied or distributed to the student group. After delivery, the effectiveness of the training is evaluated.

2.2.5 Evaluation

This phase consists of formative and summative evaluation. Formative evaluation is present in each stage of the ADDIE process. Summative evaluation consists of tests designed for criterion related referenced items and providing opportunities for feedback from the learners. Revisions are made as necessary. In order to deal with the above theoretical framework appropriately, related literatures were reviewed based on the following sub-topics;

2.3 Dressmaking in Ghana

The necessity for clothing as a basic need of man cannot be over emphasized and dressmakers play a vital role in ensuring clothes are well constructed to meet this basic need. The Collins English dictionary (2005) defines a dressmaker as a person whose job is to make custom clothing for women with the use of pattern or an existing garment as a guide. According to Dickerson (2003), the fashion business is concerned with the design, production and distribution of styles of garments which includes dressmaking. Khurana and Sethi (2009) defines dressmaking as the designing, cutting, arranging and stitching of fabric into acceptable styles to fit a particular figure type. The dressmaker is therefore seen as a master “architect” in garment construction for the public. These definitions, clearly establish the basic function of every dressmaker, which is, to construct garments for women with the use of a guide. Dressmaking deals with clothing, fabric, simple machines, measuring tools and its accessories. Clothing, according to Forster (2014), is anything worn or carried on the body to modify personal appearance.

The evolution of dress in Africa is very difficult to trace due to lack of written records and actual historical evidence, but information can be gathered from various sources like handing down traditional robes, oral and artifacts which show sculptural

representation of dress (Brown, 2018). Historically, dressmaking in Ghana begun with simple means to clothe human beings, trees and bowls. Cloth used were void of motifs. Bark cloth, leaves, furs and hides were mainly used in these first forms of clothing (Adu-Akwaboa, 1994). The indigenous woman clad herself in a local loin cloth which was made from the cambium layer (bark) of the '*kyenkyen*' tree (*Antaris Africana*) and the loin cloth was known as '*kyenkyen*' in Akan. The bark of the tree was subjected to retting. After the retting process the bark was beaten with wooden mallet to become softer and loosen the cellulose. After this process, the natural bonded cellulose remained. Depending on the size of the '*kyenkyen*' cloth, it was used as a covering at the waist and stretched to cover the genital leaving the upper torso and thighs uncovered. The Portuguese who arrived on the coast of the Fante land in the 15th century brought quantities of indigo-dyed fabric which was traded in exchange for gold. The cloth was named '*yapiisi*' by the Fanti's because it looked like the local indigo-dyed loin fabric in texture and colour. The only difference between these two cloths was that, the local indigo-dyed cloth was narrow in width which covered only from the waist to the knee, leaving the upper torso uncovered while the Portuguese indigo cloth was wide.

According to Essel (2013), in the 15th century, girls under the age of 15 wore nothing but a string of bead which was tied around the waist to hold a strip of cloth that passed between the thighs and secured in the front and back. This was known as '*tam*' by the Fanti's and '*amoasen*' (covering the genital) by the Akan's. Another modification of the '*tam*' was such that a strip of cloth covered the front and back part of the body and securing the genital area with support of beads or thread at the waistline. Women's breasts later received simple, fashionable covering with sizeable loincloth knotted at the back of the body while the lower torso was covered but leaving the stomach uncovered. Among the Ga males in the eighteenth century, at a tender age between one and seven,

boys wore the loin cloth '*danta*' produced from the '*kyenkyen*' which was gently wrapped around the genital and secured at the waist (Essel, 2013). When they turned seven to ten years, they were given a length of cloth that they wore by wrapping it round the body under the arm and extending to the knee; the two ends crossed at the torso and were knotted at the back of the neck, leaving both arms free, a style called '*koola*' by some Akan's. He used this until he became an adult, when he could use the men's garment which was usually a rectangular piece of cloth and still is. Seiber 2000 (cited in Amankwah, 2012) affirms that, the garments were bigger cloths which served as body coverings at night and as a lounge wear in the day. The piece was wrapped carefully around the body and a portion passed over the left shoulder in a fashion similar to the Roman toga. This also had a resemblance with the current men's traditional clothing styles worn among the Akan's which uses about ten (10) yards/ 9.144metres of fabric. At the infant stage of Ghana's formal education system, '*koola*' style was worn by most school children and traditionally, servants of the southern Ghana chiefs also dress in '*koola*' style during durbars. Varied leaves were also used in covering the genitals. Leaves of raffia palm were stitched together to form a skirt which later became the preserve of the traditional priests and priestesses and has continued to be worn up till date. It must be established that the clothes worn around these times, often than not were wrapped around without stitches. It also suggests that, the indigenous Ghanaian in the coastal and southern parts of Ghana was not naked but wore clothes which were unsewn but securely worn in a way that may not drop from the body.

In the extreme Northern part of the country, it was believed that clothing started way back from the fifteenth to the seventeenth centuries. Essel (2015) observed that before the Arabs' influence of clothing on the people in the north, both males and females were

naked until the females attained the puberty age, when they were given skins to cover their private parts. The males on the other hand received skins only on the day of their marriage rites. Both men and women went bare footed and shaved their hair, but the women used to adorn themselves with a lot of fashionable items that were believed to be influenced from the Niger and Mali cultures. Body adornments were largely used but also expressed in body marks rather than the use of clothes. Then the women began to use fresh leaves, skins of animals as well as cotton woven cloth called '*fugu*' for covering their loin until they came under the influence of Islamic faith. Women's clothing gradually changed to the use of large pieces of covered cloths, which cover their breasts down to their knees. The men used the cloths to cover their private parts only by wrapping them around their waists and extending them through the thighs to cover their organs and buttocks, a description similar to the '*danta*' in the southern part of Ghana. The men used the smocks only when attending funerals, festivals, marriage and other occasions of significance. The smocks are of different types and sizes.

Dzramedo (2009) asserts that in the 16th century, the Dutch who arrived on the coast of the present day Ghana specifically, in 1637 traded in fabric with wider yardage, which was known as '*Dumas*'. It was considered superior to the '*yapiisi*' of the Portuguese because of its colourfulness and unique designs and was greatly admired by the women. This period began the introduction of motif fabric in Ghana. The increase in the yardage of the '*Dumas*' enabled the women to wrap the complete body from under the arms to the ankle in two- piece cloth with queen mothers having a third piece to drape around the shoulder. With the introduction of formal education and religions by Hausa Moslem and European Christian missionaries respectively around the 9th and 19th century in the country came new forms of fashion clothing. The converted and educated women disregarded the indigenous mode of dressing as the result of the resident Islamic and

European women when going to school, to the mosque and to the church. This was the result of the brainwashing of missionary doctrines which projected indigenous fashion as paganistic. This began the direct influence of foreign fashion on the indigenous clothing of Ghana. The converts wore Muslims religious costumes. This was a flowing gown worn over a wrapper and the married women used veils over their heads called '*mayafi*' which stressed modesty. With the foreigners settling among the people of Africa, the natives began to imitate the outsiders' styles of dressing. Flowing and embellished gowns, such as the '*boubou*', '*agbada*', and '*caftan*', which are frequently worn in West Africa, are a reflection of the Islamic influence in the region since the 18th century.

In 1884, a Fante chief called Austin Freeman, who travelled along with the Dutch on their ships discovered that, the wives of the Dutch merchants on the ship wore clothing that fully covered their bodies (Essel, 2015). On his return, he encouraged the women of his town '*Simpa*' (Winneba) to rather cover one shoulder with the upper cloth. In wearing the cloth, two pieces were required. One piece of cloth was wrapped around the upper torso of the body, below the underarm and extended to below the knee. The second piece was casually thrown over one shoulder, leaving the other bare. The top cover subsequently developed into '*kaba*' which is actually a corrupted form of the word 'cover'. It was also revealed that maids at the missionaries of the European were wearing 'jumper like' top of '*kaba*', so the missionaries insisted that the women who were converted into Christians should cover themselves properly before coming to church. As the women adopted this simple jumper ('*kaba*'), it gradually caught up with other women on the coast and steadily spread to most part of the southern and central parts of the country. As a result, the normal '*tam*' which was known was reserved as a costume for puberty celebrations by teenage girls and '*kaba*' rather became fashionable.

'Kaba' was worn with a long matching flowing wrapping cloth that reaches the ankle. This has also evolved over time. The ensemble remains widespread and is considered as entirely African. This was the beginning which characterised garment construction in Ghana.

The first noticeable change in clothing occurred when imported silk and lace blouse became the most popular 'kaba'. This was matched with a full length wrapper skirt that reached the ankle. The imported blouse encouraged the redesigning of the locally tailored 'kaba' in high fashion and since then, 'kaba' has undergone continuous adaptation. Apparently, the absence of formally trained fashion designers and other sartorial workers to fashion fabrics to satisfy the traditional taste among many other reasons has accounted for high patronage of the western ready-to-wear and second hand clothing (Essel, 2013). Thus, more formal institutions were set up to teach the skills in garment construction in Ghana to meet this need. Apprenticeship also sprang up and formal education in garment construction at the vocational schools, polytechnics and the universities was established. The course content of the program concentrated on identifying clothing as one aspect and textiles as the other, but the relationship between design fabrics and garment construction was not emphasized.

Traditionally, another popular textile with cultural significance among Ghanaians is the kente. This designed weaves come from the North, the Volta and the Ashanti regions with the Asante kente being the most popular traditional cloth. Essel (2013) observed that although the art of weaving among the Asantes as revealed through oral tradition was believed to be innovated by Ota Kraban and Ameyaw, documented evidence suggested similarity in looms used by Asantes and those found in the Northern sector of Ghana. This is believed to have been influenced by the Arabs in trade routes. It is therefore anticipated that the art of weaving, which is considered as one of the most

important aspect of Ghanaian cultural identity might find its true origin from the Northern part of Ghana.

Ghana's chronological indigenous attempt in fabric fabrication is the kyenkyen, otakraban and kente. Abban (2003) states that otakraba is the first raffia woven cloth. Kente, Adinkra clothes, smock, '*kuntukuni*' (dark brown dyed fabric), '*kobene*' (dark red dyed fabric) and '*birisi*' (indigo dyed fabric) are the past few designed clothing's which still exist today among Ghanaians. The significance attached to these weaves and other forms of indigenous clothes are mainly related to their weave arrangements and colour combination on the part of kente as most weaves and motifs come with names and symbols connected to them. These clothes are worn to reveal our cultural identity, class, status and prestige (Dzramedo 2009). However, this thesis focuses on fabric designed prints specifically, the African wax prints, its use in fashion construction is applicable to other locally designed fabrics.

Turlings (2002) asserted that dressmaking in Ghana is assumed to have started way beyond the colonial era when the Europeans made wax prints and "dresses" available to the natives. As the Europeans travelled and seized power from some parts of the country during the colonial days, so did they imposed their clothing and religion (Christianity) which was aimed at civilizing and saving the "heathen" African (Odotei, 2008). To make a civilization match hand-in-hand with evangelization, the Europeans established schools in the forts and castles. Aside reading, writing and arithmetic, workshops were organized for students to acquire practical skills in carpentry, masonry, Blacksmithing, shoemaking and sewing in order basically to serve their colloquial interest (Adu-Boahen, 2008). With respect to sewing, notable persons, who later influenced the development of the craft in Ghana were Harriet, Jarvis, Grant, and Schindler (Asare, 2015). They introduced the teaching of sewing to young girls in 1821

with a course content which is still part of Home Economics (Clothing and Textiles, Food and Nutrition and Management in Living) programme in the formal education sector up till date. This significant role in the making of clothing reflected then in almost every family along the coast.

Additionally, in the view of Osei (2014), another group also brought dressmaking to Ghana dating back as far as the pre-colonial era and those were the returned slaves. In the mid nineteenth century, several waves of freed slaves from Bahia in Brazil landed on the shores of West Africa in, particularly Ghana, Togo, Benin and Nigeria. Those who came to Accra were named Tabom and were equipped with a lot of skills ranging from military tactics, architecture, carpentry, irrigation engineering to tailoring clothing. The Morton's, descendants of the Tabom people are credited with setting up of Scissors House, the first tailoring shop in Accra. Scissors house spawned tons of tailoring businesses in the capital city and over the years, had contributed to the development of fashion in Ghana.

Most Ghanaian clothes are hand –dyed, hand-woven and hand –sewn to fit their unique shape (Ebeheakey, 2012). The technique of making customized clothing is such that, customers bring their fabrics to their dressmakers who use each customer's body measurement to sew the desired style prevailing at the time. This requires that, the dressmaker is expected to use the acquired skills to sew well-fitting garments to the satisfaction of the customer. People order clothes for various reasons, for example for a faultless fit, exclusives', special fabric preference, or all of these factors. The placement of order for custom-made clothing demands more attention and financial investment from the customer as such, clothing's made should bring satisfaction to the customer. These sets of clothing will probably assume a luxury status in the person's wardrobe and therefore should be made to a high quality standard (KoskennurmiSivonen, 2013).

Ghanaian clothing is usually made of durable fabrics that are rich in colour and designs. Women in Ghana prefer to dress in the more traditional styles of garments during cultural functions. Dressmaker's ability to understand fashion trends and sew accordingly to satisfy their customers' needs is of financial advantage. For instance, since the reign of Dr. Kwame Nkrumah, the first President of Ghana in the 1960s fashion has constantly progressed over the years. The traditional 'kaba' begun to show curvatures of the wearer with big puff sleeves and gathers at the waist and slit was full straight skirted (Ebeheakey, 2012). Dressmakers who want to stay in business have the responsibility of juxtaposing tradition and modern day "Ready -to -wear" fashion in a unique way in order to satisfy and attract a wide range of customers.

Keiser and Garner (2003) assert that, garment producers need to produce garments that fit well and also have a professional finished look, by being knowledgeable about elements that influence shape, silhouette, and style of a garment. The essence of wearing dresses over the years has always included modesty, protection, attraction, status and self-expression (Forster, 2014). The awareness of motif in the fabric and efficient construction of garments which propagate the idea of the textile designer and the meaning of the cloth seeks to meet the essence of wearing dresses. The establishment of fashion houses, by renowned artists such as the late Kofi Ansah, Ohene Yaw Boamah of Abrantie clothing, Renee Q. Boateng, Ayisha Ayensu of Christie Brown Label, Leslie Wiredu, of Chapter 1 clothing, Kofi Okyere Darko-Nineteen 57 clothing, Elikem Kumordzie- Da Tailor, Duaba Serwaa, Kayob of Kayobi clothing line, Vera Adu Amani-Adu, Amani clothing and Kweku Bediako- Chocolate Clothing have made fashion become a lucrative business. These have excellent entrepreneurial skills, have their own fashion lines and companies, showcase collection on runways across Africa and the world, get international and local endorsement and deals and most

importantly are making profits (Jennings, 2011). Empirical studies reveal that, these artists relate fashion to textile and efficiently use the motif in garment construction probably because they schooled in garment construction outside the country. They form only a few percentage in the Ghanaian garment industry but the majority is the dressmakers which Asare (2015) classifies them as middle class. The need has become paramount for them to be taught the efficient utilisation of motif fabrics in garment construction as it is needed to meet international standards and the demand for garment construction is significantly growing.

2.3.1 Classification of Dressmakers in Ghana

According to Asare (2015), Ghanaian dressmakers are grouped into three distinct classes based on clientele. These classes are the high class dressmaker (mostly fashion designers), the middle class dressmaker and the low class dressmaker.

2.3.1.1 The High-Class Dressmaker (Fashion Designer)

This group of dressmakers constructs stylish, detailed garment of high quality for the elite in society. Most of these dressmakers have received formal training in dressmaking either locally or internationally. Due to their form of knowledge acquisition, they understand the elements and principles of designing and consider motif in the fabric in relation to garment construction. They normally make patterns to cut out either for custom-made clothes or for large scale.

2.3.1.2 The Middle-Class Dressmaker

Dressmakers in this category construct garments for individuals who are in the middle class and sometimes individuals in the lower class. Their customers usually comprise of teachers, nurses, business women, school children, caterers, hairdressers' and market women. They are mostly trained through the informal system of apprenticeship and

normally employ the freehand method of cutting out. Empirical studies over the span of 3 years indicate that they are not able to relate the motifs in the fabric in garment construction. From related literature, the indication is that most Ghanaian dressmakers fall in the middle class category, but once in a while due to their creativity and uniqueness in production of garments, get the opportunity to sew for some prominent people.

2.3.1.4 The Lower-Class Dressmaker

Dressmakers in this class often begin as a seamstress, who join only seams by sewing and patching torn garments. They do not usually have stationed shop to operate in but move around to catch the attention of their customers to render services. They have not acquired any form of training, thus knowledge in motif fabric is not much considered.

Irrespective of which class a dressmaker is identified with, improving or upgrading skills is a necessity, especially in this era of standardization (Sarpong et. al, 2011). Understanding of fabric to be used in relation to the elements and principles of design will help produce pleasing garments. As a matter of emphasis, this thesis addresses on effective utilisation of motif fabric in pattern arrangement which is deficient among the middle class of dressmakers who are in the majority when it comes to garment exportation

All the tools listed below are used by the three groups, but those in the high class use other sophisticated tools to enhance their business by the nature of their fashion construction.

2.4 Mode of Acquisition of Skills and Knowledge

Education is the key to acquire knowledge and requisite skills and as Boateng (2012) observed, different forms of Technical and Vocational Education Training (TVET) have

evolved over the years in Ghana. Bortei-Doku, Doh and Andoh (2011) explained that, there are three forms of TVET which comprises of formal system, the non-formal system and the informal system. The selection criteria of any of these TVET is the aspiration of the individual, affordability, duration and expertise of the trainers.

2.4.1 The Formal System of Dressmaking

According to Asare (2015), the formal system of TVET is time bound, institutionbased, graded and certified. Institutions that offer teaching include the National Vocational Training Institute (NVTI), Young Men and Women Association (YMCA) centres, Ghana Education Service, Technical institutes and private vocational training schools. Also is the Technical Universities (Polytechnic) and Universities offering Fashion and Textiles programmes. Currently, there are more private fashion Universities springing up across the country and there are curriculums which serve as a guide as to what the programme should cover within the stipulated period. Course content includes sewing tools and materials, pattern construction, garment illustration, fibres and fabrics among others which that institute deem complete for its course content. However, for this form of training to achieve maximum results the following requirement must be met:

- 1) Instructors must possess the right qualification and also have in-depth knowledge (both theory and practical) about the course they handle
- 2) Facilities and materials for training students must be adequate
- 3) The training environment must be conducive and the student must be disciplined and ready to learn.

After this training, it is the individual's ability to integrate various concepts learnt in textiles into garment construction which makes him/her innovative.

2.4.2 Non-Formal System of Dressmaking

This form of TVET does not normally lead to certification but is administered by structured learning objectives, learning time and learning support. It comprises of workshops, short courses and seminars (Bortei-Doku et al, 2011). As a support for the technical and vocational sectors, both non-governmental agencies and the government of Ghana develop a number of programmes. These programmes help train and improve skills of individuals and associations. Included in such programmes are:

1. LESDEP -The Local Enterprises and Skills Development Programme, which is a private–public initiative, which is aimed at alleviating poverty, especially among the youth, through training and equipping them to set up their own business.
2. STEP- Skills Training and Entrepreneurship Programme, which is envisioned to decrease poverty by providing employable skills and other support including microfinance to the jobless.
3. DSIP-The Development of Skills for Industry Project is an African Development Bank sponsored project, aimed at providing harmonized standards of training for apprentices and to improve knowledge and skills in the Competency Based Training (CBT) method. This project is initiated by the project support unit of the Council for Technical and Vocational Education and Training (COTVET).

Dressmaking in Ghana started as informal and upgraded to the formal. However, the focus of this thesis is on the informal.

2.4.3 The Informal System of Dressmaking

Most skill acquisition in dressmaking in Ghana falls under the informal system. With this system, learners are taught outside the home and in some cases at home. It is not

guided by any curriculum but of a wide range of flexible programmes and processes by which individuals acquire skills and knowledge (Asare, 2015). Traditional apprenticeships make up the majority of the informal sector in Ghana. According to Uwameiye and Iyamu's (2010), apprenticeship provides an opportunity for individuals who cannot afford to further their formal education to gain employable skills through this system of training. Training is the process of acquiring skills needed in a job. Sangbe (2002) views training as a purposeful development of skills, knowledge and attitudes that involves informing, teaching or educating people to efficiently perform works.

Agreeing to Abban and Quarshie (1993) apprenticeship training progresses in phases. For introductory phase, most apprentices are taught and made to do menial jobs such as cleaning the workshop or running errands. The next phase consists of getting to know all tools of the trade and, as appropriate, the materials, the components of the sewing machine and maintenance. Most of the skills developed at this phase, is by observation. The apprentice is then allowed to practice using brown paper, calico, and greybaft or used clothes. The apprentice is gradually introduced to more complex tasks and given increased responsibility such as sewing simple garments under the supervision of a senior apprentice. As she begins to improve on skills, more detailed styles of customers are given to her to construct. With skills fully developed, the apprentice is given other roles such as supervising other apprentices, dealing directly with customers, and from time to time, looking after the shop in the absence of the established dressmaker.

However, there is no curriculum document that states or specifies the boundaries of dressmaking training program (Agbovie, 2010). This indicates that, nothing is formalized in the apprenticeship system. Skills, knowledge and attitudes are transferred through observation, imitation and on-the-job experience. What the apprentice learns

depends largely on what the master craftsman can do and also the type of work available. The transfer of skills in the apprenticeship system is based on the knowledge of the established dressmakers or the trainer. This means that if for the whole period of apprenticeship term the master craftsman makes only *kaba* and *slit* the apprentice would end up knowing more about that and lack in other areas such as dresses, ladies trousers and blouses which might become fashionable in another era.

Usually, there is a little infusion of novel technology and new designs (Ng'ethe & Ndua, 1992). Deficiency of knowledge on effective usage of pattern in garment construction by the master craftsman means the learner would not acquire any knowledge in that field. Thus, masters mostly pass on their skills and knowledge to apprentices, but seldom produce new knowledge. Even though there are no formal guidelines with this system which in turn confines the theoretical base of apprentices and effects negatively on output, a level of education on the part of master craftsmen and apprentices is important if knowledge transmission can be enhanced (Biney-Aidoo, *et al*, 2013). Hence the thesis, focuses on the master craftsmen to enhance their skills and knowledge in the use of design print fabrics for garment construction.

2.5 Competency of Ghana National Dressmakers and Tailors Association GNDTA

is an organised association for dressmakers and Tailors who have been trained to acquire the required competencies in the occupational trade. Competency is a measure of possessing and manifested skills. In the opinion of Owodunni and Hassan (2013), competency means mastery in performance of a set of specific tasks in a job. Palm (2003) explained competency as the ability to do a task and role in accordance with the combination of knowledge, skills, attitudes, personal values and the ability to acquire knowledge, skills and learning experiences. Skill is the ability to do something well, especially as a result of learning that comes from training (Adeyemo & Akala,

2009). In the views of Anyakoha (2001), skills are a special set of abilities that allow a person to perform certain tasks well. Olaitan (2003) explained task as a set of logically related actions that is required in the completion of a job. This implies that the skills are subsets of larger activities that constitute a task area in a job which, when acquired can play out as an illustration of ability or competency in job performance.

In this advanced era where the garment industry has changed based on the influence of worldwide economic, technical, cultural, societal, political and environmental conditions, dressmakers need to be proficient and well-read in the construction of clothing in relation to pattern fabric (LeHew & Meyer, 2005). The basic skills that were acquired need to be changed or upgraded to make one innovative and creative (Sarpong, Howard & Osei-Ntiri, 2011). Competency therefore plays a vital role towards being viable in production.

Among the technical competencies that dressmakers need to acquire are their fashion sense, taking body measurement, pattern drafting, cutting, fabric assemblage by stitching, handling of sewing machines and accessories, maintaining safety practices in tailoring and managing tailoring business enterprises to fulfil customers' expectations and their personal needs. The knowledge, competencies are those learnt through tutorials, course works, practical training and work experience (Wesley & Bickel, 2005). According to Atakora (2000), to evaluate the level of competency, various initiatives have been instituted by the government and this includes the launching of National Vocational and Technical Institute exams for those in the non- formal and informal system to help raise their competency.

2.5.1 Competency Based Assessment

In all of these systems of training, competency can be assessed and according to Witty and Gaston (2008), competency based assessment is a procedure whereby an assessor

works with respondents to gather evidence of competence using the benchmarks provided by the unit standards that make up the national qualification. With respect to this study, to be able to answer the research questions, competency criteria were set by the researcher for assessment. Competency based assessment is not about passing or failing a candidate. It is the sum of activities outlined which must be undertaken to develop skills and master knowledge. Throughout research the principles that govern competency based assessment are:

1. It should be current
2. It should be valid
3. It should be reliable
4. It should be flexible
5. It should be fair
6. It should be safe

A variety of outcomes requires different assessment approach. It is the assessor who determines the range of competency and judges whether the respondent is competent or not within that scope. It could be concluded that the competency of dressmakers can be assessed based on the garment they produce as evidence of their skills measured against stipulated standards set by the assessor.

2.6 Methods of Construction (Pattern, Free-Hand Cutting)

There are two main methods of constructing a fabric to produce a garment. These are pattern making and freehand cutting. Pattern making is the means of achieving a shape around the body/block so that although the body/block remains constant, the outline of clothe often changes dramatically in different period of fashion. This implies that, patterns are a simple outline of the front and the back of a bodice and skirt, and a sleeve

from which any style pattern can be developed or generated (Aldrich, 1994; JosephArmstrong, 2010; Shoben & Ward, 1990).

In Ghana, the major role of patterns in garment designing and construction require the pattern maker to use, accurate body measurement, analyse the figure, and the design to be created very well, so as to achieve a good fit. The techniques involved in preparing a pattern are a highly skilled trade which requires expert ability and understanding of garment construction. For a successful dress, designing, patternmaking forms the fundamental step (Asare, 2015). This function connects design to yield by creating paper templates for all sections which have to be cut to complete a specific garment.

Patterns can be formed by either a two dimensional (2D) process or three-dimensional (3D) process. Often a combination of these methods is used to create the pattern (Asare, 2015).

Hollen and Kundel (1992) stated that, there are three methods for generating patterns for garments; drafting, draping, and bought or commercial pattern. In a study by Pritchard (2013), she categorized techniques for making manual pattern into three: flat pattern making, draping and modifying (also known as reverse engineer).

According to Joseph-Armstrong (2010), drafting is a method of patternmaking that uses measurements taken from a form, or model to create basic foundation, or design patterns. From Armstrong's definition of drafting, it can be concluded that flat patternmaking is dependent on drafting hence, should not be left out when categorizing techniques for patternmaking.

Based on the literature on techniques or methods of making patterns discussed, it could be concluded that, there are four major manual techniques for making patterns from which garments can be constructed (Asare, 2015). It includes three two-dimensional

techniques; drafting, flat patternmaking and reverse engineer/modifying and one three-dimensional technique; draping.

In Ghana freehand cutting is the method which is frequently used by dressmakers and it is done by directly marking body measurements on fabrics before cutting out to make garments (Forster & Ampong, 2012). Its efficient use depends on the level of knowledge, skills and competency the dressmaker acquired during the period of training. Although freehand cutting requires direct plotting on the fabric, every dressmaker has different means to cut the same style. This implies that there are no laid down rules that govern the use of this cutting out method and each dressmaker generates a method which is convenient to him or her (Asare, 2015). Biney-Aidoo, Antiaye and Oppong, (2013) noted that dressmaking skills in Ghana are acquired mainly through the informal system (apprenticeship programs) with only a few going through the formal system. In the informal system the teaching skill is the freehand cutting.

A study by Forster and Ampong (2012) confirmed how dressmakers in Ghana are engrossed with the use of freehand cutting. In their research, findings revealed that although the majority of the respondents had been trained to draft patterns, none of them used the method in garment production. Rather, they preferred to undertake apprenticeship training to acquire freehand cutting skills before engaging in garment production. Similarly, Fianu and Zentey (2000) recognized that all the large Scale Fashion Designers they studied in Accra have had training in freehand cutting and even those from Universities and Technical Universities (Polytechnics) in Ghana always went for part time training in freehand cutting while still in school or after, before establishing their own garment production shops. This suggests that freehand cutting is the most familiar method of cutting out fabric which Ghanaians are conversant with.

Understanding the elements and principles which govern the production of the motif fabrics and applying them in garment construction is essential.

2.7 Application of Elements and Principles of Design in Garment Construction

Elements and principles of design are essential to every art form and dressmaking is not an exception. They work together to produce a pleasing effect in garment designs. Arranging them well creates a feeling of completeness in a garment. Abraham (2013) noted that a design may not have a function, but may simply appeal to the senses. Dressmakers therefore must give careful consideration to the elements and principles and its application even for the most basic garment construction. Davis (1992) relates the elements to ingredients and the principles to strategies or methods for organising the elements to hold interest and command attention. Dressmakers use element as the building blocks and the principles of design to describe the ways to organize elements within a garment. The elements of design are colour, lines, shape, texture, space, form and the principles are balance, emphasis, movement, proportion, rhythm, unity and variety.

Traditionally, many Ghanaians use African prints to sew garments and these are mostly cotton based, conveying communications motifs arranged in different forms. Abraham (2013) specified that, every design is produced by keeping in mind certain basic elements and principles of design. Even for such purposes, it is essential to use the various principles of design. For instance, textile art or textile design is sometimes incomprehensible, yet it follows the principles of design so that what would be perceived as 'meaningless splatter of colours and shapes' is still visually appealing (Abraham, 2013). As noted by Obinnim and AfiPongo (2015), garment construction should be done considering three key characteristics: structure, function and decoration. The garment should be structurally appealing and appropriate to the customers' need.

Functionally, it should add value or function as the garment is expected to perform and decoratively, it should provide a psychological feeling of well-being through beauty. When the fundamental components from which the visual designs are made based on the elements and principles, then these three characteristics are easy to be satisfied.

2.7.1 Elements of Design in Garment Construction

Elements of design are the elementary units of visual images. A design can be directly constructional or a plan for construction. An example of the direct constructional is sewn garments. Examples of elements of design have been explained below;

2.7.1.1 Colour as an Element of Design in Garment Construction

One of the important aspect of fabric design and fabrication is the use of colour as it considerably influences its aesthetic appeal. It is the first thing a consumer notice about a garment or design. Colour can be described as hue and hues are either warm or cool. The warm colours have a great amount of reds and advance in usage while the cool colour contain blue and usually recede. Asmah (2004) explains two theories of colour and these are light and pigment theories depending on the twin reflection and absorption. From the light theories are the primary and secondary colours. The primary colours are red, yellow and blue while the secondary colours are obtained by combining the primary colours such as yellow and red to get orange, yellow and blue to get green and red and blue to get purple. Miller (2013) however, under the pigment theory divided colours into three and these are the primary, secondary and tertiary. Colours may be also divided into primary, secondary, tertiary, chromatic, monochromatic and triadic; analogous and complimentary colour schemes; shades, tints, tones, intensity among others. Value is the amount of light in a colour, that is, shades or tints achieved by the darkening or lightening of colours.

Colour manipulates the perception of size and distance, induces warming and cooling effects, excites or relaxes, cheers up or depresses. Its use in garment production should therefore be firstly, for commercial target (market) before for specific targets (consumer). Colour is used to define body shapes and it is also used to accentuate and create a delusion or illusion of figure shapes. Textile designers produce cloth in different colours to attract specific groups at any point in time and for different occasions. Colour is used to communicate the mood of the wearer and also influence people's emotions. It can derive its meaning from cultural, political, religious, mythical or linguistic. It is subjected to cultural difference and have different functions throughout history. Apart from the motifs or designs playing a significant role in traditional textile prints, colour plays another important role, which seeks to evoke complex concepts of cultural values and modernism.

2.7.1.2 Lines as an Element of Design in Garment Construction

Asmah (2004) explains that a line is an essential mark or stroke used in drawing with longer length than width. Lines are used in designs to outline objects, divide, and space, communicate feeling or emotions and also create the illusion. There are structural and decorative lines and the features of lines are the thickness, direction, length and sharpness. There are outlines and style lines in garment construction. The outline is the external edge of the design usually called silhouette. It is achieved by tracing whiles the style lines are the lines that split the space inside the outline using ruffles, collars or pockets. Lines are either curved or straight. The straight lines consist of vertical lines, horizontal and diagonal lines which are directional in movement. Curved lines have no types.

Vertical lines add height to a figure (a direction upward), creating a narrower image of the figure. It gives an illusion of height. It can be created in garment construction using

lines in the fabric or necklines. Horizontal lines usually depict width and often expresses shortness. The horizontal lines direct the viewer's eyes across the figure, thereby giving a sense of wideness. It denotes a feeling of rest or repose. Diagonal lines are used to show motion and movement. They direct the viewer's eye over body curves at different angles. Zigzag lines are modifications of diagonal lines achieved by connecting a series of diagonal lines. It is a forceful element as it makes the eye shift abruptly and repeatedly. There are different meanings to curved lines. Curves which are soft, and shallow suggest comfort, safety, familiarity, relaxation and recalls the human curvature (Sackey, 2013). Curved lines are graceful, flowing and creating a gentle sense of softness when used in a designed garment.

2.7.1.3 Shape as an Element of Design in Garment Construction

Shape refers to an enclosed object in a design with edges defined by the lines, colour or value changes. It is a well-defined geometric or organic area which can be positive or negative. When shapes combine in a design it is called composition. Shapes are used in pattern construction, altering of patterns in order to achieve a certain familiar garment or changing two-dimensional shapes into three-dimensional one to create garments.

Another area of importance in the study of shapes is the female body, most commonly called figure shapes. In recent times, fashion has come to be broadly taken as applying to women's apparel and the female body has been focused on as a source of beauty (Ewing, 1974). Dressmakers need to understand the various frame shapes and apply technologies to increase or decrease, smoothen or roughen curves of the body through garment construction to grace and raise the human anatomy.

Female figure occurs in a range of shapes and it is the most noticeable element in appearance. Shape calculation is established on bust, waistline and hip (BWH) circumference measurement. These circumferences are known as infection points and they are the ratios used to determine the basic body shapes. The ideal or preferred figure shape has changed over time and continues to vary among cultures, but preference for a small waist has remained fairly constant throughout history and transcends ethnic differences and refinements. In the garment industry, body shapes may be categorized into one of the four fundamental geometric figures, though they are varied actual sizes within each form. Other common names have also been added for easy understanding. Fashion designers often use exaggeration to construct a certain type of garment which they consider trendy. Connell (2006) group's female body shapes into Apple, banana, pear and hourglass as explained in the following:

i. Apple / V-shape (triangle downwards)

Apple shaped defines a person with wider shoulders and bust compared with hips. The legs and thighs look slimmer while the abdomen and chest look larger when related to the rest of the body. Fatty tissue is mainly distributed around the belly, chest and face. The apple figure must wear garments that take attention from the tummy. A lower and wider necklines like a scoop, square, large V-neck or sweetheart in A-line and $\frac{3}{4}$ sleeves fit best on this figure. All emphasis should be placed above the bust line and below the hip line.

ii. Banana or straight/ H-shape (rectangular)

This body shape refers to a person who naturally has almost the same breadth of shoulder and hip to waist not well specified. Shoulders, hips and waist are evenly distributed. Fat is dispersed mostly in the abdomen, buttocks, chest and face. This overall fat distribution creates the typical ruler (straight) shape or alphabet H.

For banana shaped body, semi- fitted clothes are ideal. A peplum top helps highlight curves which help to create an illusion of a well-defined waistline and looks stylish on all figure shapes. Skirt, irrespective of its shape and length such as A-line, pencil, straight maxi, to mention but a few, looks good avoiding heavy details around the waist like pleats and gathering. Scoop or boat necklines, V neckline and medium to high necklines are the best avoiding very deep necklines, but revealing the right amount of chest and beauty bone.

Empirical observation revealed that most Ghanaian women through childbirth tend to go towards the banana shape. It is important that dressmakers are aware of the good features to highlight and those to diminish through the styles preferred. The sizes of the motif in the fabric also plays an important role. If patterns are too bold, then it is necessary that, they are placed at appropriate places in the garment which beautify the wearer and does not overemphasize the other details which needs to be hidden.

iii. Pear, Spoon or bell / A-shape (triangle upwards)

This identifies a female with a round, heavy bottom with a defined waistline, but hip size is always broader than the bust and shoulders. The hips are at least 2 inches (5 cm) larger than the bust, but waist may measure from 8 inches (20.3cm) to 12 inches (30.5cm) smaller than the bust or hip. The key to fitting out a spoon type is to draw attention to the upper body while deemphasizing the tummy and hips to create a more balanced appearance and produce the semblance of an hourglass shape. The legs of such figure are to her advantage and therefore looks good in skirts of various lengths, but must be conscious of the colours and size of the motifs in the fabric.

iv. Hourglass (triangles opposing, facing inwards)

This body condition (typically represented as the “ideal”) identifies a person with hip and bust measurements nearly equal in size with a narrower waist measurement. Body fat distribution tends to be around both the upper body and lower torso. This fat enlarges the arms, chest, hips and rear before other part, such as the waist and upper stomach.

2.7.1.4 Texture as an Element of Design in Garment Construction

It is the surface of a fabric created by the weaves and by light reflection. It is the impression that the surface of an object gives to the senses of a consumer. The configuration of a woven material affects the look of the fabric. Texture is also the character of a surface and it comprises of two types which are visual and tactile. Visual texture is how the surface looks to the eye and tactile texture is what the surface feels as it is touched. Texture may be real or implied, which creates an illusion of depth.

Texture is the degree of roughness or smoothness of a fabric. Lovett 2000(cited in Lartey, 2014) explains texture as the surface quality of a shape- rough, smooth, hard, soft, glossy, silky and /or leathery with each having its own effects and importance to be considered when designing garments, having the wearer and occasion in mind. The eye appreciates the play on smooth or rough surfaces, the hand feels the fabric surface and the ear hears the sound of the texture such as the stiffness of a denim. A designer should be able to recognize how a fabric will drape or feel before planning and manufacturing a garment.

African prints are normally given an amount of sizing (starch) to add body, crispness and a hand to garments. Thus, when ironed enhances the lustre of the fabric which adds beauty when worn.

2.7.1.5 Space and Form as an Element of Design in Garment Construction A form refers to a three-dimensional aspect of a garment in which width, depth and elevation can be assessed. It is likewise determined by light and dark in a garment.

2.7.2 Design Principles in Garment Construction

The arrangement that governs the unique provision of elements in a garment and organizes the composition as a whole is referred to as design principles. They are concepts that organize the structural and conceptual elements of design. This organization is considered as aesthetic system and it includes balance, emphasis, movement, balance, rhythm, unity, variety, repetition and harmony. The mode in which principles are applied affect the expressive content or the message being carried by a garment.

2.7.2.1 Balance as a Principle in Garment Construction

Equilibrium is a psychological sense of balance. As a design principle, balance places the parts of a garment in an aesthetically pleasing arrangement. In visual images, balance is formal when both sides are symmetrical in terms of governance. Balance is informal when sides are not precisely proportionate, but the resulting picture is still graceful. There are three primary types of symmetry which are the horizontal balance, vertical balance and diagonal balance. When the components are set equally on either side of the key point of a design, horizontally or vertically, it is termed as bilateral symmetry and when arranged equally around a cardinal point, it is called radial symmetry. The relaxing effect is obtained by grouping shapes and colours to maintain a spirit of equal attraction from side to side, front to back or top to underside. An outfit is symmetrical if when divided from the top through the central both sides are exactly the same and asymmetrical if not the same.

2.7.2.2 Emphasis as a Principle in Garment Construction

Emphasis is achieved when a designer creates dominance in a work by concentrating less or more in one area of the design to attract viewer's interest as the centre of attraction. It is what the eye is drawn to in an outfit at the first sight from horizontal stripe, polka dots, a belt, jewel or a contrasting colour.

2.7.2.3 Proportion as a Principle in Garment Construction

It is the principle which concerns itself with the relation of the size of a piece to the whole or the parts. It is the precept that makes use of height, breadth, depth and space surrounding each design. Proportion is pleasing to the eye when divided unevenly.

2.7.2.4 Rhythm as a Principle in Garment Construction

This is a principle that makes the work seem connected. An artist expresses the rhythm using elements or images to depict continuity, progression, orderly sequence by gradually increasing or decreasing size changes to portray a sense of pleasure organized in a design. It is also the repetition of lines or shapes to create a pattern. Rhythm makes the viewer's eyes run more smoothly throughout the design. It is accomplished by the repeating of lines, colours, trims, shapes or details that create a pattern that the eye can trace all over the design. It could be regular, graduated random, or graduated rhythm.

2.7.2.5 Unity as a Principle in Garment Construction

This is the principle which ensures that all the element and finishes are employed to generate oneness to make a coherent whole. It functions as a binder that communicate meaning and sense to the viewer or audience. Obinnim et al, (2015) stated that, a good designer views the human form and a good dress design, not only from the front, but also around the sides and the back to obtain unity in the costume.

2.7.2.6 Variety as a Principle in Garment Construction

This refers to a way of combining the art elements in different ways to achieve intricate and complex relationship. This is attained when several elements are used to hold the viewers' attention to add interest. Different fabric types and colours or accessories may be used in a garment to add variety.

2.7.2.7 Repetition as a Principle in Garment Construction

This is the art of repeating lines, shapes, colours or textures in a design. The repetition may be regular or irregular. The use of uneven shapes when repeated is pleasing to the eye.

2.7.2.8 Harmony as a Principle in Garment Construction

Harmony is achieved when variety and unity are sensitively balanced in a garment or designed fabric. Colour harmony can be attained by using complementary or analogous colours.

2.8 Fabric Design (Motif) Concept/ Pattern arrangement

Abraham (2013) identified African prints to have an orderly repetition of motif which are interrupted by a shift in texture, direction and scale. Saw (2002) defined a motif as a unit of a design. A motif can be a recurring thematic element or repeated figure in design object, shape, colour and direction. It is essential for a good designer to be in the known of these motifs, whether from natural source or abstract and translate them in the construction of garments.

In the olden days, the printing of textiles was subordinated to the recording of history and not merely its aesthetic quality. The communication of the historical idea could be plain or cryptic. The cryptic idea may be lost over the years, but there are still some

designs which have perpetuated from generation to generation. However, some textile designers do not delve into the intricate meanings of the motifs they use. Instead, they appreciate only the visual appearance and form of the design (Abraham 2013). The themes or units of a fabric design may be classified as geometric, naturalistic, stylized or abstract. Geometric motifs such as stripes and plaids may be made during the weaving or knitting fabric construction process. Themes can be applied as prints after the framework is made.

Geometric designs lead the eye. A typical geometric design may direct the garment designing and limit the possibilities for using the material. Geometric designs may need extra fabric in order to match the themes during the layout and construction which, when not followed, will create an unpleasing illusion. Realistic, stylized, and abstract motifs may be easier or more difficult to use depending on the size of the motif, the contrast between the motif and the background, and whether or not the design is multiple-direction or one-way. Smaller size motifs, softened shadings, and multiple direction. Informal balance is more dynamic than formal balance and usually holds the learner's attention focused on the visual message.

Realistic motifs are imitations or repeats of natural or man-made objects. Stylized motifs are simplified variations of natural or man-made objects that are no longer recognizable. Abstract motifs are made up of colour, size, and shape devoid of relationship to natural or man-made objects. Textile designers ensure these motifs are well prepared in a fabric to apprehend its beauty. It is significant for the dressmaker to understand and interpret the motifs in its fashion construction.

Material design is basically the procedure of producing designs for woven, knitted or printed materials or surface ornamented fabrics. It also refers to the various processes by which fabrics are printed in coloured design. According to Digolo and Mazrui (2006),

textile designing is the patterning of an essentially plain fabric to render it more appealing or to serve a particular purpose. These inventions, which are used, by textile designers for production are sometimes employed repetitively, in clothing and interior decor details. Textile designing is an aesthetic discipline that includes fashion design, carpet manufacturing and any other textile-related discipline. The creative process often begins with different art methods to plan concepts for the completed product (Collier *et. al*, 2009).

Collier (2009) notes that, traditionally, drawings of woven fabric designs were translated into special kinds of graph paper called point papers, which were employed by the weavers in setting up their looms. Digital printing is one of the most recent developments in fabric printing. Its procedure is comparable to the computer controlled paper printers used for agency applications. Heat-transfer printing is another popular printing method whereby patterns are designed to keep a balanced repeat even when the fabric is made into yardage. The design utilizes the art components in planning or random repetition to enhance surfaces or paintings or carvings. Patterns often occur in nature, and artists use similar repeated motifs to create patterns in their fabrics. Pattern increases visual excitement by enriching surface interest. Repetition works with pattern to make the work seem active. Repeat is determined by the distance above or beneath a motif. For example, printed repeat patterns must be decent to accommodate inside a particular screen sizes, while a woven repeated pattern must fit within certain loom sizes. There are diverse types of layouts for repeated patterns with straight and half drop being the commonest. Designs are often produced in many different coloured versions, which are called colour ways. Textile designers use specific principles to form the structural components of a given pattern. The principles include unity, proportion,

emphasis, balance, and rhythm. The way these rules are employed affects the results of the plan.

There are many different methods of printing.

- Direct (Blotch) Printing
- Overprinting
- Discharge Printing
- Resist Printing
- Block Printing
- Roller Printing
- Screen Printing

Collier (2009) further explains that, in art, a motif is an element of an image. A motif may be duplicated in a pattern or design, often many times, or may just occur once within a work. A repetition is the spot where an identical design begins again on a textile. It is also the distance between identical figures in a repeat pattern, the number of inches before the whole pattern starts over. Textile designers use repeats because they can enable large pieces of fabrics to be printed without breaks or interruptions in a pattern. The goal is to make a textile design look like it never ends. It can be an effective decorative strategy and can be done on almost any type of fabric. Today, with digital technology, the variety and complexity of repeats can be almost endless.

2.8.1 Types of Fabric Repeats

Repeat patterns may run horizontal or vertical. Designers have many ways of taking a single figure and covering a textile with it (Boyd, 2015). The different types of repeat have been illustrated below;

2.8.1.1 Block Repeat

The block repeat is the simplest style of repeat. It is only formed by stacking the original repeat in a basic grid. The motif, always pointing in the same direction, appears over and over again in rows that line up vertically and horizontally.

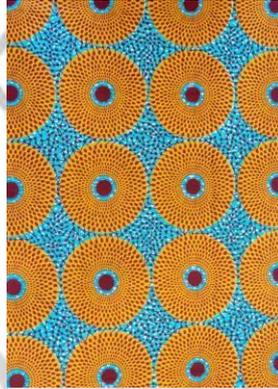


Plate 2.1: Block repeat African wax print (*Subura*)

The block repeat can have an amateur look if applied in the wrong place, merely it can look great with simpler, more geometric motifs.

2.8.1.2 Brick/Half-Brick Repeat

A half-brick repeat takes each horizontal row and staggers it so that it does not line up with the rows above and below it. This repeat pattern gets its name from the resemblance to how bricks are cast low to form a brick wall. The motif is placed over and over again along a horizontal row. And so, when the next row is located, instead of making a simple grid, the figure is offset so the images do not line up vertically. Halfdrop is in the vertical direction.



Plate 2.2: Brick repeat African wax print (*Aniwa*)

2.8.1.3 Drop/Half-Drop Repeat

The drop or half-drop repeat is very comparable to the brick/half-brick, but the motifs are balance vertically instead of horizontally.



Plate 2.3: Half drop repeat African wax print (*Akyekyedie akye*)

Drop/half-drop repeats are another very common repeat within a fabric and surface pattern.

2.8.1.4 Diamond Repeat

The diamond repeat is also used quite frequently in fabric and surface design. It is just as it sounds – a repeat of diamond shapes. The themes can be equally elementary as one

diamond put into half-bead or half-brick repeat (with more or less overlap), or each diamond can be a combination of smaller themes.



Plate 2.4: Diamond repeat in African wax print (*Enibre nnso gya*)



2.8

.1.5 Ogee Repeat:

The ogee repeat is similar to the diamond repeat in shape – but the ogee repeat is more rounded on two sides with the other two positions coming to full stops. Equally with the diamond repeat, it can be a mere repeat of ogee shapes in a half-drop or half-brick arrangement, or it can be more complex with overlaps and combinations of smaller themes.



Plate 2.5: Ogee repeat in African wax print (*mpoma*)

2.8.1.6 Toss/Random Repeat:

The toss/random repeat utilizes a random arrangement of various motifs to create a very organic, non-linear design. It is very popular for the flowered figures. Components of the plan are “tossed” onto the cloth.



Plate 2.6: Random repeat in African wax print (*Ahwene pa nnkasa*)

2.8

.1.7 Stripe Repeat

The stripe repeat could be simple stripes in a single colour or a palette, but it can also be single motifs that create stripes for a completely different feel.

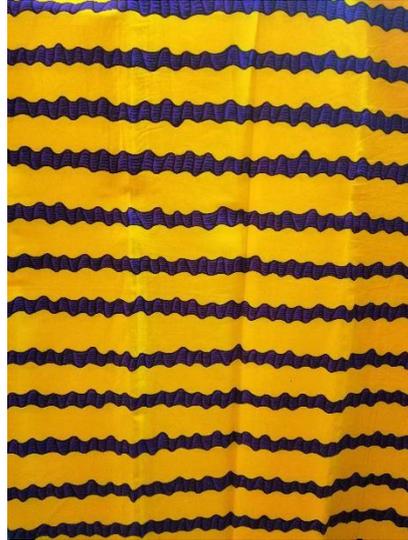
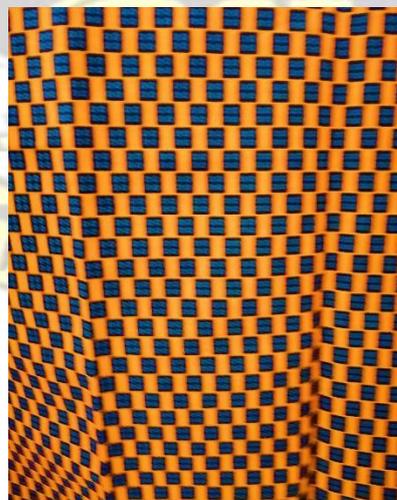


Plate 2.7: Stripe repeat in African wax print (*Ahwede po*)

2.8.1.8 Dot Repeat

Similar in its simplicity to the stripe repeat, the dots repeat is as it sounds – an arrangement of dots. But not necessarily only dots. They can be other small motifs arranged with a bit of space between them to emulate dots, like this:



2.8

Plate 2.8: Dot repeat in African wax print (*Ludu aba*)

.1.9 Plaid/Check Repeat

This is a variation of a stripe repeat, plaid/check/gingham repeats can be used to beef up a collection and provide a variety of designs.



Plate 2.9: Check repeat in African wax print (*Woko ara a bisa*)

2.8.1.10 Combination Repeats

This is a repeat of two or more of the types indicated above to create single design or a toss layout over a plaid for a more interesting and complex appearance.



Plate 2.10: Combination of stripe and dot repeat African wax print (*Efie mbosia*)

2.8

The repeats serve as the background in designing the African wax print and motifs can be set using any of the repeats.

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2.9 The African Wax Print

‘African print,’ is a general term used to identify a category of textiles using 100% cotton fabric in vibrant colours, which are printed by machine using wax, resins and dyes so that they have a batik-like effect on both sides of the fabric (Akinwumi, 2008). African print goes by a multitude of names such as Dutch wax print, Real English wax, and Veritable Java print, Guaranteed Dutch Java, Veritable Dutch Hollandais, among others. The development of the prints has been referred to as the “result of long historical process of imitation and mimicry”. The popularity of the prints in West Africa is of different sentiments. Nevertheless, what is certain is that, the Dutch wax started as a cheap mass produced imitations of Indonesian batik locally produced in Java. Colonial forces, primarily the Dutch and the English, played a big role in its industrialization and popularization. They are actually European-produced textiles that African countries have embraced and made their own in sales and marketing vernacular (Akinwumi, 2008).

Abraham (2013) explains that, wax print is the greatest worn and the highly esteemed fabric in West Africa, but it is likewise the most copied. Its distinguishing features are the unique combination of pattern and colour. The first appearance of wax-print in West African culture was received with ascription to the fabric, a series of local names, allowing its integration into various local strategies for use.

Similarly, Okougha (2010) asserts that, the story begins in the Dutch East Indies (now Indonesia), where locals have long used the technique of a wax –resist dyeing by basically applying wax with a *tjanting* onto a cloth, and then dying over that wax to create a pattern to make a batik. The foundation of this spectacular fabric using wax originated in the 1800’s when a merchant travelling to Java, saw the people wearing exotic clothing and brought a description of the wax process home. This Holland wax

fabric was then introduced to Africa in the 1900's and it was instantly taken over and has become the most widely used material.

Howard (2013) records that, the African wax prints cloths were first brought into the country by some Ashanti soldiers who were given to the Dutch commissioner by the then Asantehene to serve in the Dutch army in some colonies in Indonesia. The soldiers were attracted by the aesthetic qualities of the Javanese prints and brought samples of the cloths to the Gold Coast after their service. The Gold Coast women upon seeing the cloths became very intrigued and expressed particular interest in the prints which led to the formation of trade links between Holland and the Gold Coast upon which great quantities were brought to the Gold Coast.

Sylvanus (2007) attests that wax print originated from Java, from the Javanese batiks which were made by hand with local technology. Later the European industrialists industrialized the production of the batik effects, the industrial reproduction process was poor in character as it left all right lines on the fabric that resulted from the breaking of the wax technique. These imperfections though unappreciated by the Javanese, were highly appreciated in West Africa, where the prints became popular and gained wider market.

According to Osei-Bonsu (2001), before the Javanese prints, were introduced to the Gold Coast, the Manchester dyed fabrics were only foreign textiles but the Javanese prints were favoured than the Manchester dyed prints and thus lost their popularity. When the British made this drastic alteration, they tried for several ways to improve upon their dyed fabrics and this led to the production of imitation wax prints. Unfortunately for them, they did not succeed the competition, for the Gold Coast women were able to distinguish between the imitation wax prints from the real wax print. Osei-Bonsu further indicates that, the term "Dumas" which popularly became known for real

wax prints from Holland was coined from the figure of a Lebanese Merchandiser who first traded in wax print with the Gold Coast women. The British finally took over the trade through one of her leading firms in Africa known as the United Africa Company (UAC). The presentation of these prints in Ghana, according to Osei-Bonsu, compelled Ghana to produce its own textiles adding that Ghanaian textile designers, from the onset, were capable to make designs, present those names and commit them to Holland to be printed and brought back for sale in Ghana.

Referable to the acceptability of the African prints, it has become the most common material in every Ghanaian home worn on all occasions. These materials have significant communicative values, indicating status or wealth and conveying messages as a means of non-verbal expressions in official affairs, political avenues and for societal purposes. Wayne (2009) maintains that, African prints have remained the most desired fabrics which has become an integral part of the vibrant culture of West Africans worn as clothes by men, women and children for ceremonial programs such as naming (outdooing), marriage and funeral ceremonies.

2.10 Technical Factors in Fabric and Garment Design

Cooklin (1997) observed that, one of the technical subjects in the textile and garment industry is cutting, whether for packaging of the cloth for the market or cutting out fabric to produce a garment. Most of the fabrics are in bales and with African prints, they are packaged in twelve (12) yards/ 10.9728 metres, which are usually cut into six (6) yards/ 5.4864 metres or as desired by customers in varying colours and motifs. Width of fabric is either 36 inches/90cm/0.9144m, 45inches/115cm/1.143m, 60 inches/150cm/1.524m, 72inches/180cm/1.8288m or 120inches/300cm/3.048m but most African prints are in 36inches or 45 inches or 0.9144m which lead to technical limitations in its use. According to Hollen et al as cited in Asare (2015), a garment design or style chosen and

the fabric should complement each other. For example, African prints with bold prints would be ruined by a style that has too many seams while small patterned fabric can be manipulated to conform to every style.

However, before sewing a particular style, there are four preparatory processes (Cooklin, 1997) and these are

- (1) *The pattern* as a medium of communication and as a production tool
- (2) Grain lines establishing the linear relationship between the garment pattern and the fabric
- (3) *Pile Direction* how this influences pattern component arrangements
- (4) *Fabric pattern* -what has to be taken into consideration

The pattern is the primary connection between design and production and should therefore communicate accurately with all functions that have to use the pattern. Most dressmakers in Ghana plot and cut directly on the fabric- freehand (Forster & Ampong, 2012) but only a few use patterns that have been generated through drafting, draping or flat patternmaking or reverse engineering. The concept of freehand cutting is based on flat patternmaking with the difference being that, in flat pattern making the dressmaker makes use of tracing papers to manipulate and transfer design details which are later pinned on the designed fabric and cut out while in freehand cutting, the dressmaker manipulates and plot design details with the clients measurement directly on the fabric.

The grain line refers to the location of the pattern components in relation to the true length of the fabric (Cooklin, 1997). It is the direction of the woven fabric, parallel to the selvedge and the long warp threads. Whilst there are principles as to which grain parts of the garment should follow, sometimes design features and reasonable considerations have to be given preference, especially with the use of African prints

which normally convey proverbial meanings which must be confronted as such in a garment (Amankwah et al, 2013). This means that, when grain lines are faulty, the finished garment will hold a distorted appearance which cannot be repaired.

The pile direction describes the lay (direction), length and density of the protruding fibres on the surface of the right side of the fabric. This is usually related to knitted fabrics.

Fabric pattern refers to the form of the pattern on the right side of the cloth and has three aspects which are one-way, two-way or non-directional (Cooklin 1997). A oneway print dictates that motifs are aligned in one direction and this has less cutting flexibility in garment construction. For instance, if a motif in a printed cloth is an upright human figure or a horse, then it is preferable that the images stand on their feet and not on their principals. Amankwah et al (2013) observed that some motifs when cut through become highly impossible to creatively join together without ruining the beauty of the fabric. Usually more fabric is required to bring into line the prints during garment construction. More so, it is time consuming, which is a crucial element in determining profitability. A two-way pattern form has a definite direction and the motifs in the fabric can be positioned upwards or downwards. Non-directional or allway pattern form has no definite directions and can be positioned in any direction saving cost.

2.11 Innovation of Fashion in Ghana

Innovation is a key to success and no compromise can be made with creativity. There are many views of innovation definition, but Ulwick (2005) defines innovation as the procedure used to create a product that delivers substantially new value to the customer. It is the result of thinking deliberately about existing problems and unmet needs and creating something new of value to meet those needs. Invention can be incremental, by appending to existing procedure or it can be radical by making existing processes

redundant and demanding new technology, expertise and resources to establish new processes.

Today, Ghanaian fashion has undergone a complete overhaul because of globalization. The level of traditional fashion is being influenced greatly by the systems of modernization. Great technologies are being introduced by renowned fashion designers and marketing of Ghanaian garments is fast catching up with the international market and runways and fashion segments on the media are all aimed to promote the industry.

Cooklin (1997) noted that close to 85% of the fabric purchased are in the finished garment with the remainder for one cause or another, ending up as waste. This figure is called the material utilisation percentage and it is a crucial factor in the price of a garment. Whilst the dressmaker cannot personally prevent excess fabric usage during cutting out, probably due to customer choice of style, there are a number of procedures which can be employed to ensure that motif in the fabric fall at appropriate places in the garment. Unfortunately, most dressmakers in Ghana limit themselves to other people's inspiration advertised in magazines, catalogues, calendars among others to sew garments without adding any new knowledge. Customers usually bring different fabrics from the styles chosen from magazines and this calls for the creativity and innovativeness of the dressmaker to make appropriate use of the patterned fabrics which will eventually lead to garments that talk and communicate with the owner and viewers.

Diffusion of Innovation theory, developed by Rogers (1995) explains how over time an idea or product gains momentum and diffuses (or spreads) through a specific population when educated. He further explains adoption of innovation as acquiring a new successful change that can be of benefit to the person. Innovation is a mental decision process through which an individual passes from first knowledge about an innovation to forming an attitude toward the innovation. It starts with an initiation phase through

which an individual move from knowing (understanding and identifying) the new idea (the innovation) to forming of an attitude toward the innovation and subsequently to adopt or reject the implementation and use of the new idea. The adoption decision continues the process towards the implementation phase, which consist of the preproduction, production, post-production and confirmation stage.

Rogers (1995) assertion suggests that innovation can be accepted or rejected by dressmakers. It is, however pertinent that introducing the new idea should make the dressmakers understand and appreciate the value when the new method is adopted specifying the process to implement this innovation. Rogers described perceived attributes of innovation and these include relative advantage, compatibility, complexity, trial-ability and observability. Considering these attributes of Rogers as explained by Dogoe (2013), in determining the relative advantage of an innovation, the dressmakers will measure the benefits associated with adopting the said innovation as compared to their earlier methods of operation and this includes the economic profitability and social status conferred. Compatibility with the innovation should be suitable to be used together with previous knowledge and sociocultural beliefs. Complexity refers to the degree to which an innovation is assumed to be comparatively difficult to understand and apply. An innovation introduced should be easy to apply, with or without guidance. Trial ability is the degree to which an invention may be experimented with on a limited basis and the last attribute which is observability is defined as how visible the effects of an innovation are to others. Dressmakers ability to apply the innovation and the result communicating to viewers, would contribute to the achievement of the innovation. There is the need to highlight the importance of sustaining and promoting cultural identity through the garment to boost the Ghanaian economy.

Throughout the development of the garment, there has not been any consideration for the appropriate placement of the patterns in the cloth to relate to the garment, to convey non-verbal messages which are the essence of naming African prints. Clothing's are being exported and must stand the competition of this era. The utilisation of the motifs to align itself to have a harmonious symmetry need to be spelt out and hence this methodology.

2.12 Workshop as an Intervention in Dressmaking

Skills development strategies often overlook the informal sector despite the fact that in modernizing countries, income-generating activities in the informal sector often far surpass those of the formal sector. The EFA Global Monitoring Report (UNESCO, 2012) on youth skills development states that traditional apprenticeships are an important way of acquiring transferable and job-specific skills.

One of the major concepts influencing the present day teaching and learning of practical skills is the hypothesis of selective learning proposed by Hull and Spencer (as cited in Opare, 2011). According to Hull and Spencer, complex learning can be achieved by building the foundation of simple principles. This implies that when the person discovers the basic principles in a learning situation, he or she can translate it into complex situations. Hence the acquisition of basic knowledge by the learner through selection of basic learning principles involving practices will enable the scholar to learn and make complex rules.

Acquisition of dressmaking skills involves a learning period where the apprentice has to undergo training where basic skills are taught. As the years advance, complex skills are added. It is inconceivable to attain all the accomplishments within this limited time point between 6 months to two years. Regular interventions through workshops to upgrade skills is pertinent if the graduated apprentice into 'Madam' can stay in business,

grow and expand both to meet local and international clothing competitive market. Some other hypothesis that offers a theoretical basis for the study is Maslow's theory of Career Education (1954) as cited by Opare, (2011). Maslow maintained that success in working life requires not only the skills needed to perform a job, but also the attitude, values and general abilities, which lead one to want to work productively, and which influence one's ability to function as a productive member of society over a lifetime. To Maslow, career education is the teaching that makes available to all those pre-requisites, attitudes, knowledge and skills necessary to choose, prepare for and pursue a successful career throughout life. Career educationists are mindful of the fact that some learners learn best from "hands-on" experiences and others from abstract concept. Through the workshop, dressmaker's ability to handle motif fabric effectively in garment construction, will be assessed.

In another study Maslow proposes the Train the Trainer model, sometimes referred to as TTT, and this is an educational model which is a strategy widely used in the workplace whereby the trainer (researcher) trains others (the respondents) and simultaneously teaches them how to educate other people (Sokolowski, 2015). The method offers distinct advantages over other training models because trainees typically learn faster and retain information better than in other teaching models. Also the researcher can spread knowledge more efficiently among the respondents.

Most workshops, organised for the garment industry revolve around threading and sewing on the sewing machine, pattern making, seam quality and entrepreneurship.

However, this thesis seeks to employ an intervention through a workshop to address on 'the effective utilization of motifs in fabric' as a means of transferring, developing and upgrading of skills, which has direct impact on productivity and for that matter income.

2.13 Summary of Related Literature Reviewed

The review of related literature on clothing indicates that the indigenous Ghanaian wore some form of clothes made from barks of trees, leaves, hides and skins. Although these materials were unstitched, they were wrapped securely around the body without dropping. Dressmaking has been in existence before fashion designing became a recognized profession, and today's designers, most of whom work from workshop based products remains dependent on their accomplishments.

Today, garments constructed are made to conform to the human curvature owing to global influence (Sarpong, 2011). Due to extensive travelling and the importation of second hand clothing fashion has evolved. As life changed garment construction was introduced into the formal sector of education in designing and also made to conform to the times. Grounded on the new evolution, different styles came into being. African prints use in garment construction include the wax prints and fancy prints and Vlisco stands out as the market leader with its patented Wax Hollandais fabric. Other popular brands in vogue include Woodin, Hitarget and Binta.

Many of the changes in trends in fashion are repetitive. However, the importance of the garment to convey non-verbal messages to viewers through the effective use of the motifs in the fabric is paramount. Therefore dressmakers upgrading of skills to be abreast with the times are important for a competitive urge and customer satisfaction.

CHAPTER THREE

METHODOLOGY

3.1 Overview

This section of the research describes the procedure that were adopted in conducting the research to achieve authentic results. It describes the research design, the study area, the population of the study, sample and sampling technique, the instrument for data

collection, validity and reliability of the instruments, data collection procedure and data analysis plan.

3.2 Research Design

The qualitative research method which involves a wide range of field investigation was employed in this study to address the research questions. Osuala (2001) describes qualitative research as one which allows close interactions with the respondents, observation of their settings and interpretation of findings. In the views of Leedy and Ormrod (2005), qualitative research is characterized by description, interpretation, verification and evaluation of situation, settings, processes, relationships and systems or people and these made it a relevant approach for this study. Its adoption made it possible for the researcher to observe and describe the methodologies dressmakers used in handling motif fabrics for garment construction, and through expository workshop, intervened and evaluated the outcome.

3.3 Action Research Design

Action research is an intentional, systematic and reflective inquiry done by practitioners (Henderson, Meier, Perry & Stremmel, 2012). According to Dick (2002), action research is conducted to bring about change in the community and to increase understanding on the part of the researcher and the respondent. It is also calling for action to better instruct to improve learning plus a systematic survey of the natural process and its consequences (Rust & Clark, 2007). It is in the context that the effectiveness of existing practice is worth assessing in order to introduce an innovative idea, with the view of improving practice.

Hughes and Tight (2001) have stated that action research is educative, deals with individuals as members of social groups, is problematic –focused, context –specific and

future-oriented. Creswell (2015) suggests that action should be taken when a study has a focus on a practical problem or issue in the community, and it should be used to help the respondents grow professionally as a result of conducting the study. Action research typically involves a cycle of 'identifying problems of meaning', 'developing questions and assumptions', 'gathering data', analyzing data', 'interpreting data' and 'taking action' (Henderson et al., 2012). Kolb (1984) describes similar steps through the ADDIE instructional model. Rowley (2003) asserts that the very nature of action research is its cyclical form and based on those developed three major cycles of activity. Each cycle phase incorporates steps of planning, acting, observing and reflecting. The cycles are:

Cycle one: Situational analysis/ pre intervention

Cycle two: Intervention

Cycle three: Evaluation/ post intervention

3.3.1 Situational Analysis

This is the pre stage of the inquiry process, focusing on the formation of the research context of the necessary intervention. The analysis and diagnosis of problems and needs are done in a collaborative nature, so that the process commences with a shared understanding of the vision and mission of the research.

3.3.2 Intervention

Intervention is the process of taking action on the strategies and activities that have been planned during the planning stage of the first cycle. Intervention is also called the implementation of the activities as agreed upon by the various researchers and the respondents.

3.3.3 Evaluation

This is the step that offers an opportunity to focus on the outcomes of the intervention. Outcomes are evaluated in terms of whether the desired results have been achieved, the analysis is correct and the action taken is appropriate.

The study, therefore, adopted the action research to analyse dressmaker's skills and competences in relation to the effective utilization of motif fabric in garment construction. During the situational analysis stage their competency with effective use of designed fabrics were analysed before an intervention where dressmakers through suggestions were taught the appropriate methodologies of handling motif fabrics based on the problems identified during the situational analysis stage. For the evaluation stage, a workshop was organised where suggested strategies taught during intervention stage and adopted to construct a garment using African prints to assess whether the desired results of the research had been achieved.

The ADDIE model was interconnected with the action research in this study by the researcher. The pre-intervention or situational analysis stage of the action research which is analysis had similar activities carried out as the analysis phase of the ADDIE instructional model. The intervention stage of the action research corresponded with the design, development, and implementation phases of the ADDIE instructional model. The last stage of the action research which is evaluation has the same activities carried out as the evaluation phase in ADDIE instructional model.

3.4 Descriptive Research Design

Leedy and Ormrod (2005) opined that descriptive research involves either identifying the characteristics of an observed event or exploring possible correlations among two or more phenomena. The aim of descriptive research is to portray an accurate and exact

profile of people, events or situations (Robson, 2002). In this study, the descriptive design was used because interview, observation and focus group discussion were used to collect information to describe the observed methodologies used by dressmakers when cutting motif fabrics and suggested methods of cutting motif fabrics. Additionally, it was adopted to describe the pattern arrangements, body forms and appropriate placement of patterns and the new suggested methods of cutting and constructing motif fabrics.

Through the descriptive method, the researcher was able to use visual aids such as pictures to help bolster the reader in understanding the data distribution.

3.5 Area of the Study

The study was carried out at *Awoshie/Anyaa*, a suburb of Accra in the Ablekuma South Ga Municipality. The indigenous ethnic group in the area comprises of the Ga's which constitute 48% of the population and the Hausa's and other ethnic groups consisting of 52%. Many technical issues in dressmaking have been observed by the researcher within this community. It is expected that through this study, the Awoshie/Anyaa zone of GNTDA members would acquire additional knowledge of dressmaking and effectively and efficiently use the knowledge in addressing motifs in pattern fabrics.

3.6 Sources of Data

Most secondary data were collected from:

Journals and publications from KNUST Main Library, Kumasi

1. University of Education Library, Winneba,
2. University of Ghana Library, Accra
3. The internet
4. Catalogs

5. E-books, unpublished theses

The Primary data for this study were collected through interviews and observations.

3.7 Population of the Study

Burns and Grove (2003) describe population as all the elements that satisfy certain measures for inclusion in a work. It also refers to the aggregate or the totality of objects or individuals regarding inferences that are to be made in a sampling study (Sidhu, 2003). The population for the study constituted all dressmakers and tailors in Ghana and the target population for the study constituted all dressmakers and Tailors who are part of Ghana National Dressmakers and Tailors Association (GNDTA). The accessible population was the dressmakers and tailors of GNDTA, Awoshie zone who were sixty three (63) in number (fifty four (54) being dressmakers and nine (9) being tailors. The justification for selecting Awoshie Zone as representative of the others emanate from the fact that, their aims and objectives reflects similarities of the other zones groupings within the country and possess the same problem characteristics empirically identified at the other zones, aside proximity which was a necessity since the researcher had to meet the respondents, seven consecutive times every Monday (which was their meeting days) from April 5 to March 23, 2018 for the situational analysis, intervention and evaluation. Again Awoshie Zone of GNDTA was conveniently chosen because of accessibility, time and cost. It is, however pertinent to state that, not all dressmakers and tailors in Awoshie are registered members of this association.

3.8 Sample and Sampling Technique

Leedy and Ormrod (2010) refer to sampling as the process of selecting a portion to represent the entire population. According to Sarantakos (2005) a sample enables the researcher to study a relatively smaller number of units in place of the target population

and to obtain data that are representative of the target population. The study sample was 63, comprising of 54 dressmakers and 9 Tailors representing all the dressmakers and tailors (members) of the zone which was used for the focus group discussion during the intervention and workshop on effective utilisation of motifs in fabric.

In this study, the purposive and convenience (non-probabilistic) sampling technique were used. “Madams” and “Masters” were purposefully chosen for the study since they were trainers and will impart the acquired knowledge to their apprentices who will in turn share knowledge with their apprentices in the near future to keep posterity (Training of Trainers).

3.9 Data Collection Instruments

Ary, *et al.* (2013) refers to instrumentation as a process used to solicit information in research. Observation, semi-structured interview and focus group discussions were employed as the main instruments for data collection.

3.9.1 Observation

Participant observation, according to Sidhu (2003) deals with the behaviour of a person or a group who plays an active role in the situation or context in which the behaviour is recorded. Non-participant observation, according to Kothari (2004) allows the researcher to be physically present, but only as a spectator who does not directly take part in the activities of the people who are being studied. The researcher employed both participatory and non-participatory observation in soliciting for information. The participatory observation was used during the intervention stage of the action research cycle and non-participation was used during the situational analysis stage and evaluation stage.

Observing how dressmakers' match motifs along seam lines during cutting out and sewing processes enabled the researcher to intervene to suggest an appropriate method and then allowing them to put into practice. What has been taught during the evaluation stage helped the researcher to accomplish the research objectives.

3.9.2 Interviews

Frey and Oishi (2001) have established that, an interview is a purposeful conversation in which one person (interviewer) asks prepared questions and other (interviewee or respondent) answers them. Interviews can take various forms: structured, semistructured and unstructured.

The researcher adopted the semi-structured interview technique because it provides quick and rich evidence with respondents providing detailed insights of facts. The interview guide comprised of items which probed into the demographic information of the respondents and also assess the skills and competence of the dressmakers in motif fabrics for garment construction.

3.9.3 Focus Group Discussion

A focus group discussion is a group of people who have been brought together to have an in depth discussion on a specific topic. Holloway and Wheeler (2002) define focus group discussion as an interaction between one or more researchers and more than one participant for the purpose of collecting data. Also, in focus group discussion, researchers interview participants with common characteristics or experience for the purpose of eliciting ideas, thoughts and perception about specific topics or certain issues linked to an area of interest. As part of the strengths of focus group discussion, as noted by Holloway et al, it provides an opportunity for all participants, including the researcher asking questions that stimulate participants' thoughts, reminds them of their

own feelings about the research topic and also produce more information in a relatively short period of time than an individual interview. It also helps respondents build on the answers of others and help the researcher to clarify conflicts between participants and ask about their different views. In this study, the researcher had a focus group discussion with all the 63 dressmakers on assessment of garment during the preintervention and how to handle patterned fabrics.

3.10 Validity and Reliability

Validity and reliability are very important criteria in evaluating a research. Validity is the appropriateness, meaningfulness and usefulness of the specific reference the researcher makes based on the data collected. Validity determines whether the research instrument truly measures what it was intended to measure (Joppe, 2000). It can be achieved if the collected data and methods are accurate and reflects the truth. The instruments were first validated by the Supervisor, Senior Lecturers, and colleagues at the Department of Integrated Rural Art and Industry – KNUST. The validators critically made their inputs on the content with respect to structure, spelling, appropriateness, meanings among others and these were reflected in the final version of the interview guide and observational checklist. To increase the construct validity of this study, the researcher has used triangulation in order to obtain evidence from multiple sources.

That is from observation, interview and focus group discussion.

Reliability is the extent to which results would be stable or consistent if the same techniques were used repeatedly. The role of reliability is to minimize the errors and biases in a study. Pre-test was done using ten (10) dressmakers at Ablekuma, also in the Ga Municipality to determine the appropriateness and quality of information on the interview guide. The result showed similar low competency of dressmakers in the matching motifs in garment construction.

Validity and reliability of the semi structured interview guide were established by first submitting it to the researcher's supervisor who went through the document and gave the necessary suggestions and corrections.

3.11 Ethical Issues

To address ethical issues, the researcher took into consideration ways to ensure or protect the privacy as well as the security of the respondents. This was necessary to prevent future issues. Some of the issues that were considered included consent, confidentiality, and data protection. This was done to ensure trust between the researcher and the respondents.

3.12 Data Collection Procedure

From the Department of Integrated Art and Industry KNUST, a letter of introduction was written with a copy to the Regional Head of GNDTA, Accra and the Zonal Head of Awoshie, asking for permission to conduct a research on the topic: Effective Utilization of Designed Fabrics in Garment Construction: Dressmakers in Ghana for a Study. The letter stated clearly the aim of the research and the activities the study would be involved in. Two copies of the letter were given to the researcher to be given to the Regional head and the Awoshie Zonal head.

The researcher interviewed alongside the pre intervention, intervention and evaluation, which took seven weeks because the dressmakers only met once a week on Mondays for a period of 3 hours.

Data for the study were collected for each objective separately which were to assess dressmakers competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction; identify the existing methodologies used by the dressmakers for garment construction; formulate an innovative fabric utilisation

methodology that addresses the problems identified among the dressmakers and test the new methodology formulated through expository workshop on some selected dressmakers to ascertain its efficacy. To effectively carry out this study, relevant related literature on dressmaking, motif fabrics and garment construction from the internet and books guided the secondary source of data. The primary data was gathered through interview and observation of the dressmakers. The efficacy of the innovative methodology was tested and evaluated using a rating scale.

Osuala (2001) describes qualitative research as one which allows close interaction with the respondent and observation of their settings. All of the four objectives were carried out at the dressmakers meeting place and on their meeting days in *Twi*, which was their common local dialect and translated into English personally by the researcher. The first phase of data collection was carried out by interviewing all the sixty three (63) members who make up the Awoshie zone of GNDTA. The second phase was a practical assessment of twenty one (21) members out of the sixty three to identify the existing methods of cutting out and their competency in effective arrangement of motifs during garment construction. Based on the problems identified, the researcher brainstormed and formulated seven principles which was tested personally by the researcher under observation of supervisors. The last phase of data collection was carried out by educating the dressmakers on the formulated principles and allowing them to apply the principles to make new garments. During all the four phases, observations were made regarding their skills in effectively matching motifs at the sides of the garment, pockets and collars.

3.13 Data Analysis Plan

Data analysis means to organise, provide structure and elicit meaning. In a qualitative method of research, data analysis is an active and interactive process (Polit et al, 2001).

Data collected in the form of field notes and graphic work were transcribed and assembled in a narrative form, description, tables and graphs. Pictures that described the situational analysis and evaluation were provided. These were analysed and interpreted to provide guidelines for the principles of constructing garments with efficient use of the motifs in the fabric. The results from the application of the formulated principles during a workshop helped to assess the efficacy of the formulated principles. Details of these have been provided in chapter four.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Overview

The main purpose of this study was to generate strategies that will help with the judicious use of the design fabric in garment construction. Specifically, data were sought on practices concerning how dressmakers match motifs in fabrics, along seam lines, balance in garments and fabric pattern arrangements. After the situational analysis, the researcher adapted the ADDIE instructional model during the intervention phase to formulate seven (7) principles which the dressmakers were evaluated on the knowledge attained in the application of the principles through expository workshop. Graphical methods such as tables and system analysis were used in presenting the results. Data have been organized, presented and discussed under the following themes:

- I. Demographic data of dressmaker at Awoshie Zone of GNDTA)
- II. Dressmakers' competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction
- III. The existing methodologies used by the dressmakers for garment construction

- IV. An innovative fabric utilisation methodology that addresses the problems identified among the dressmakers
- V. Testing the new methodology formulated through an expository workshop on some selected dressmakers to ascertain its efficacy.

4.2 Demographic Data of the Respondents

The demographic data of the dressmakers and tailors at Awoshie Zone of GNDTA cover the following attributes: gender, age number of years of practice and educational level.

Table 4.1: Demographic data of respondents

(n=63)			
Variable	Variable category	Frequency	Percentage
Gender	Male	9	14
	Female	54	86
Age range (in years)	20-25	1	2
	26-30	12	19
	31-35	43	68
	36-40	5	8
	41 and above	2	3
Educational level	Basic	26	41
	J.H.S.	30	48
	H.N.D	2	3
	Degree	1	2
	None	4	6

From Table 4.1, out of the sixty three (63) respondents who participated in this research, a clear majority of fifty four (54) were females representing 86% while the remaining nine (9), representing 14% were males. The vast difference in the number of females to males gives a clear indication of the dominance of females in the sewing industry in Ghana and especially at *Awoshie* zone. The age bracket with the highest respondent is 31-35 followed by 25-30 representing 68% and 39% respectively. The result shows that most of the respondents were in their youthful stage and proves the sustainability of the cottage industry which Biney-Aidoo (2006) described as the catalyst for economic development. Therefore equipping them with the right skills and knowledge would be regarded as advantageous for competitiveness in the international market. All the respondents had worked for varying number of years in the field between three (3) to twenty (20) years and were therefore deemed experienced to ascertain if they committed the blunders identified by the researcher before carrying out this study. The result for the highest level of education indicated that thirty (30) respondents representing 48% had formal education up to the J.H.S. level while twenty six (26) respondents representing 41% completed basic schools before entering the informal training of dressmaking. The result affirms the findings of Uwameiye and Iyamu's (2010) that traditional apprenticeships make up the majority of the informal sector in Ghana which provides an opportunity for individuals who cannot afford to further their formal education to gain employable skills through training. Only three (3) respondents representing 5% went through tertiary education. Analysis from the interview and observation conducted with these various groups showed that, irrespective of the level of education, mismatching of motifs in a garment was a common problem to them all probably because they overlooked the need to match the motifs or considered the supplied fabric to be small for manipulation. This finding is particularly worrying since textiles and garment construction are inseparable. The knowledge in fabric designing

have a direct correlation with how motifs in the fabric should be placed before cutting out. This suggests that the motifs on a printed fabric dictates the direction the fabric should be placed before cutting out. Poor knowledge in fabric designing suggest that dressmakers may not efficiently utilise the motif in the fabric during garment construction to follow the directionality of the motifs and match them at appropriate places in the garment to bring balance and harmony.

4.3 Dressmakers' Competency (Skills and Knowledge) in Effective Arrangement of Motifs in the Designed Fabrics in Garment Construction

In solving the research problem identified, the first objective of the study was to assess dressmakers' competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction. The researcher has observed that though dressmakers are able to choose fabrics in terms of style, colour and trend, there are certain factors they overlook and that is the motifs in the fabric and pattern arrangements. It is important that the garment design and the fabric complement each other so as to enhance the aesthetic appeal not only of the garment but the fabric as well, promote the sales of the cloth and convey nonverbal messages to viewers.

Based on the preliminary observation and interview conducted in relation to the research problem, the researcher deemed it necessary to conduct a pre intervention activities which involves interview and practical demonstration of the methods used in garment construction to confirm the identified study problems and diagnose their causes. The pre intervention activity according to the action research cycle also known as situational analysis is the pre stage of the inquiry process, which focuses on analyzing and diagnosing of problems. Objective one, two and part of objective three fall under the situational analysis under Action research which corresponds with Analysis under ADDIE instructional model.

To gather data for objective one, a ten (10) item interview guide which consisted of the demographic factors such as age, level of education, years of experience, among others; dressmakers' knowledge of the pattern arrangement; and the various methodologies the dressmakers use in executing garment construction was answered by all the sixty three (63) members of the zone. Dressmakers' responses to the interview on pattern arrangement shows that majority, made up of 86% had no knowledge of the pattern arrangement (Fig. 4.1)

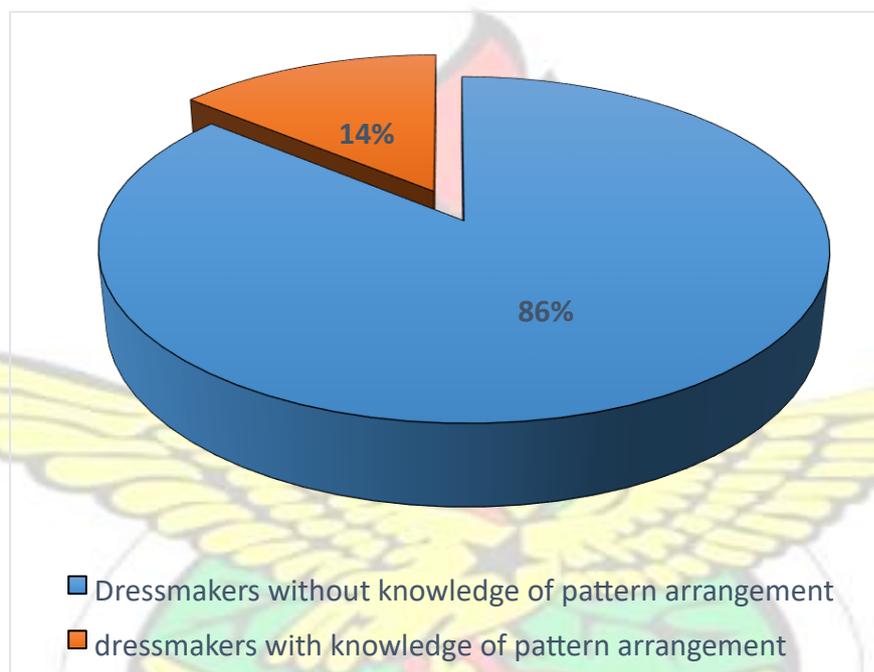
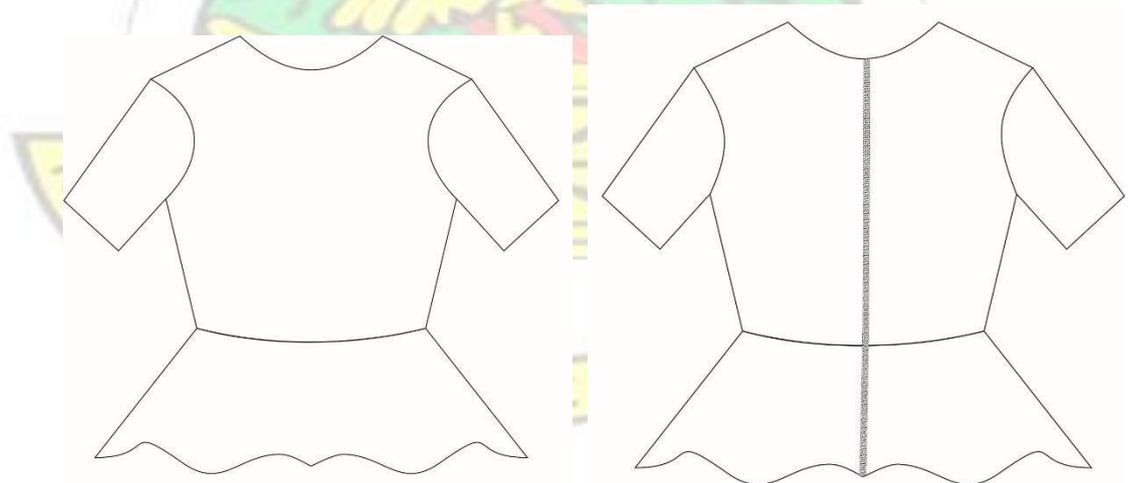


Figure 4.1: Dressmakers Knowledge of Pattern Arrangement

They, however, stated that the pattern in relation to the motifs used in the fabric have meanings and added aesthetic value to the garment, but they did not acquire enough skills to manipulate the designs to interpret the idea of the textile designer during their apprenticeship training. This opinion was shared by all of the respondents. Responses from all of the dressmakers indicated that freehand cutting method is the method they use for cutting out and constructing patterns and fabric. A practical observation was done in answering objective two to augment this finding.

4.4 Identification of Existing Methodologies used by the Dressmakers for Garment Construction

In solving the research problem, the second objective of the study, was to identify the existing methods used by dressmakers in garment construction. Out of the sample size of sixty three (63) dressmakers met at the zone during their meeting days, twenty one (21) dressmakers were selected to practically demonstrate the various methods used for garment constructions based on which their effective use of motif design in the fabric were observed and assessed. Two (2) yards/ 1.8288 metres of fabrics were given to each of the selected members who were masters or madams that is, those who have formally completed the apprenticeship training and were working on their own. Out of the twenty one (21) dressmakers, eighteen (18) female constructed peplum *kaba* whiles three (3) males constructed short sleeve shirts (Fig. 4.1).



Front and Back View of Peplum top

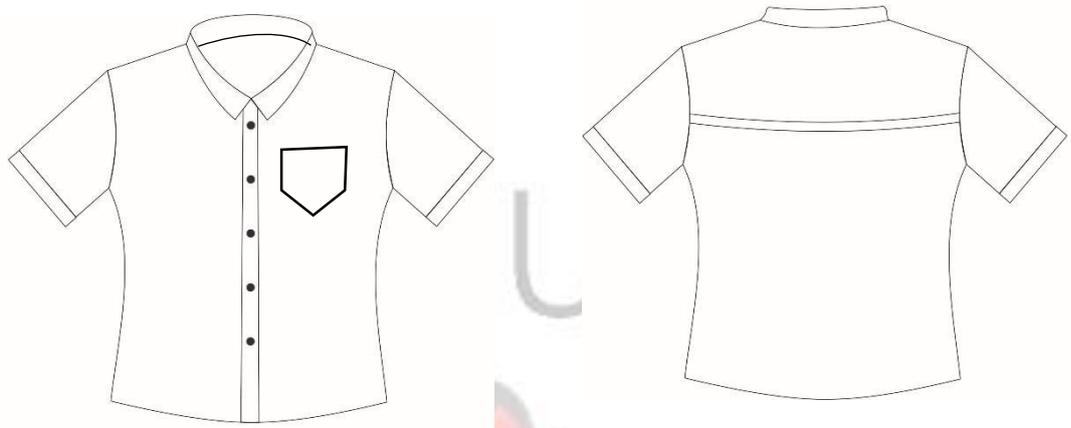


Figure 4.2: Front and back view of short sleeves shirt

Source: Author's construct

Three (3) of the female dressmakers used block repeat cloth which was all-way in direction in constructing *peplum kaba* and one (1) male constructed a shirt from the same cloth (*Subura* cloth) as shown in Plate 4.1 Another three (3) females and one (1) male used half repeat cloth which was one-way in direction to construct the same *peplum kaba* and shirt style (*Akyekyedie akye* cloth) as indicated in Plate 4.2. Three (3) other females and one (1) male used block repeat cloth which was also one-way in direction (*dua kor gye mframa, obu* – Plate 4.3). The other dressmakers used combination repeat cloth (Plate 4.4, 4.5 and 4.6)

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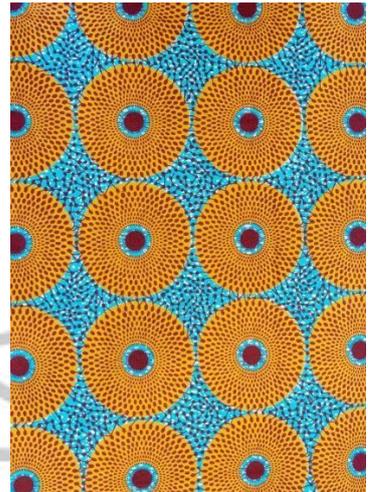


Plate 4.1 All-way direction cloth
(Subura)



Plate 4.2 One-way direction cloth
(Akyekyedie akye)

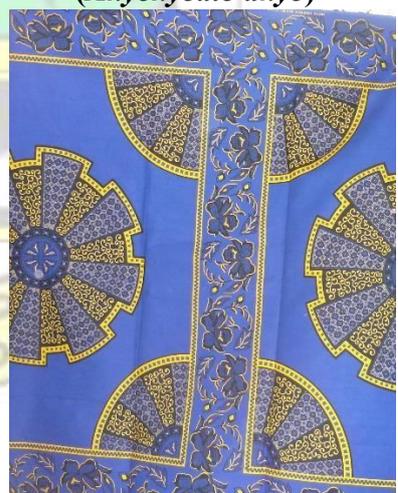


Plate 4.3 One-way

direction cloth (*dua kor gye mframa, obu*)

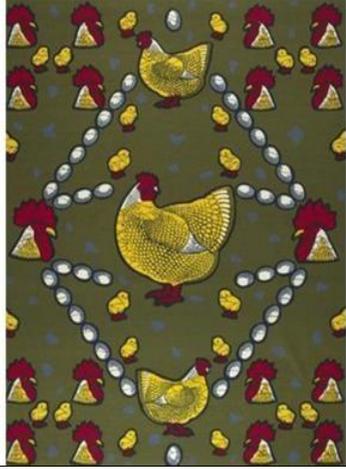


Plate 4.4 Bold pattern cloth (*Akufo*)



Plate 4.5 One-way direction cloth (*Akoko batan*)

Plate 4.6 One-way direction cloth (*Ansan*)

Their measurements were used for easy fitting for assessment.

The modality for assessment based on the researcher and supervisor's discussion was that dressmakers should be able to:

- 1) Press out the supplied fabric before laying out their fabric to remove all creases.
- 2) Study the style provided carefully and identify the central motifs in the cloth and where to place them appropriately in the given style to bring balance in the garment.
- 3) Construct their body block on the lining with a tailor's chalk for easy corrections before transferring onto the African print fabric.
- 4) With the aid of a pin, fold the central motif into two as the centre front or centre back, cutting out the block without opening first on the wrong side of the fabric.

- 5) Cut the block with the opening in singles, but, on the front side of the fabric take particular attention of the central motifs and ensure motifs match at the side seam of front and back bodice, sleeves, collars and pockets. Pin the vital components together to determine if all the motifs match before sewing.
- 6) After stitching open the seam and iron secure the ends with double stitches to prevent motifs from shifting.
- 7) Fix zip for peplum top or buttons and patch pocket for shirt and yet keep a central motif complete.
- 8) Press out with loose threads neatly cut and excess fabric trimmed ready for fitting.

Of the twenty one (21) respondents who were selected from the sixty three (63) members and who were practically assessed to augment the data collected during the interview, findings from the observation were grouped into during construction and after construction.

4.4.1 Observations during Construction

Observations made during the practicals based on the modalities for assessment showed that respondents possess competencies in pressing out fabric before laying out, sewing styles as provided by the researcher and cutting out fabric with precision. It also revealed that 86% of the dressmakers used freehand cutting out method while only 14% used flat pattern making and freehand cutting. This was evident in the procedure which all the dressmakers' used in plotting the pattern and cutting out the fabric (Plate 4.7). This supports the findings observed by Forster (2009) that, freehand cutting is the main method for cutting garments in Ghana. This is further explained by Biney-Aidoo, Antiaye and Opong (2013), that in the informal system of training, the teaching skill is the freehand cutting.

A review of the educational level of the respondents indicated that most of them did not receive any formal education where elements and principles of design, pattern making and standardized garment construction is taught. This situation echoes much of what Biney-Aidoo, *et al*, (2013) stated that, in the informal sector, knowledge gained was based on the technical know-how of the trainer. As stated by Farrant (2004), an ignorant teacher cannot enlighten students. Surprisingly, all of the 3 respondents who have had formal training up to the tertiary level before entering the fashion industry and who were part of the twenty one (21) respondents used for this research all used the freehand cutting method, confirming Fianu and Zentey (2000) findings that, all the large Scale Fashion Designers from the Universities and Technical Universities (Polytechnics) in Ghana always went for part time training in freehand cutting while still in school or after, before establishing their own garment production shops.

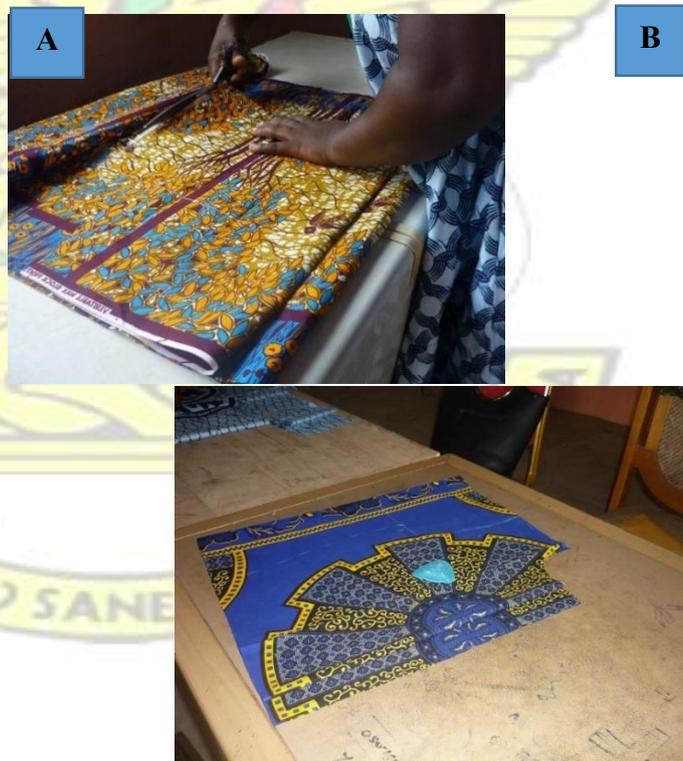


Plate 4.7: Freehand Cutting- Front Bodice Block and Back Bodice Block Technically Folded Together into four(4) (A, B)

It was observed that, dressmakers fold the front bodice and back bodice together, making provision or extension for openings. With the front bodice or back bodice which is to be placed on fold, it was noticed that, dressmakers were mindful of the pattern in the cloth and ensured the centre front or centre back line brings balance in the pattern. However, the problem noted with this method was that, due to the folding of the front and back bodice together, it became difficult to balance the motifs in the cloth on the bodice with the opening. The findings agree with Amankwah et al (2013), who in their study stated that out of the twenty (20) respondents who were observed as to how they lay their fabrics before cutting out, thirteen of the respondents were found to lay their fabrics regardless of the patterns presented in the fabric. Their priority was to cut the intended style and work within the fabric supplied by the customer.

4.4.2 Observations after Construction

After construction, the garments were fitted by the dressmakers for assessment. It was observed that out of the twenty one (21) respondents who were used for the analysis, that is, eighteen (18) dressmakers sewing a peplum top and three (3) males sewing a short sleeve shirt, sixteen (16) respondents representing 86% had motifs wrongly placed at the back of the dress where there was a zip opening and also the matching of motifs at seam shirt pockets, collars, and button opening. However, all respondents were able to balance symmetrically, the motif in the centre front of the peplum tops (Plate 4.8, 4.9 and 4.10).



Plate 4.8: Front view of samples correctly constructed (A,B,C)



Plate 4.9: back view of samples incorrectly constructed (A, B, C)



Plate 4.10: Front (A), back (B) and side views (C) of shirt with motifs mismatching

Thus, their competency level with knowledge of pattern fabric was high but with regards to knowledge in pattern arrangement in relation to garment construction and skills in manipulating printed designed fabrics especially where there are seams was low. This finding calls for an intervention as a little knowledge in pattern arrangement would have helped dressmakers to make efficient use of the motifs in the fabrics to enhance garment construction and remain competitive. Sarpong, Howard and OseiNtiri (2011) suggested

regular proficiency training for skills and competency upgrading as a strategy for the improvement in the Ghanaian fashion business to equip dressmakers to produce to meet international standards.

The situational analysis study covered a day's meeting approximately one and half hours.

4.5 Formulation of an Innovative Fabric Utilisation Methodology that Addresses the Problems Identified Among the Dressmakers

Following the outcomes of the garment produced in objective two by the respondents, the researcher observed that, respondents competency level in matching motif in designed fabrics were low. As a result, the ADDIE instructional model propounded by Kolb (1984) was adopted to formulate an instructional methodology to stem the problems identified. ADDIE is a systematic instructional design model consisting of five phases: Analysis, Design, Development, Implementation and Evaluation as explained in page 12.

4.5.1 Analysis

This is the problem identification phase of the project. Goals and objectives were specified, the audience's needs were identified and existing knowledge were considered. Dressmakers were found to be among the middle class classification of dressmakers in Ghana. They were often trained through the informal system of apprenticeship with some minimum level of education or not. Per the pre intervention under the action research, the method used in garment construction was mainly the freehand cutting which involves plotting the body measurement on the fabric and cutting directly before cutting out the lining. With any style given, the motif directionality identified, the cloth

is technically folded into four parts based on the various body measurements style and it is marked and cut out as indicated in Fig. 4.7.

A review of the marking sheet for the professional examination (Appendix III) organised by the GNDTA for the dressmakers apprentices after learning the trade indicated that, there was no section for evaluating garment based on effective use of the motifs the fabric. Usually, the candidates used grey baft and even when printed fabrics were used, there was no additional marks added for effectively matching motifs in the garment.

4.5.2 Design

Based on the problems identified during the pre-intervention and analysis as stated in the model and available experts in the garment industry, there was the need to develop a new methodology for garment construction that focused on capturing the design prints on the fabric for the purpose of enhancing the aesthetic and promoting the sales of the garment, the fabric and conveying the symbolic meaning of the cloth. The following step by step methodology were formulated after brainstorming.

1. In every garment construction, it is important to identify the right side and wrong side of the fabric for garment construction.
2. The identification of the direction of the motifs in the fabric, is also important whether the fabric is bought or supplied by clients, that is, all-way pattern or one-way pattern taking inscriptions into consideration.
3. It is important to recognize the pattern arrangement within each fabric including the rhythmic pattern of the motif arrangement and the sizes of the motifs. This includes full drop repeat, half drop repeat, brick repeat, stripe repeat and combination repeat.

4. The various colours used within the design, composition of the fabric in relation to client's figures details (analysis), that is, body shape, facial shape, neck, shoulders and height must be identified.
5. The symmetry in the pattern arrangement such as the arrangement and cutting of forms or pattern in order not deviate from the rhythmic arrangement of the motif as well as the colour arrangement must be observed.
6. It is important to do idea development. Dressmakers must be able to draw a rough sketch of styles desired by clients consciously matching motifs at appropriate seam lines.
7. Pattern markings of the body measurement should be marked on lining as the basic block before being transferred onto the actual printed fabric.

4.5.3 Development

Prototypes guided by the formulated principles were constructed by the researcher to evaluate the feasibility of the principles before being delivered to the respondents and supervisors also gave their feedback for improvement. With the observation that dressmakers usually made *Kaba* and shirts from printed fabrics, African prints were used for the prototypes. One *kaba* was made using one-way patterned African print (*Akyekyedie akye*) for prototype one and all-way patterned African print (*Subura*) for prototype two respectively.

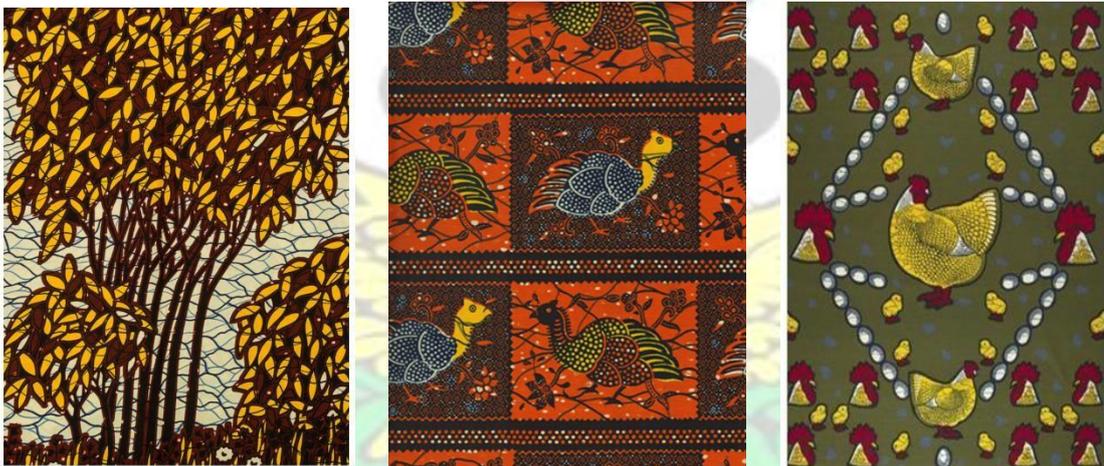
4.5.3.1 Materials and Fasteners used

The following were the materials used in the construction of the *kaba* and shirt prototypes.

4.5.3.2 African Prints Fabrics

African prints fabrics were used for this study because of their symbolic and non-verbal communicative values they convey to the audience. The prints have become one of the traditional contemporary African fabrics which is favoured by all Ghanaians. African prints bear names and inscriptions, and are therefore needed to be interpreted as such in garment construction as purposely designed by the textile designer. The rich colour intensity in most of the prints make them wearable in all occasion by people of different age group. Thus, enhancing dressmakers' competency in the efficient utilisation of the motifs in these prints will enhance aesthetic appeal and promote its marketability.

Samples of African prints used have been shown in plate 4.11



Dua kor gye mframa obu

Ansan

Akoko batan

(Unity is strength)

(Do not be quick to judge)

(Mothers are caring)

Plate: 4.11 Samples of one-way African print fabrics and the messages they carry



Afi bi ye esan

Nsroma

Subura

(Life is full of up and downs) (Star) (Don't despise small beginnings) Plate 4.12 Samples of all-way African print fabrics

4.5.3.3 Fasteners

Zipper, which is the commonest fastener used on *kaba* was used for the *kaba* prototypes and buttons for the shirt. These were the fasteners dressmakers were most familiar with and weaknesses were observed during the analysis phase.

4.5.3.4 Linings

Cotton based linings were used as the inner layer to provide a neat finish and conceal other raw edges of seams and other construction details of the *Kaba*. Linings were also used for the basic bodice blocks instead of brown paper. This aided in the correction of markings and measurements before transferred on the African prints. The body measurement of the researcher was used for the prototypes for easy illustration and explanation to the dressmakers.

Table 4.2: Body measurements used for the prototypes

Body part	Measurement in inches	Measurement in centimeters
Bust	36	91.44
Waist	30	76.2
Hip	43	109.2
Shoulder to nipple	10	25.4
Shoulder to waist	15	38.1
Across chest	14	35.56
Across back	16	40.6

<i>Kaba</i> length	25	63.5
Sleeve length	8	20
Around arm	14	35.6
Shirt length	28	71.1

Key: 1 inch = 2.54 cm

4.5.4. One-Way Patterned African Print Peplum *kaba* (Prototype One)

The African print fabric with the name *Akyekyedia akye* (the tortoise back) was used for this *kaba* prototype. This is one of the commonest African print fabric in vogue with all of the tortoise moving in one direction. The back of the tortoise protects its back from all dangers and therefore the fabric carries the message that the family is the bedrock of every society and protects its members from all dangers. It is a natural movement for tortoise to move in forward direction and not with their backs and as such garment made from such a cloth must follow the upward direction. Applying the same freehand cutting method used by the dressmakers during the analysis stage, the back and front bodice blocks were constructed by technically folding the lining into four as indicated in Fig 4 with the aid of tailors chalk using the body measurement indicated in table 3.1 after the lining has been pressed out. It is important to note that the body measurement markings must be done on the lining and not the African print cloth.



**Plate 4.13: Akyekyedia
akye printed designed cloth**



**Plate 4.14:
Constructed kaba
by the researcher
(Front view)**



**Plate 4.15:
Constructed kaba
by the researcher
(Back view)**

4.5.4.1 Procedure for Making Prototype One (Front and Back Views)

Based on the modalities used to assess the dressmakers (page 82), the same modalities were applied by the researcher to construct the prototypes. The formulated principles were used as a guide. The researcher used personal measurement to construct the prototypes for easy assessment and fit (page 91). In carrying out this prototype, the fabric was pressed out before the step by step direction as stated from plate 4.16 to plate 4.30. The wrong side of the fabric was marked out after observing the direction of the tortoise. All of the tortoise motifs were moving in one direction (one-way direction) and were in block repeat and was to be maintained after constructing the garment. The researcher was plumpy with a square face, therefore using a round neck off-shoulder with a V outstanding fabric motif as the central motif was likely to break the emphasis on the squareness of the researcher's face. The style of the garment was altered to fit the physical details of the researcher. Using the body measurement of the researcher, markings were first made on the lining (plate 4.16) , cut out and transferred onto the African print being conscious of the central motif at the front and back bodices.



Front View



Plate 4.16: Mark the wrong side of the fabric with the aid of a tailor's chalk

Plate 4.17: Press out.

Plate 4.18: Cut out the patterns

Plate 4.19: With the aid of a pin fold the central motif into two

Construct body block on the lining (Front view)

Plate 4.20: Place the lining patterns on the designed patterned cloth. Cut out

Plate 4.21: Join the lining

BACK VIEW



pieces together and the cloth pieces together separately designed printed cloth together

Plate 4.22: With the aid of a pin, match two pieces of the

Plate 4.23: Place the cut out lining patterns on the designed printed cloth. Cut out



Plate 4.24: Pin the center back zip line together
Plate 4.25: Fix the invisible zip.





**Plate 4.26: Attach the lining.
Press out.**

**Plate 4.27: Cut out the flare
and sleeve**



Plate 4.28: Place the two layers of flare together and match the motifs

Plate 4.29: Shape dress. Join all pieces together. Press out and neaten the *kaba*

4.5.5 All-Way Patterned African Print Shirt (Prototype Two)

Subura (Well) is another common African print fabric. This is an all-way direction fabric and was used for prototype two to construct a short sleeve shirt following the suggested principles by the researcher. *Subura* an Akan word for well depicts the tiny dots formed in spiral form after water is fetched from the Well or stone is dropped into its depths. This cloth carries the message that never despise small beginnings. In garment construction, this fabric could be turned or manipulated in any direction without deviating from its meaning or shape. The modalities in page 82 were used as a guide and these have been illustrated below. However, because shirts in African prints are usually not lined, all plotting of body markings of the researcher were done directly on the African prints concentrating on balancing and matching motifs.

4.5.5.1 Procedure for Making Prototype Two



Plate 4.35: Extend the cloth beyond the centre of a central motif for front button extension

**Plate 4.30:
Constructed *Subura* shirt
by the
researcher (Front
view)**

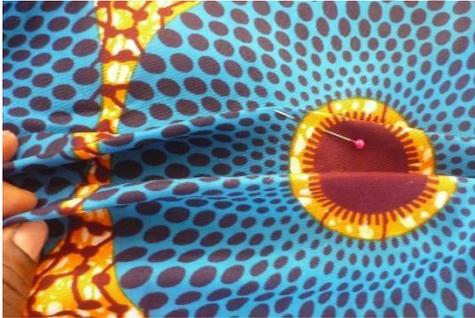


Plate 4.36: Cut out in singles both the left and right sides of the front block of the shirt.

**Plate 4.31:
Constructed shirt
by the researcher
(Back view)**



**Plate 4.32:
Constructed shirt
by the researcher
(Side view)**

**Plate 4.33: Identify the
Plate 4.37: Match the motifs
for the front bodice block
centre of a central motif
with the aid of a pin Plate**



4.34: Mark the body

**Plate 4.38: Match a piece of
the fabric on the pocket
area of the front bodice.
Ensure motifs match
measurements of the back
block of the shirt, the
yoke and collar**





Plate 4.39: Cut out patch pocket



Plate 4.40: Prepare collar match the motifs with the block



Plate 4.41: Fix sleeves



Plate 4.42: Join collar. Prepare buttonholes Fix buttons and press out.

4.5.6 Implementation/ Intervention Procedure

The researcher explained the essence of the research to the respondents and to address the problems identified among the dressmakers, the principles outlined above were

used as a guide. Respondents were made to fit their own garment for assessment by the researcher and other zonal members. The whole zonal members through focus group discussion were educated using the principles suggested as outlined below;

- 1) The identification of wrong side and right side of the fabric. To determine the right side of the fancy prints is easier because the wrong side has no visible prints. However, with real wax prints and batik, both the right and wrong sides look similar and require careful attention. Identification stickers, inscription at the selvedge, a little lustre at one side of fabric more than the other, slight colour difference, rough perforated holes in the selvedge, are some of the ways to distinguish right side from the wrong side of the fabric. Once identified, mark with tailors chalk randomly on the wrong side and cut pieces.



Plate 4.43: Inscription on the selvedge **Plate 4.44: Identification stickers**

- 2) The directionality of the motifs in the fabric: respondents were educated on the different sources of motifs, which is, from natural or abstract and this could be a recurring object, shape, colour and direction which are very noticeable. The direction of these motifs could be one-way prints (definite direction), two-way or non-directional. Natural objects used as motifs are to be portrayed in the garment naturally for instance human beings, snails, trees among others, should stand upright unless, otherwise to convey another message for example fallen tree ('*dua kor gye mframa, obu*'). A one-way print dictates that motifs are

aligned in one direction, may require more fabric and has less cutting flexibility in garment construction. Abstract source such as lines can be manipulated to give different forms provided they meet at seams. Inscription in cloth should be assessed and they should read accordingly. More emphasis should be placed on the central motif in the fabric to be used as centre back or centre front of the garment.

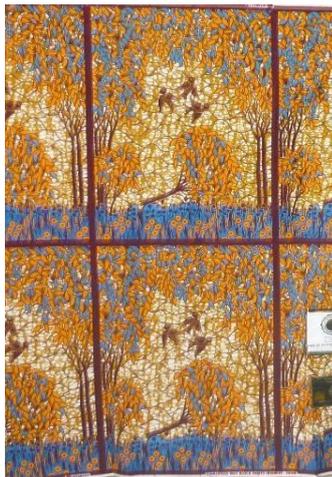


Plate 4.45: One way patterned

KNUST

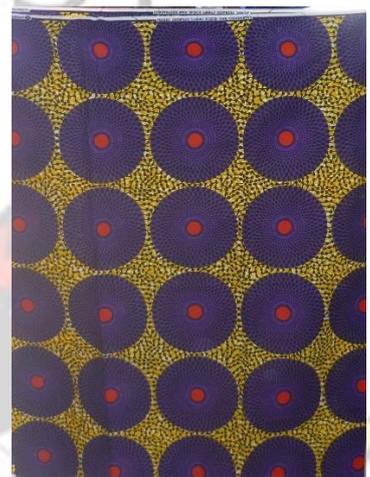


Plate 4.46: All way patterned cloth

- 3) The third principle is to recognize pattern arrangement within each fabric including the rhythmic pattern of the motif arrangement and the sizes of the motifs. This includes full drop repeat, half drop repeat, brick repeat, stripe repeat and combination repeat. Comparatively, full drop repeat is easy to align in the garment.
- 4) Identification of the various colours used within the design, composition of the fabric in relation to client's figure details (analysis), that is, body shape, facial shape, neck, shoulders and height. Colours in the fabric convey non-verbal messages and as such should be considered as well as the motif type and size. For figure type such as X-shape, it is considered as ideal figure and therefore any size of motif could fit the wearer. Most Ghanaian women after delivery

figure shape tend to convert to H-shape and may require cool colours and moderate size of the motifs to flatter the wearer taken into consideration the facial shape (square, ellipse or round.); neck (short, long, dense or thin) and height (tall, short or plump).

- 5) The fifth principle is to look at symmetry (line or mirror) in pattern arrangement such as the arrangement of forms and this should be in consonance with the rhythmic motif arrangement defined within the patterned fabric irrespective of the style of the garment. Dressmakers are to identify the central motifs within the fabric and with the aid of a pin, fold a central motif into two for centre fronts and centre backs which are to be placed on fold, sleeves or collars ensuring there is balance when used for the garment. The form of the motif is equally important and if the fabric before cutting out was in a particular repeat, for instance, half drop, it is required that the cut pieces after joining do not deviate from this repeat unless consciously, the garment has been designed as such.

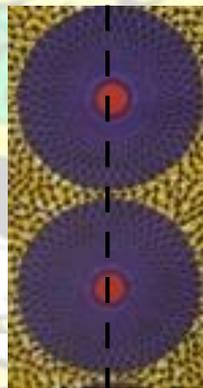


Plate 4.47: Identification of symmetry in a cloth

- 6) Development of new ideas. In this competitive era in the fashion industry, creativity is important and although most clients bring their own styles, the ability to sketch and add or deduct some details in agreement with the customer

before construction is an additional advantage. Fabrics supplied for a particular style in a catalogue are usually different from the cloth on the catalogue. It is the dressmaker's responsibility to educate the client on the appropriateness or inappropriateness of the fabric in relation to that particular style. Since dressmakers can draw on the fabric for freehand cutting, a little upgrading to transfer that idea into drawing garment will be beneficial.

- 7) Pattern making. Most dressmakers use the freehand pattern method for cutting out. In instances, where the lining is to be used, it is suggested that, the plotting of the body measurement be done in the lining for easy corrections and also for proper planning of the African prints before cutting out. Laying and cutting out of the fabric should be done in singles to ensure motifs match.



Plate 4.48: Matching of motifs

Analysis from the intervention indicated that generally, dressmaker's attention was always on the chosen style by the client. Usually, the cloth and style desired is different from the cloth supplied for garment construction. As a remedy to these identified faults, dressmaker's application of the stated principles can help match motifs efficiently irrespective of the supplied fabric to construct the given style. The intervention principles were practically demonstrated to all the sixty three (63) respondents and this took four meeting days, that is, four weeks, all on Mondays between the hours 10:00am to 1:00pm.

4.5.7 Testing the New Methodology Formulated Through an Expository Workshop on Some Selected Dressmakers to Ascertain Its Efficacy

4.5.7.1 Evaluation/Post Intervention

To ascertain the efficacy and assess whether respondents have fully understood the formulated principles taught, a two meeting days' workshop was organised. Six (6) yards/5.4864 metres (1/2 piece) of the same motif fabric were provided by the researcher to each respondent for traditional *kaba* (top) and *slit* and two (2) yards/1.8288 metres for shirt. The same African print fabrics were given as used in the pre intervention to enable the researcher ascertain knowledge and skills gained by the application of the formulated principles. Amankwah et al (2012) emphasized that, designing successfully with African prints demonstrates the creativity and attractiveness of the local prints and offers opportunity for profitability. The outcomes of the workshop with the application of the formulated principles were categorized into two groups and they were:

- 1) '*Kaba*' and *slit* (Sample A and Sample B)
- 2) Short sleeve shirt

4.6 Outcome of 'Kaba' and Slits

For the dressmakers, eighteen (18) '*kaba*' and slits were sewn and two (2) samples, each from the predominantly block repeat and half drop repeats were selected for analysis. These are shown in plate 4.51 and 4.52.

4.6.1 Sample A



Plate 4.49: Front (A), back (B) and side view (C) of the full drop repeat African wax print ‘kaba’ and slit

Source: Field Survey (2011) - Sample garment ‘A’ from workshop

As a guide to the repeats, full drop repeat of the African wax print was utilized for this sample. With reference to the front of the ‘kaba’ and slit, central motifs were symmetrically aligned. Although princess style line was used for the ‘kaba’ and slit was in six panels, motifs, followed by the rhythmic pattern of the full drop repeat. The motifs in the garment aligned shows that dressmakers have recognized the possibility of cutting out and still maintaining the motifs as a unit. The findings of this study contradict Amankwah *et al* (2013) observation that some African print motifs, when cut through become highly impossible to creatively join together without marring the beauty of the fabric. Dressmakers’ consciousness in pattern placement irrespective of the size of the motif is what is required to bring harmony and unity in a garment. However, usually, more fabric is required to align the prints during garment construction. Clothing to the Ghanaian, has always been used to convey nonverbal messages to the audience and it is without doubt that, a customer wearing well-made, well-fitting and well-arranged motifs garment, self-confidence and self-esteem will be

boosted. As one of the functions of clothing, it has been used over the years to show status and Seiber (1974) reiterated that the difference in the mood of dressing between the rich and the poor is in the quality and amount of fabric used. Clothing is used for class distinction and many are individuals who wants to be associated with the rich in the society. To them, a dressmaker's skill in projecting their status is a need.

The central motif for the zip opening at the back of the '*kaba*' is matching although it was made from two pieces. It was observed during the pre-intervention that the freehand method of laying out fabric was such that, both the front and back bodice block were folded together for cutting out. However, the suggested principle formulated by the researcher required that, garment with openings should be cut in singles and not through two layers of fabric for easy manipulation and arrangement of the motif in the African prints.

It was observed that the side seams motifs were also matching. This could be attributed to the dressmaker's consciousness of the motifs in the fabric.

4.6.2 Sample B



Plate 4.50: Front (A), back (B) and side view (C) of half drop repeat African wax print '*kaba*' and slit

Source: Field Survey (2011) - Sample garment 'B' from workshop

From plate 4.52, the half drop repeat African print was used. The garment shows that all the motifs are matching. This is evident in the way the central motif was placed exactly at the centre front to bring symmetry. Colours in the cloth complement the skin of the wearer as well as the style which emphasizes the positive features of the wearer. The rhythmic pattern of the motif arrangement has been maintained throughout the kaba and slit at both the back and side seams.

4.7 Outcome of Short Sleeve Shirt

As part of the workshop, three tailors were engaged to sew shirts based on the modalities for assessment. The same fabric for pre intervention was repeated in the post intervention for easy comparison. Plate 4.53 shows the new sample.



Plate 4.51: Front (A), Side (B) and Back View (C) of a Half Drop Repeat African Wax Print Shirt

Source: Field Survey (2011) - Sample garment from workshop

Related to the shirt made during pre-intervention, it was noticed that the style was manufactured to fit the researcher's requirement. The style is fashionable, timeless and trendy. Features such as the front center line with shirt buttons overlap with motifs

matching. Patch pocket superimposed on the shirt motifs matches with the shirt, creating a pleasing result. Patterns at the side lines and the center back line did not depart from the rhythmic movement of the motifs in the material.

Based on the outcome of the workshop, it could be concluded that the workshop was successful. A rating scale developed by the researcher showed all the respondents had above average marks. According to Sarpong, Howard and Osei-Ntiri (2011), the policies suggested for the improvement of the Ghanaian fashion industry among others include; organising regular proficiency training for skills and competency upgrading to equip dressmakers to produce to meet global standards. Witty and Gaston (2008) states that competency is not about failing or passing a respondent but a sum of activities outlined which must be undertaken to develop skills and master knowledge. Thus, as evidence of the garments produced during the workshop, dressmakers' competency level can be categorized as high since the modalities were followed to make efficient use of the motifs in the garment. Comparing the outcome of the workshop garments (Plate 4.51, 4.52 and 4.53), to the pre intervention garments (Plate 4.8, 4.9 and 4.10) it was realized that dressmakers were able to fulfil the modalities outlined by the researcher. With regards to the ease at which dressmakers and tailors were able to construct garments following the principles indicates that, it is a simple, practical repeatable learning methodology when adhered to, can lead to effective use of motifs in garment construction with high aesthetic values. Mastery of these principles has the potential to improve dressmakers garment quality and skill level.

This means that as dressmakers are taught quality skills, interest in quality production to sustain the textile and garment industry also increases.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

This chapter captures the main issues raised in the course of the study in the summary and draws conclusion from the discussions based on the objectives raised with recommendations made.

5.2 Summary

The primary aim of the study was to provide a simple, practical repeatable learning methodology and also to generate strategies that will help with the judicious use of the patterned designed fabric in garment construction so as to improve on the existing methods of fashion construction by Ghanaian Dressmakers. To help achieve this aim, four objectives were set which were to assess dressmakers competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction; identify the existing methodologies used by the dressmakers for garment construction; formulate an innovative fabric utilisation methodology that addresses the problems identified among the dressmakers and test the new methodology formulated through expository workshop on some selected dressmakers to ascertain its efficacy. The design adopted for the study was descriptive. Purposive and convenience sampling methods were used in selecting 63 dressmakers at the *Awoshie /Anyaa* zone of GNDTA in Accra. Semi structured interview guide, observation checklist and focus group discussion were the instruments used to collect the study data. Data were collected, analysed and interpreted to draw conclusions and also make recommendations. In relation to the data analysed, the following were the findings revealed:

1. Analysis of dressmakers' responses to the items in the interview guide showed that the dressmakers' competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment

construction was low. They had no knowledge of pattern arrangement of motif in fabrics. This made it difficult to match motifs in the fabrics during garment construction.

2. With regards to observation made of the existing methodologies dressmakers' used in the execution of garment construction, the findings indicated that most dressmakers were conversant with the freehand cutting which they technically folded the fabric into four. The method of folding the fabric into four made it difficult to consciously match motifs at bodice blocks with openings. However, the bodice block without openings had motifs centrally placed.
3. Based on their difficulties in matching motifs at bodice blocks with openings, there was a gap that called for intervention. Seven (7) steps were therefore formulated to deal with the situation.
4. Observation made after the application of the seven (7) principles concerning matching of motifs at sides, centrally placed motif at both back and front views of the garments even with openings and motif in patch pockets matching with the basic shirt indicated that all the dressmakers understood the suggested principles introduced by the researcher and they were able to apply it in their garment construction efficiently and effectively.

5.3 Conclusions

The African wax prints are one of the commonest motif fabrics which is worn in Ghana and dressmakers often than not sew garments for their customers using these prints. Non-verbal communication messages are usually conveyed by these wax prints,

whether for commemoration of special events, identification of status, protection, modesty or adornment. In conclusion

1. Dressmakers' competency (Skills and Knowledge) in effective arrangement of motifs in the designed fabrics in garment construction to project the above nonverbal communication messages was found to be low. However because the formulated principle agrees with the traditional technique they were conversant with, they were able to embrace the intervention.
2. Freehand cutting was used by all the respondents by plotting directly on the patterned designed prints. Corrections and adjustment are difficult to make with this method once cut out. Therefore, projecting measurements of the wearer on the lining instead of the designed printed fabric was a suggested principle which could reduce cutting mistakes and enhance conscious placement of the motifs during garment construction.
3. Although matching motifs on fabric in garment construction may require additional cloth by the application of this formulated principles, dressmakers being in the known of how to match and position motifs appropriately in a garment will not only enhance the aesthetic appeal of the garment but also promote the sales of the cloth. Creativity is what promotes a business and distinguishes one out of many for growth and survival in this challenging era. Clothes that compliment a client and fit perfectly, are of perceived expectation. Excellent quality may be achieved in custom-made clothing when likened to the products of mass production. They mark personality, status, and desire, which arouse both physical and emotional pleasures.
4. Application of the suggested principles formulated by the researcher was realized to be easy and successful in that the problems identified were resolved with the intervention. Dressmakers generally agreed that adhering to the

suggested principles led to the efficient matching and positioning of motifs in garment construction.

5.4 Recommendations

Based on the major findings, the following recommendations have been made:

- 1) The researcher in collaboration with GNDTA should organise regular workshops and seminars for the dressmakers to teach them about pattern arrangements and its bearing on matching motifs since dressmakers were found to embrace any methodology that had a positive improvement on their business. This should be extended to the regional levels
- 2) There is the need for regular collaboration between the researcher, textile industries and dressmakers to educate dressmakers' on the effective utilisation of the freehand method and ensure that any future intervention in relation to their work is not far from what the dressmakers' already know for effective embrace.
- 3) The researcher should make the intervention available to dressmakers and clothing and textiles students in a way of providing a manual with diagrams which could be easily understood and applied by both educated and non-educated dressmakers. This could be enhanced with regular fashion shows to portray the efficacy of the formulated principles.
- 4) Since the application of the formulated principles posed no challenges to master craftsman's, the researcher should sensitize the examination committee for the apprenticeship exams to factor effective use of motifs in their marking sheet to also attract some marks. This would help develop consciousness of matching motifs by the apprentices before becoming 'madam' and 'master'.

5.5 Suggestions for Further Research

This research should be extended to other GNDTA zones and possibly to the Regional levels to help garment makers develop the conscious placement of motifs in fabrics during garment construction.

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APPENDIX I

INTERVIEW GUIDE FOR DRESSMAKERS

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF BUILT SCIENCE AND ENVIRONMENT

DEPARTMENT OF INTEGRATED ART AND INDUSTRY

This study is designed to evaluate the skills and competencies of dressmakers in translating textile designs (motifs) in their construction with the aim of improving

performance. It does not require names of respondents. You are therefore to answer the entire item as candid as you can.

SECTION A: Demographic information of dressmakers/tailors

1. Gender M F

2. Age

Below 20 years

Between 20 and 25 years

Between 26 and 30 years

Between 31 and 35 years

Between 36 and 40 years

Above 40 years

3. Number of years of practice (working experience)

0-2 years

3-5 years

6-8 years

Over 8 years

4. Educational level

BASIC JHS SHS VOCATIONAL HND DEGREE

NONE

SECTION B: Knowledge of dressmakers / tailors in fabric design

5. Do you have knowledge in fabric design?

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6. Do you know the types of pattern arrangement? If yes, what are the types?

Knowledge in motif construction

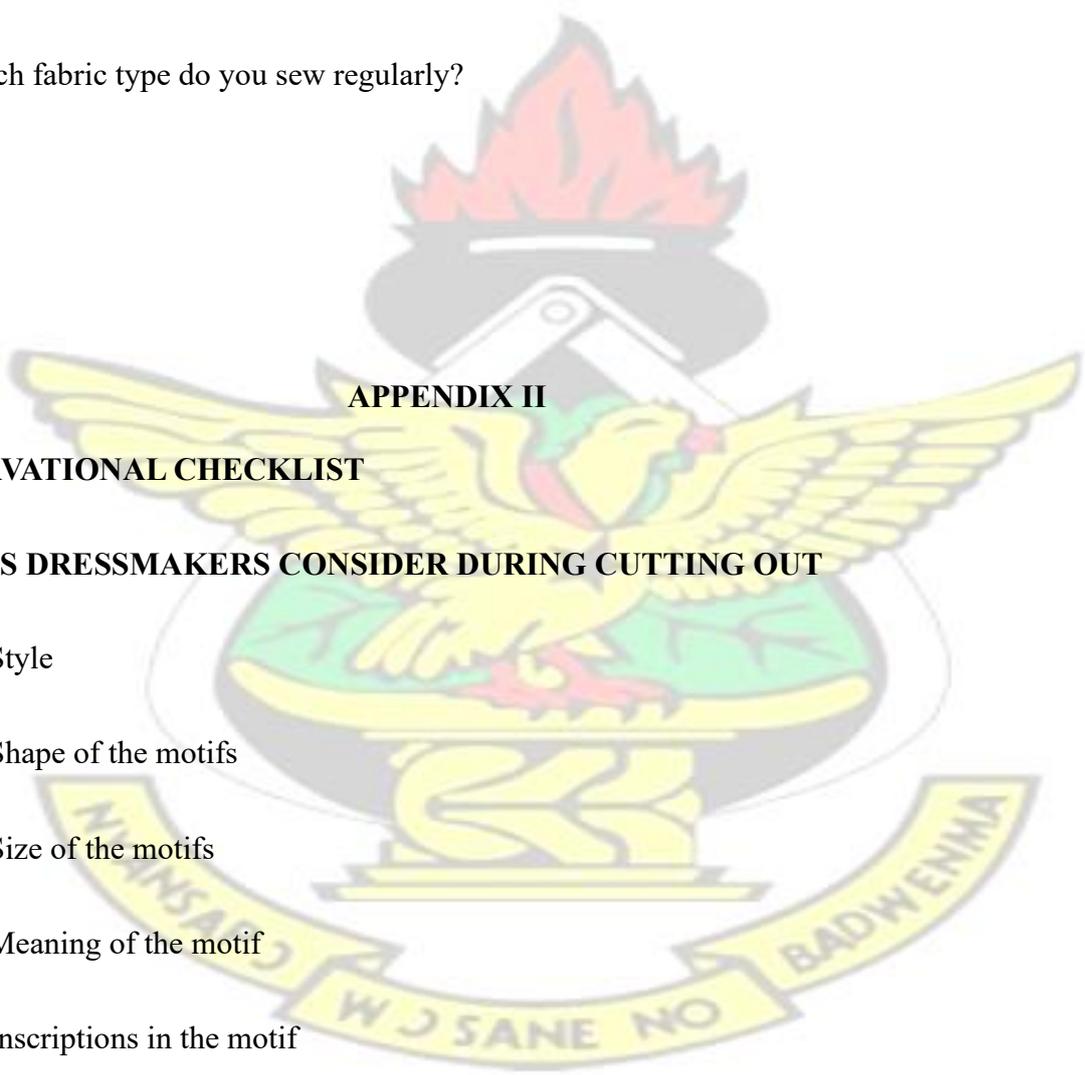
7. Which of these cutting pattern methods are you familiar with?

- i) Freehand cutting ii) Pattern cutting

8. Do you agree that the patterns in the fabric have meanings?

9. What do you take into consideration when cutting designed pattern fabrics?

10. Which fabric type do you sew regularly?



APPENDIX II

OBSERVATIONAL CHECKLIST

THINGS DRESSMAKERS CONSIDER DURING CUTTING OUT

- a) Style
- b) Shape of the motifs
- c) Size of the motifs
- d) Meaning of the motif
- e) Inscriptions in the motif
- f) Freehand
- g) Pattern cutting
- h) Size of the wearer

- i) Figure/ shape of the wearer
- j) Pattern arrangement

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APPENDIX III

MARKING SHEET OF DRESSMAKERS PROFESSIONAL EXAMS

