

UNIVERSITY OF EDUCATION, WINNEBA

**APPRENTICESHIP TRAINING METHODS:
EFFECT ON QUALITY IN GARMENT CONSTRUCTION
(A CASE STUDY IN KUMASI METROPOLIS)**



EUNICE ANNOH-ACHAMPONG

MAY, 2016

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(A CASE STUDY IN KUMASI METROPOLIS)**

EUNICE ANNOH-ACHAMPONG



A thesis in the Department of Fashion and Textiles Technology Education, Faculty of Vocational Education, submitted to the School of Graduate Studies, University of Education, Winneba, in partial fulfilment of the requirements for award of Master Technology Education in Fashion and Textile Design degree.

MAY, 2016

DECLARATION

STUDENT'S DECLARATION

I, EUNICE ANNOH-ACHAMPONG, hereby declare that this submission is my own work towards the Master of Fashion and Textile Technology Education and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

SIGNATURE

DATE

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this project report was supervised in accordance with the guidelines on supervision of project report laid down by the University of Education, Winneba.

NAME OF SUPERVISOR:

SIGNATURE.....

DATE.....

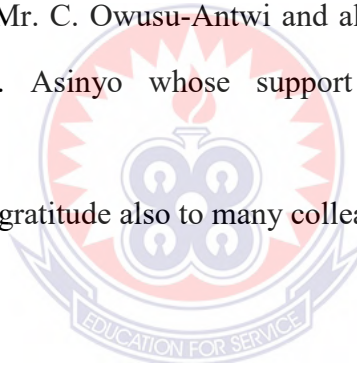


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DEDICATION

This thesis is dedicated to the Mr. Charles Owusu –Antwi, Eliana and Charis.



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ABSTRACT

Apprenticeship as a mode of training skilled labour has and continues to produce skilled labour in various fields of work to feed Ghanaian industries. The apparel industry in Ghana is one such industry which has most of its skilled labour trained by apprenticeship. In apprenticeship, master craftsmen train a new generation of skilled practitioners in their fields of expertise on the job. It is sad however to note that the quality levels of garments produced by such skilled persons do not compare favorably with international ones. The main objective of the study was therefore to examine the apprenticeship training programme in Ghana and its impact on the quality of construction in garments manufactured by apprentices and those trained by this method in Kumasi. This study used quantitative research approach thereby employing descriptive survey design, which also used questionnaires and interviews as the research tools. The snowball sampling technique was used to obtain the needed sample. The data collected was analyzed using the Statistical Package for Social Sciences (SPSS) software and the results tabulated for easy understanding. The study revealed that apprenticeship training needed improvement in instructional detail and recommends a syllabus structured and made available to both master craftsmen and apprentices. Aspects of quality construction in garments must also be taught to and instilled in trainees. It was also discovered that no uniform standards exist for the construction of quality garments for garment producers in Ghana and therefore the research recommends the provision of a garment standards and specifications document for them to adhere to.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

While formal education remains the core pillar of human capital formation, the concept has evolved from a singular focus of formal education and skills training to include many more capacity building processes. Training and skill acquisition has long had the consideration of policy makers to be essential to having a competitive advantage as well as being beneficial to the worker in the long term. Scholars have also argued that the demand of the 'knowledge economy' is increasingly favouring skilled labour. This has also reflected in Ghana as, the president, in a report 'The Coordinated Programme of Economic and Social Development Policies (2010 – 2016)' said policy interventions that will prioritize skills training and provide a skills development programme to upgrade the Ghanaian workers' skills at all levels in collaboration with industry are being developed (Mills, 2010).

In Ghana, according to Aryeetey (2011), there exist three different forms of technical and vocational education and training (TVET). These are the formal, non-formal and the informal systems. The informal system, consisting of a wide range of flexible programs and processes by which individuals acquire skills and knowledge, is dominated by traditional apprenticeships. While some middle level technicians are trained in polytechnics and vocational/ technical schools, for a large segment of the labour force, skill acquisition is dominated by traditional apprenticeship under which master craftsmen and women admit young men and women for periods of two to three

years in training. This is especially common in areas such as tailoring, dressmaking, auto mechanics and electronics.

Apprenticeship has existed way back in history and mention is made of Thamounion who apprenticed her son, Onnophris to a weaver in AD 36 during the reign of Tiberius Augustus for a period of two years, Smits and Stromback (2001). Ghana has a long history of apprenticeship as a means of transferring skill to the next generation of artisans especially in the area of tailoring and dressmaking.

The necessity of clothing to mankind cannot be over emphasized since its creation primarily originated from the very creator of man. History has seen clothing developing from a piece of covering, through the use of simple tunics to sophisticated body hugging works of art/art pieces. It has been said that the fashion industry has been the engine on which most economies thrive and developing countries are now taking advantage of it. Economic growth and unemployment has been a matter of concern in Ghana recently and this has fueled the government's effort to invest resources in employable skill among the youth with special interest in the informal sector specifically in the area of apprenticeship. The government has in a recent report reiterated its commitment to vigorously pursue the national apprenticeship program. Whilst the government of Ghana is devoting resources to apprenticeships in dress making and tailoring, little is being said about perfection or the standard of skill they are to acquire and regulatory measures taken to ensure that these standards are attained. It has become evident that though many seek training in this informal way, the sector is plugged by archaic technology and poor standards. There is also little proficiency certification as most of the operators have not had the appropriate formal vocational training.

Fashion in Ghana is fast gaining international recognition with Ghanaian dressmakers and tailors marketing their products on the internet. This is an indication that the quality of fashion products produced in Ghana must be of common interest to operators in the field in order for quality to be infused into products

1.2 Statement of the Problem

Traditional apprenticeship has served as the source of training skilled artisans for ages, however with increase in the quality of education and the rise in the use of higher technology each passing moment, methods of training apprentices remain the same. It becomes a question of concern then, whether the training of these artisans meets the heightening standards in the world of fashion. Apprenticeship is considered one of the oldest methods of training. In fact, it is a tried and tested method of skill generation. In Ghana, standards are not set in place to regulate apprenticeship training. This has come a long way to affect the products made by artisans trained by this method. Products made are also limited to the Ghanaian market only since they do not cut the international market standards (Ascherman, 2011).

The little that is said of child labours in apprenticeship the better. The levels of entry of apprentices into apprenticeship narrow the minds of these apprentices. Apprentices are therefore usually spending more time than the stipulated time required to learn the skill. Many also graduate without attaining high standard skills in the area as intended.

Apprenticeship, although a tried and proven training method which is sometimes considered the best way of acquiring skill (i.e.) with the experts, in Ghana the case is quite different since there is no formulated standard to regulate training.

1.3 Objectives of the Study

The purpose of this study is to:

- i. Identify and discuss the apprenticeship training methods used in Kumasi Metropolis.
- ii. Discuss and assess methods to the Quality of garments produced by persons trained through apprenticeships.
- iii. Identify and recommend the quality standards expected in garments construction as compared to international standard.

1.4 Research Questions

The study would seek to address the following questions:

- i. How are apprentices trained in Kumasi metropolis?
- ii. Which methods are required in the production of quality garments in apprenticeship training?
- iii. What standards are expected of garments in Ghana and internationally?

1.5 Significance of the Study

- i. It is expected that the findings from the proposed study will help to improve the training methods used in apprenticeship in Ghana.
- ii. It is expected that the comparison of Ghanaian standard of garment to international standard will improve the standards infused into garments in Ghana.
- iii. The findings are also expected to create awareness of the value of quality garment in order for quality to be appreciated in the Ghanaian market.

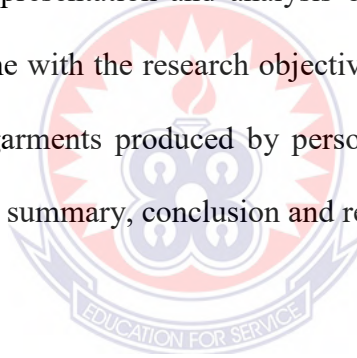
1.6 Delimitation

The study will investigate the quality of garments produced by garment producers trained by apprenticeship in the Kumasi metropolitan assembly.

1.7 Organization of the study

The research is structured as follows:

Chapter one is an introduction, giving a brief background to the study. Chapter two reviewed related literature of several authors and writers that are either associated or directly relevant to the quality of garments and the training of apprentices. Chapter three stated the type of research and talked about the research methodology employed. Chapter four concentrated on the presentation and analysis of data gathered purposely for this research. It analysed in line with the research objectives with the view of discussing and assessing the quality of garments produced by persons trained through apprenticeship. Chapter five contained the summary, conclusion and recommendations.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews literary works of several authors and writers that are either associated or directly relevant to the quality of garments and the training of apprentices. The study is divided into two main parts; the first covers aspects directly inferring from the topic, such as quality, standardization and apprenticeship, whereas the second touches on the aspects associated with garment manufacturing.

2.2 Quality

Quality may mean different things to different people. Some take it to represent customer satisfaction, others interpret it as compliance with contractual requirements, yet others equate it to attainment of prescribed standards (Chung, 2002). Some authorities have defined quality to mean the degree of excellence of a product, others also see it as meeting specifications outlined for the product and still others find it as the ability of the product to fit its purpose.

2.3 Definitions of Quality

According to Chuter (2002) quality implies the degree of excellence, the nature of which is dependent on the reason for the garment being purchased. Cooklin (1991) and Stemper (1988), also agree with Chuter (2002) defining quality as the degree of excellence. Cooklin however agrees more, adding that this degree of excellence is in relation to the reason for the garment's purchase. Evans and Lindsay (1989) defined quality broadly as 'superiority or innate excellence' which also agrees with Chuter.

Lakshmanakanth (2011) states affirmatively that quality is essential character; nature; an ingredient or distinguishing attribute; property, a character trait, superiority of kind, degree of grade or excellence. These authors explain an area of quality to mean the degree of excellence met by a product.

Chung (2002) however has the view that in the context of quality management, quality is not an expression of excellence in a comparative sense. It is just an abbreviation for 'desired quality' that should be laid down as explicitly as possible. Hoyle (2001) describes quality as the degree to which a set of inherent characteristics fulfills a need or expectation that is stated, generally implied or obligatory. He further explains that quality can also mean meeting or exceeding customer expectations all the time. The key here is to know accurately customer expectations on a continuing basis because unless you know customer expectations, you cannot meet or exceed them? Chung and Hoyle are thereby jeered towards the meeting set specifications as quality.

Juran (1998), an international authority in quality management, trod a slightly similar path perceiving quality as simply 'fitness for purpose'. Chung (2002) registers his agreement with Juran when he stated that something is good quality if it will function as intended for its design life. Hoyle (2001) also describes quality as satisfying the purposes of the user during usage (not just at the point of sale). Quality here, is further explained as a product's fitness for purpose.

According to Lakshmanakanth (2011), Quality is a complex concept. No single definition addresses all the dimensions, areas of impact and concerns relating to quality. From a product perspective, quality is represented by total set of precise and measurable characteristics or components of a finished product. From a producer or manufacture

perspective, quality is defined as consistent conformance to specifications and standards. From a customer perspective quality depends on the dimensions of a product or service that are of importance to that user; a user based definition of quality simply means that the quality is whatever the customer says or wants – which goes back to meeting or exceeding customers’ requirements and expectations. A value based definition of quality takes into consideration cost or price of a product or service. From a value based approach, quality products are those that perform at acceptable prices or conform at acceptable costs. Hoyle also holds that the term quality is not defined relative to customers but to requirements; requirements from the interested parties (Hoyle, 2001). He however further stated that it is not enough to produce products that conform to the specifications or supply services that meet management’s requirements and that quality is a composite of three parameters: quality of design, quality of conformance and quality of use:

- i. Quality of design is the extent to which the design reflects a product or service that satisfies customer needs and expectations. All the necessary characteristics should be designed into the product or service at the onset.
- ii. Quality of conformance is the extent to which the product or service conforms to the design standard. The design has to be faithfully reproduced in the product or service.
- iii. Quality of use is the extent by which the user is able to secure continuity of use from the product or service. Products need to have a low cost of ownership, be safe and reliable, maintainable in use and easy to use.

Quality can then be explained with words such as complete satisfaction in a product or service, excellence in conformance and continued satisfaction in use. Quality can therefore be further explained as the degree of excellence a product's innate characteristics conform to the specifications required, whether stated or implied, to satisfy the consumer by fulfilling the product's intended purpose on the onset and in use. These specifications are prescribed by parties interested in the product's design, its performance in use and price points.

2.4 Quality Assurance

“Quality assurance is a phrase which is increasingly used in relation to the maintenance of quality and this encompasses quality control as well as total quality control. Quality control in clothing manufacture has in the past tended to mean final inspection with a little in process inspection added. Total quality control however hinges on creating the awareness of quality achievement throughout the whole business. It includes inspection routines but relies much more on emphasizing to everyone in the company that aspects of their job influence the finished quality of the product (Carr & Pomeroy, 1993).

The assurance of quality is defined by the American society for quality as planned and systematic activities implemented in the quality system so that quality requirement for a product or service will be fulfilled. Carr and Pomeroy (1993) also hold it that quality cannot be inspected into a garment; it must be manufactured into it. Defects are therefore tracked to the production process and the cause eliminated.

Burns and Bryant (2002) refers to quality assurance as the product meeting the standards of acceptance set forth by the contracting party (the contracting party could be

the apparel manufacturer or goods produced by a contractor. The contracting party could also be a retailer of private label goods. The need to sustain quality performance is acknowledged to involve all relevant areas of the organization and its suppliers. This is the basis of the British standard 5750, where the need to specify quality requirements extends not only through the company but also to its suppliers, in agreements about specifications and levels of monitoring. The achievement of quality targets is crucial to the success in marketing and the attitudes and methods of quality management penetrate all areas of a company's business.

Quality assurance can be explained as planning a system for production where a set sequence of actions that will enable the achievement of quality are performed. This means at each and every stage of the garment's production activities that will help achieve a quality finished product must be implemented. Workers at every stage of production must also understand that their task will contribute to the finished product being of good quality.

2.5 Achievement of Quality

In order for Ghanaian produced fashion products to be successful, consumers must be totally assured that they are patronizing a quality brand. A brand symbolizes a guarantee and credibility that assures the consumer that what they are about to purchase will deliver its promise (Okonkwo, 2007). Although luxury brands are not a necessity for human survival, Okonkwo (2007) has it that its core characteristics are brand strength, differentiation, exclusivity, innovation, product craftsmanship and precision, premium pricing, and high quality. Such goods offer an aspiration and unique quality that

distinguishes them from an overcrowded fashion market. No quality work can however result without the provision of adequate resources (Chung, 2002).

The manufacture of high quality clothing benefits from advance design ideas and intelligent production technology, items are sold with high added value, driven by consumer satisfaction; marketing is global in scope with rapidly changing fashion trends. Creation of high quality clothing includes skilled labour at the ideation phases and planned concern to keep critical jobs inside the factory (Michelini & Razzoli, 2013).

Quality is achieved through the setting and meeting of specification. It is the responsibility of operators and the commitment of designers and management to make production process as easy as possible. This means that assembly workers meet with management at regular intervals to discuss quality aspects and ideas for the improvement of the product. Before production is commenced, an assessment is made of the minimum quality needed to satisfy the stated requirements and how that quality can be consistently achieved (Chung, 2002).

2.6 Standards and Specification

2.6.1 Standardization

Standardization is the process of developing and implementing technical standards. A technical standard is an established norm or requirement in regard to technical systems. It is usually a formal document that establishes uniform engineering or technical criteria, methods, processes and practices. Standardization can help to maximize compatibility, interoperability, safety, repeatability, or quality. It can also facilitate commoditization of formerly custom processes. Standardization is defined as best technical application consensual wisdom inclusive of processes for selection in

making appropriate choices for ratification coupled with consistent decisions for maintaining obtained standards (Carroll, 2013).

Maynes (1976) however believes that objectivity does not exist and that all quality evaluations are subjective since someone perceives them. Ettl (undated) stated that a judge should play down personal preferences and build upon identified and accepted standards. Intentions of the designer for the product should be considered if objective evaluation would be achieved.

Hoyle (2001) also analyzed that if a company sets its own standards and these do not meet customer needs, its claim to producing quality products is bogus. On the other hand, if the standards are well in excess of what the customer requires, the price tag may well be too high for what customers are prepared to pay.

According to Stempers et al (1988), quality in clothing is a vague concept because there is no mechanical device that can measure in very precise terms the quality of the clothing industry's products. According to Harold and Carr (1992) standardization though seen as a dirty word in the industry, its variety can be categorized. For instance, there are certain relationships that can be standardized, example if the relationship between the edge of a fusible interlining and the edge of the outer fabric should wherever possible be the same, operators are more likely to form a habit and get it right. Since Maynes (1976) and Hoyle (2001) both believe that standardizing is not to be an individual affair, it may be significant that recognized bodies describe what quality standards in garments should look like taking cues from both the manufacturer and the consumer.

It has also been common that standardization organizations themselves have justified compliance with standards by pointing out positive effects that follow the use of standards. There are effects of general compliance on society that are perceived as important to achieve but also individual effects (Tamm-Hallstrom, 2004).

For an individual firm, adherence to global standards is rational because failure to comply is believed to disqualify a commodity for trade in global markets (Loya and Boli, 1999). Standards can also function as admission tickets by inspiring confidence in other parties. Standards can then be described as the type of quality guarantee, a way of creating trust (Tamm-Hallstrom, 2004).

Lakshmanakanth (2011) document on ‘Apparel Standards Specification and Quality Control’ defines sequentially acceptable standards of constructed garments and the levels of tolerances allowed. For example, a spare button must be provided for each button size. The spare button must be fixed to the sew-in-label or be enclosed in a polythene bag. In the case of fastening buttons, the stem must always be wound around with the thread. The stem height must be adapted to the thickness of the material to make it easy to button up and open.

2.6.2 Quality Specification

Specifications:

A specification or spec is a precise statement of a set of requirements to be satisfied by a material, product, system, or service that indicates the procedures for determining whether each of the requirements is satisfied. Requirements indicate that these expectations are non-negotiable. Requirements must be met for the specifications to be satisfied. Specifications describe requirements. In other words, specific terms and

numerical values with the measurement units are listed so that it is clear what issues are considered important and expectations for performance, quality, or condition is expressly defined.

2.6.3 Two important elements in Specifications

The numbers used in writing specs address two important elements in Specifications: Minimums & Tolerances. A minimum is the least or low acceptable value for any given parameter or dimension. A tolerance describes the range of acceptable values, or in other words, it describes allowable deviations from specified values. For example, a tolerance of a quarter of an inch indicated for a 34 inch waist will mean the garment will be approved if the waist measures a quarter more that is $34 \frac{1}{4}$ inch or a quarter less, that is $33 \frac{3}{4}$ inch.

2.6.4 Organizations for Specification

There exist several organizations devoted to prescribing specification and standards for clothing and textiles. Individual companies may also outline specification for the production of their garments. These specifications are usually consistent with existing standards prescribed by large organizations. Some of these organizations are the AATCC, ASTM, ANSI, BSI, ISO, BIS, JIS, CSA, DIN, among others.

The American Association of Textile Chemists and Colorists (AATCC)

The American Association of Textile Chemists and Colorists (AATCC) is a not-for-profit association that provides test method development, quality control materials, and professional networking for textile professionals throughout the world. AATCC has developed more than 200 textile-related test methods and evaluation procedures. These

methods are published each year in the AATCC Technical Manual. AATCC also manages several functions relating to International Organization for Standardization (ISO) textile test method development. AATCC offers test method training in 11 locations around the globe, test method proficiency programs, and quality control products for use in conducting its test methods (AATCC, 2015).

American National Standards Institute (ANSI)

As the voice of the U.S. standards and conformity assessment system, the American National Standards Institute (ANSI) empowers its members and constituents to strengthen the U.S. marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment. The Institute oversees the creation, promulgation and use of thousands of norms and guidelines that directly impact businesses in nearly every sector: from acoustical devices to construction equipment, from dairy and livestock production to energy distribution, and many more. ANSI is also actively engaged in accreditation - assessing the competence of organizations determining conformance to standards. It adopted its present name in 1969 and steadily increasing its efforts to coordinate and approve voluntary national standards. Domestic programs were expanding and being modified to meet the changing needs of industry, government and other sectors (ANSI, 2015).

British Standard Institute (BSI)

It is the National Standards Body of the UK, responsible for facilitating, drafting, publishing and marketing British Standards and other guidelines. British Standards provides UK industry and other stakeholders with their major access to and influence on

standardization, both in the European arena and internationally. Representations are sought from many spheres including: consumer organizations; professional institutions; certification, testing and inspection bodies; educational establishments; research organizations; UK notified bodies; enforcement bodies and government departments. Over 15000 British Standard publications have been published, all falling in one of the following standards programmes: Building and Civil Engineering, Materials and Chemicals, Engineering, Electro technical, Consumer Products and Services, Healthcare, Management Systems, DISC (Information Technology) (BSI, 2015).

International Organization for Standardisation (ISO)

International Organization for Standardisation (ISO) is the world's largest developer of standards, their principal activity is to develop technical and economical standards. ISO is an independent, non-governmental international organization with a membership of 162 national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges. The Central Secretariat is based in Geneva, Switzerland. ISO says International Standards make things work. They give world-class specifications for products, services and systems, to ensure quality, safety and efficiency. They are instrumental in facilitating international trade. ISO has published more than 19000 International Standards and related documents, covering almost every industry, from technology, to food safety, to agriculture and healthcare. ISO International Standards impact everyone, everywhere (ISO, 2015).

Bureau of Indian Standards (BIS)

Bureau of Indian Standards (BIS) is a statutory body set up, established in 1986. The Bureau is a body corporate and responsible for formulating National Standards. It interests the field of standardization, quality control, quality management system, environmental management system, laboratory management, etc BIS It has formulated a plan which emphasizes on development of complementary level of standardization, namely, company standardization and association level standardization effective implementation of standards through sectoral committees, such as, textiles, power, etc. they also have state level committees on standardization and quality systems to ensure better implementation of Indian Standards (BIS, 2015).

Japanese Industrial Standards (JIS)

JIS specifies the standards used for industrial activities in Japan. The standardization process is coordinated by the Japanese Industrial Standards Committee and published through the Japanese Standards Association (JISC). JISC consist of many national committees and plays central role in standardization activities in Japan. The task of JISC is establishment and maintenance of JIS, administration of accreditation and certification, participation and contribution in international standardization activities, and development of measurement standards and technical infrastructure for standardization. JIN Focus on textile engineering are, General, Test and Inspection, Thread, Woven Fabric, Braided Goods, Textile Product, Yarn Reeling Machine, Textile Machine, Braiding Machine, Dyeing Finishing Machine (JIS, 2015)

Canada Standard Association (CSA)

These standards fall into the following classifications: Dimensional; to secure uniformity, interchangeability and simplification of the types and sizes of one product, Qualitative; to assess fitness for purpose. The method of test is to provide a uniform, efficient and economic basis of comparison between products (CSA, 2015).

German Standards Institute - Deutsches Institute fuer Normung (DIN)

It has been based in Berlin since 1917. Its primary task is to work closely with its stakeholders to develop consensus-based standards that meet market requirements (DIN, 2015).

2.7 Apprenticeship

Apprenticeship is a system of training a new generation of practitioners of a structured competency a basic set of skills. The word apprenticeship comes from the Old French *aprentiz* meaning "someone learning" and the Anglian suffix *-scip*, meaning "state, condition of being." An apprenticeship is when someone is in a state or condition of learning from a master in a field. Vocabulary (2013) Apprentices are set a strict training program so that they can gain the skill to prepare themselves for their desired trade or certain career in which they wish to pursue. Apprentices (Male learners) and Apprentices (Female learners) (or in early modern usage "prentices") or protégés build their careers from apprenticeships. Most of their training is done while working for an employer who helps the apprentices learn their profession, in exchange for their continuing labor for an agreed period after they have achieved measurable competencies. For more advanced apprenticeships, theoretical trade education was also involved

(Schultz, 2010). In Ghana apprenticeship training relates to basic on-the-job training, emphasizing skill acquisition with or without related theory, the two types of apprenticeship training being formal and informal.

Michelini et al. (2013) stated that in the processing of clothing, the wide range of skills needed, the limp behavior of fabric, creativity needed and the need for personal commitment to train workers present unique problems for automation in the industry. This therefore implies that the skilled human is essential for production in the clothing industry. The latest labour force data show that in 2000, informal apprenticeship sector contributed over 70 % of self-employed among the total force of 7 million and there were 207,047 economically active people (15 years and older) in the apprenticeship training. (Ghana statistical service, 2005) Over three quarters of apprentices were aged 15 -29 years; 18,006 (57%) were males and 89,041 (43%) were females. The males were mainly in auto-mechanics, carpentry, tailoring and driving while the females were primarily in dressmaking, hairdressing and catering. These statistics indicated that in the area of making cloths, both male and female pursue apprenticeship. However, virtually all apprentices and their masters lack any formal vocational or technical training. In 2000, out of 207,047 apprentices in training, only 10,878 representing 5.3% had formal vocational or technical training (Ghana Statistical Service, 2005).

GNA – Government (2011) embarked on an ambitious programme aimed at instituting wide-range educational reform, to make the sector relevant to Ghana's development with the focus on apprenticeship training for basic school leavers to facilitate youth employment. Consequently, government is providing tool kits to 5,000 basic school leavers across the country and paying for a year's training under the

Competency-based Training (CBT) of the national Technical and Vocational Education and Training (TVET) programme. This was made known by the then Education Minister, Mrs Betty Mould-Iddrisu in an address read on her behalf at a meeting in Accra, one Tuesday to review the CBT (2011). The meeting was called by the Council for Technical and Vocational Education and Training (COTVET).

A significant feature of the CBT concept is a credit-based industrial attachment programme or work place experience learning, designed to deepen learner's skills acquisition to meet industrial standards. COTVET would standardize all qualification and training on TVET in the country, to enable people under the programme progress through the qualification system without going through the academic system as it currently stands.

2.7.2 Ghana's National Apprenticeship Policy

Apprenticeship programme is a programme of training in a designated trade under which an apprentice receives formal instruction and on the job training. Informal Apprenticeship Training (IAT) is responsible for some 80-90% of all basic skills training in Ghana, as compared to 5-10% from public training institutions and 10-15% from NGO for-profit and non-profit providers. The National Vocational Training Institute (NVTI) set up in 1970, has been responsible for the nationwide coordination of all aspects of vocational training including apprenticeship. However, NVTI's main programme under its Department of Apprenticeship has been targeted at training formal apprentices.

The National Coordinating Committee on Technical and Vocational Education and Training (NACVET) was set up to coordinate a national skills development within the formal and informal systems across ministries but failed to secure a national policy

for skills development and continues to suffer from capacity problems and on-going tensions leading to its replacement in 2006/7 by the Council for TVET. In 1998, a children's Act outlined the legislative framework for IAT which specified the minimum age of informal apprenticeship to be 15 years or after completion of basic education. The Act set out trainers/masters responsibilities towards their apprentices regarding training, the apprenticeship agreement, duties and release of apprentice. Informal Skills Associations (ISAs) represent one of the strongest elements of the current institutional framework for IAT and are actively involved in the supervision of skills training.

However, ISAs are not necessarily either strong, effective or always representative of their members. ISAs are set up as intermediaries between member enterprises and the government and other agencies. The establishment of many ISAs, however missed the point about self-help of its members. An evaluation team from the World Bank which funded a vocational studies project (VSP) concluded that, most of the associations identified by the study team only exist in name and are not functioning as mobilizers of the local artisan corps. Youth that are trained at the IATs currently have two certification options: An ISA awarded certificates and an NVTI proficiency certificates which is a non-written competency-based skill test. Many informal apprentices do not register for this NVTI examination.

The establishment of the Council for Technical and Vocational Education and Training (COTVET) to coordinate and oversee all aspects of TVET across ministries and the broad spectrum of formal, informal and non-formal education and training has implied that, COTVET includes an informal sector affairs division which will develop policies and programs for strengthening IAT. The Skills Training and Entrepreneurship

Programme (STEP) was a government of Ghana supported programme intended to reduce poverty by providing employable skills and other assistance including micro-finance to the unemployed enabling them to join the informal economy became a direct response to policy and political concerns regarding unemployment. Major components of the STEP included: Skills training delivered through vocational training providers, skills enhancement for master-craftsmen and skills training delivered through apprenticeship placements.

Skills enhancement for master-craftsmen (MC) and skills training delivered through apprenticeship placements entailed MCs undertaking few days pedagogical skills enhancement with the Ghana Regional Appropriate Technology Industrial Service (GRATIS) to make them more effective trainers. Skill training was then delivered by attaching up to 10 trainees to an MC to undertake a workshop-based apprenticeship for up to 12 months. Apprenticeship training organized by GRATIS either took place in their own facilities where adequate equipment and machinery existed for the training or in informal enterprises with MCs identified by GRATIS.

Difficulties that made realization of programme goals impossible included: Many of the MCs given apprentices to train by GRATIS could not provide a descent training environment and were ill-resourced in tools and equipment. Training duration was not considered long enough especially in trades like welding and carpentry, leading to the creation of half-baked apprentices. Moreover, most of apprentices being trained had no prior knowledge of the various trades. There was also inadequate post-training support and huge delays in STEP graduates accessing micro-finance. By October 2006 only 10% had received loans.

2.7.3 Goals of the National Apprenticeship Training Policy

- i. Reform and strengthen the formal and informal apprenticeship system by infusing a CBT and assessment system
- ii. Develop training systems and mechanisms to facilitate the articulation of the informal level and standards of skills acquisition with those of the formal TVET system
- iii. Encourage the formation and recognition of Trade Associations as a means of delivering training-related assistance to members.
- iv. Integrate Informal Apprenticeship Training into the National Qualifications Framework

Provide guidelines for governmental and private/NGO activities in the informal sector training and apprenticeship.

In a white paper on educational reform review, the government decided to partner the private sector in a more systematic way to promote apprenticeship programs including assuming full responsibility for the first year of the apprenticeship programme (Ministry Of Education, Youth and Sports, 2004). Government also decided to constitute a national apprenticeship training board, among other things to oversee and regulate apprentice training and handle issues concerning registration, content, duration and certification. Also to formalize community- based apprentice training schemes in all districts to cater for the youth (Ministry of Education Youth and Sport 2004, p.26)

2.8 Quality Standards Expected in garment Constructional Trimmings

2.8.1. Sewing Threads:

According to Lakshmanakanth (2011) the necessity of the good sewing thread is inevitable because during the sewing process, in a high speed lock stitch machine, the thread is subjected to complex kinematic and dynamic conditions. The speed at which it passes through the needle eye can reach 140-165 km / hour and at the moment at which the thread is caught by the sewing hook, the speed reaches 2000m/sec. While moving at such high speeds, the thread is subjected to friction from a number of guides, from the needle eye, from the fabric being sewn, from the bobbin case assembly, and from the bottom thread. At the same time, the thread is subjected to many stresses, all of which take place very quickly and at high speed.

These effects act on the sewing thread repeatedly and for a fairly prolonged period of time, since a length of the thread, before being incorporated in a stitch, may pass more than 30 times through the fabric, the needle eye, and the bobbin case mechanism. Such a severe working condition with the heat generated in the needle can reduce the initial strength of a thread by as much as 60% and this is one of the causes of increased breakage in the needle thread during high speed sewing.

Therefore, the sewing thread should be checked and tested for following characteristics:

- a. Construction: Yarn count, yarn ply, number of twists, twist balance, yarn strength (tenacity), yarn elongation.
- b. Sewability: At least three sewing thread packages from a lot should be used for at least 100 yards of sewing under normal conditions and a record kept for running

performance. A good quality sewing thread should be able to produce uniform consistent stitches in the chosen sewing material at the highest machine speed under normal conditions. In addition, actually using at least three packages of sewing thread from each lot will give a very good indication of the following properties of sewing thread.

2.8.1.1 Properties of Sewing Thread

1. Imperfections: sewing threads should be free from slubs, knots or any such defects. Otherwise, there will be excessive stoppage on the sewing machine, resulting in the lower sewing efficiency.
2. Finish: thread finish is basically a lubricant applied to a sewing thread so that the thread will slip easily and smooth through the eye of the sewing machine needle and through various thread-handling parts of a sewing machine. This finish varies from 3 to 15% of the weight of the thread. The amount of finish must be consistent from package to package and from lot to lot; otherwise, sewing quality and efficiency will be lost completely.
3. Colour: Colour of a sewing thread (including white) should match that of either the original or the standard sample and should not vary too much within a lot or shipment of sewing thread. Also, the color should not bleed in washing and or dry cleaning and fade in sunlight.
4. Package Density: Package density of the sewing thread should be consistent from package to package within a shipment or lot and from shipment to shipment. If package density varies too much, sewing machine operators will have to adjust the tension frequently, resulting in lower productivity.

5. Winding: Winding of the sewing thread on packages should be uniform; otherwise, it may result in excessive thread breakages, again causing lower efficiency.
6. Yardage: Length of the sewing thread on each package should be at least the specified amount or within certain tolerance, such as + 2% of the labeled length.

2.8.2 Zippers:

Zippers should be checked for the following:

- i. Dimensions: Check for the correct width of the tape. If it isn't correct, the machine will run off. Measure overall length with the zipper closed from extreme ends of metal. Tape extensions should be as specified.
- ii. Top and bottom stops be fastened securely
- iii. Zipper tape should be of uniform in color if that is important
- iv. Zipper should not cause wrinkling or puckering after it is sewn in to the garment
- v. Can a zipper be washed or dry cleaned? Will it fade? Will the slide deform under pressing or ironing?
- vi. Check the force it takes to pull open the zipper (sideways)
- vii. Pull tab should be affixed firmly to the slider body
- viii. Slider should ride freely but must not be so free that it is loose on the chain
- ix. Check also to be sure the slider locks securely.

2.8.2.1 Avoiding Zipper Problems

Most zipper failures in garments are the result of improper installation methods in the sewing, questionable garment design or construction, incorrect product application, factory and / or retail customer abuse. As a mechanically operational device, a zipper is

the most sophisticated component in the garment, and thus is acutely vulnerable to human error. This is especially true in factories that use continuous zipper chain and perform the gapping, bottom stopping, and sliding operations in-house. Many potential zipper problems can be avoided at the garment design level. Some of the more common errors are; opening too short, causing bottom stop failure, such as in hip hugger jeans, wrong side zipper not designed for stress, installation across a heavy fell seam, causing popping and slider snagging, improper sew line position, either too near the outer tape edge or the teeth.

2.8.2.2 Testing of Zippers

Zippers can be tested using any one or more of the following ASTM test methods. The durability of the finish of the zippers to laundering is evaluated by laundering the test specimen in a Launderometer. The effect of the test on zipper coating is evaluated by noting the loss of coating on the zipper chain or components or both.

The color fastness of zippers to dry cleaning is tested by subjecting the zipper tape to commercial dry- cleaning with multi-fibre fabric. The dry cleaned specimen is compared with the original specimen and any change in the color of the specimen or staining of the multi-fibre fabric is then assessed using AATCC grey scale for color change or the chromatic transference scale.

The color fastness of the zippers to laundering is tested by subjecting the zipper with a multi-fibre test fabric to home laundering according to the intended care instructions of the garments on which this particular zipper would be used. The alteration in shade of the zipper tape and degree of staining of multi-fibre test fabric is evaluated by the AATCC gray scale for staining and color change or the chromatic transference scale.

The durability of the finish in the zippers to dry cleaning is tested by subjecting the zipper to the dry cleaning, as in AATCC test method 86, but the zipper is air-dried rather than hot pressed. The specimen is then evaluated visually for any exposed base metal compared to a new zipper or compared to a sample illustrating an acceptable degree of coating loss. Sometimes due to corrosion, a zipper will not operate smoothly and its crosswise strength may be reduced. Such deterioration in a zipper can be evaluated by subjecting the zipper to a slat spray test. Of course, plastic/nylon zippers do not corrode, and therefore this test applies only to metal zippers. In this test method, specimens are subjected to slat spray [5% salt solution at 330 to 360 C for 24 hours continuously] as directed by ASTM method D 2059, slat spray testing. The exposed specimens are then visually evaluated for any sign of corrosion and tested for ease of operation and crosswise strength, and results are compared with the ease of operation and crosswise strength of the original specimens. Zippers dimensions should be measured in certain ways so that they can be communicated effectively.

2.8.2.3 Zipper Strength Tests

The usefulness of a zipper in service can be evaluated by the following strength tests. No one test determines the suitability of a zipper for a specific end use. Since the tests are interrelated, more than one may be needed for a complete evaluation. Zipper strength is usually tested in the following areas. Crosswise Strength – The ability of a zipper chain to withstand lateral stress is measured by loading to destruction a 1 in. section of the specimen in the tensile testing machine. Other areas of performing test on zippers include test for colorfastness of zippers to light, colorfastness of zippers to

crocking, resistance of zippers to salt spray (fog), measuring zipper dimensions and operability of zippers.

2.8.3 Fusible Interlining

The purpose of fusible interlinings is to give shape or form and improve the aesthetics of a garment. There is no better way to test fusible interlining other than to actually fuse the interlining with the end-item fabric and evaluate such samples before starting mass production.

Therefore, at least three 30 X 30 cm (12 X 12 in.) pieces of end-item fabric cut and fused to the 23 X 23 cm (9 X 9 in.) pieces of fusible interlining at the recommended time, temperature, and pressure. Then these specimens are checked for compatibility, shrinkage and bond strength.

Compatibility means that the fusible interlining material should provide good drapability, bulk, and support without altering the natural hand of the end item (shell) fabric.

Shrinkage can be measured by placing gauge marks on the interlinings and shell fabrics before fusing and measuring the distance between these gauge marks after fusing. Any significant shrinkage in the fusible interlining fabric would result in a noticeable bubbled appearance on the right side of the shell/interlining assembly.

Bond strength can be determined by using the standard method of testing bonded and laminated apparel fabrics.

2.9 Quality Standards Expected in the Garment make-up processes

2.9.1 Seams

The current British Standard (BS) 3870: Part 2: 1991 and the earlier 1983 edition on Classification and Terminology of seam types define seams as "the application of a

series of stitches or stitch types to one or several thickness of material" (Carr & Latham 1994). This term includes virtually all sewing that goes into garments (Carr & Latham, 1994). Cooklin (1991) also defines a seam as "a joint where sequence of stitches unites two or more pieces of material". Various types of fabrics and designs require varying seams and seam techniques (Stamper et al, 1988). The type of seam also determines the kind of finish suitable that can prevent unraveling, stretching and rippling, and also neaten the seam edge.

2.9.2 Stitches

A look at the definition of seam brings to the fore the role of stitching. Stamper et al (1998) acknowledge the role of stitches by stating that "the appearance and durability of seam depends on the stitching. A British Standard 3870: Part 1: 1991 defined a stitch as 'one unit of conformation resulting from one or more strands or loops of thread intralooping, interlooping or passing into or through material (Carr & Latham, 1994). The specific type of stitch formation produced by a machine depends on the number of needles, loopers and threads, which combine to construct the stitch. British and USA standards classification of stitches are:

- Class 100: chain type stitches
- Class 200: hand formed stitches
- Class 300: lock stitches
- Class 400: locked chain stitches
- Class 500: over-edging stitches
- Class 600: flat seam or covering stitches.

There are about 70 stitch types, which are classified under the above classifications that are used in joining fabrics together, neatening raw edges and providing decoration, or a combination of these functions. Description of types under these categories has been presented below as outlined by Cooklin (1991) and Carr and Latham (1994).

CLASS 100: Chain Stitches

Chain stitches are formed by intralooping one or more needle threads. Each loop is dependent on the succeeding one and it is not very secure especially if a stitch is broken. Chain stitches are mostly used for "basting" in tailored garments as temporary stitching.

CLASS 200: Hand Formed Stitches

Hand formed stitches are characterized by a single thread passing in and out of the material. It is used to perfect finish or to attain a particular expensive effect. This group of stitches are mainly used for decorative finishes in garments.

CLASS 300: Lock Stitches

Lock stitches are formed with two or more threads from a needle thread and bobbin thread interlacing. Straight lockstitch as a variation has a single needle thread and a single bobbin thread and is acclaimed the commonest stitch used in the clothing industry especially in small volume manufacturing. Lock stitch has enough strength for most purposes. It is important in topstitching and seam joining. The zigzag version of lock stitches can be used in attaching trimmings and provides a stretchy stitch for elastic attachment.

CLASS 400: Multithread and Chain Stitches

A simpler version of multithread and chain stitch has the appearance of lockstitch to the top but has a double chain effect formed by a looper thread on the underside. This - stitch is used for many types of seams where extensibility is important, especially in knitted fabrics.

CLASS 500: Over-Edge Chain Stitches

Over edge chain stitches are formed with one or more groups of thread. Loops from at least one group of threads pass around the edge of the material that is trimmed by a knife on the machine for neatness. A variation of over-edge chain stitches is used to join and neaten seams where there is no need to press open the seam.

CLASS 600: Covering Chain Stitches

Seam types in covering chain stitches are formed with three groups of threads. Loops of the needle threads are passed through loops of a third group already cast on the surface of the material and then through the material where they are interloped with loops of the second group of threads on the underside of the material. This class of stitches is the most complex. They make broad, flat and comfortable joining of elastic; braid a binding to the edges of garments like briefs (Carr & Latham, 1994; & Cooklin, 1991). A cursory look at the definition of seams indicates that stitches are integral part of a seam and in fact all sewing; therefore, they are mostly discussed together. If a stitch is improperly constructed, the resultant seam will also fail, thus reducing the quality of the garment since seams are a fundamental part of garment construction. Other garment construction processes/techniques that relate to shirt construction are outlined below.

2.9.3 Pressing

Pressing is an essential part of any sewing project. Good pressing techniques help to create a professional-looking garment. Correct pressing helps to shape the fabric to your figure, flatten seams and edges, and save time. Correct pressing however requires appropriate equipment and the know-how. No amount of careful cutting, fitting and construction can make up for too much, too little or incorrect pressing. Practicing the nine procedures listed below can make one an expert:

1. Before pressing a garment a test press of a scrap of the fabric to be pressed is always necessary to set the heat indicator for the type of fabric. Blends are set to lower temperatures example polyester-wool blend usually should be pressed at the temperature polyester requires. The fabric is also tested for moisture if the fabric may require it for shaping. Also check which type of press cloth gives the best results.
2. Thorough pressing during each construction step contributes to a precision look. It makes following each construction step easier, thus saving time. Very little final pressing is necessary for a garment that has been properly pressed while being made.
3. True pressing calls for a lowering and lifting (up and down) motion. This flattens the seam or molds the detail without stretching the seam or distorting the grain. The iron should never be dragged over the fabric.
4. All pressing should be done with the grain, just as in stitching. Seams are pressed from the wide to the narrow part of the garment--from the hem to the waist of the skirt, from the neck to the sleeves at the shoulder, toward the point of a dart, etc.

5. Curved seams and shaped areas are pressed over a pressing ham, roll or cushion. This helps mold the garment to the figure. It also helps the garment hold its shape.
6. Generally, most pressing must be done on the wrong side of the garment when possible. If moisture is needed, a steam iron or a damp cloth is used. For best results, dampen the cloth with a sponge. When pressing on the right side of the garment, protect the fabric with a press-piece.
7. Each seam, tuck or dart is pressed before it is joined to a seam or piece of fabric. Basting threads should be removed before pressing. Steam pressing over basting stitches will cause markings to appear in the fabric that, for many s, are almost impossible to remove.
8. Ironing board pad and cover must be completely free of lumps and folds. Many fabrics will pick up marks or develop a shine when pressed over any type of unevenness. Soleplate of the iron must also be kept clean and free of any scratches.
9. Take care not to over press which can remove surface texture and create shine.

2.9.3.1 Pressing during Construction:

a. Darts

First press the dart on the fold with the tip of the iron. Then press the dart toward the center back or center front of the garment, using a tailor's ham. Underarm and sleeve darts are turned downward. Double pointed and curved darts need to give at the fold or be clipped at the center for a better line. Darts in very heavy fabrics may be cut open almost to the point. Press open darts the same way as an open seam, forming a small box pleat at the point.

b. Hems

Press the fold of the hem after the hem is marked, basted, trimmed, and eased at the top. However, do not press over the bastings. Direct the iron from the lower edge of the hem, always with the grain. You might put heavy paper between the hem and the garment to prevent the hemline from marking the right side. Shrink the ease in the hem, when necessary, by steaming it with a steam iron or a damp press cloth. A final pressing on the right side usually improves the appearance of the skirt. If you prefer not to have a crease in the fold of the hem, steam press the hem by holding the steam iron slightly above the hem. Do not actually touch the iron to the fabric. Pat the dampened hem line with your hand to give it a look.

c. Seams

For all seams, press along the stitching line in the same direction as the seam was sewn. When possible, open the seam flat with the tip of the iron.

d. Flat Seam

Place heavy paper under the seam allowance to prevent ridges from showing on the right side. Pressing the seam over a pressing roll will serve the same purpose. Steam if appropriate for the fabric. When sewing on heavy, thick fabric that does not press easily, a clapper (pounding block) may be used on the seam line to insure a flat seam.

e. Curved Seam

Place curved seams on a tailor's ham, press mitt or pressing roll to maintain roundness. Press as for a flat seam.

f. Enclosed Seam

Place enclosed seam such as a collar, over the edge of a point press (Figure 7). Open the seam with the tip of the iron. Remove from the point presser and turn right side out. Roll the seam slightly to the underside and press using a press cloth. A good rule to remember is to press seams open when possible before pressing them closed.

g. Sleeves

Some sleeve applications require the sleeve cap to be eased smoothly into the armhole opening. To shrink the ease in the sleeve cap after its fullness has been adjusted, place the cap over the end of the sleeve board or over the tailor's ham. Steam carefully, allowing the point of the iron to go up to, but not beyond the stitching line into the cap. Repeat the process until the ease is shrunk out or the cap is shaped. Not all the ease in blends or fibers and firmly woven fabrics will steam out, but the cap will shape. All the ease may be steamed out of wool. The sleeve needs little additional pressing after it is stitched in place. Do not crease sleeves lengthwise. Press the lower hem of a sleeve by pushing the tip of the iron into the sleeve rather than by turning the sleeve wrong side out.

2.9.3.2 Pressing Equipment

According to Heaton (2002), proper pressing equipment achieves a more professional finish. Such equipment includes the point press (made of hard wood) which is used to press points, curves and straight edges. It enables seams to be pressed flat and open without wrinkling the surrounding area. The sleeve board is designed for pressing small or slim areas, such as sleeves, that do not fit over a regular ironing board. It should have a silicone cover and padding. The clapper is a block of smooth wood, used along with steam to flatten seam edges and a "must" for tailoring. In practice, as much steam as

possible is made with steam iron and/or iron with a damp press cloth. The iron is removed quickly while steam is still present and area pound area firmly. Regulate your pressure to suit the desired edge. Do not use clapper on fabrics with pile or hair, as the pile will crush or the fibers may break. An 8-10" piece of hardwood 2 x 4 makes a good substitute for a commercial clapper. The needle board is used to press pile and easily marred woolens fabric to prevent them from flattening. The fabric is placed face down on the board so that the pile falls in between the needles.

Sometimes a heavy terry bath towel can be substituted when a needle board is not available. The press cloth is one of the most important pressing items. It is used to prevent shine and to protect your fabric from direct heat. An extra scrap of your fashion fabric makes an excellent press cloth! Otherwise select a cloth that is similar in weight to your fabric. A cloth that is approximately 12 x 18" makes a good size. Generally speaking, a wool cloth is best to hold in the moisture when pressing wool, firm cotton is great for cottons, and medium weight blends. A large piece of cheese cloth can be folded, manipulated and adapted to most pressing situations.

2.10 Finish

The finish of a garment is the property that gives the final product the attribute, which makes it attract the attention of observers. This includes how well the garment has been under pressed and top pressed to outline shapes, how the garment has been meticulously stitched, how notions have been carefully chosen and used to exhibit quality workmanship, and how carefully all parts are aligned and quality controlled to remove any unwanted elements like hanging threads, and finally, how the garment has been folded and packaged for delivery.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The main objective of this research is to discuss and assess methods to the quality of garments produced by persons trained through apprenticeships in Kumasi. This chapter states the type of research and talks about the research methodology employed to achieve this objective. The selection of the research method is crucial for what conclusions you can make about a phenomenon. It affects what you can say about the cause and factors influencing the phenomenon. It is also important to choose a research method which is within the limits of what the researcher can do. Time, money, feasibility, ethics and availability to measure the phenomenon correctly are examples of issues constraining the research (Dawson, 2002). It also describes of the population used, the sample size and the instruments used to gather data. The chapter further explains the reasons for the choice of research methodology, population, sample size, the instrument used in the gathering of data, data collection procedure as well as the method used in analyzing the data.

3.2 Research design

Shuttleworth (2008) noted that research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator does from writing the hypotheses and their operational implications to the final analysis of the data. Descriptive research describes 'what is'. It involves describing, recording, analyzing and interpreting conditions that exist (Agyedu, Donkor & Obeng, 1999). It focuses on describing accurately what is occurring. It is

concerned with hypothesis formulation and testing, the analysis of the relationship between non manipulated variable and developing a generalization out of the results. The descriptive method is chosen by the researcher in order to investigate the mode of training apprentices and form a generalization of the results indicating what has been the occurrence in the apprenticeship training programme.

A descriptive survey involves asking the same set of questions to a large number of individuals. It is appropriate when a researcher attempts to describe some aspect of a population by selecting unbiased samples of individuals who are asked to complete questionnaires, interviews or tests (Fraenkel & Wallen, 1993). Questionnaires were therefore issued to an unbiased sample by the snowball sampling technique where a respondent is asked to nominate another respondent with the same qualities.

According to Shuttleworth (2008), designs are often equated with qualitative and quantitative research methods. Social surveys and experiments are frequently viewed as prime examples of quantitative research and are evaluated against the strengths and weaknesses of statistical, quantitative research methods and analysis. The quantitative method was utilized under the descriptive research in this study. Field data were collected from apprentices and those that have completed their training in the Kumasi metropolis and interpreted by statistical method. This enabled the researcher to use statistical methods to describe what is occurring among the target population. In addition to field data, the researcher made use of reports, interviews and other relevant literature.

3.3 Population

The target population for this study comprised of the garment producers in the Kumasi metropolis that were trained or are being trained through apprenticeship. Most garment producers in the Kumasi metropolis were trained through the apprenticeship method and in turn train others as their apprentices. According to the regional head for apprenticeship in the Ashanti region, (Sarpong, personal communication, 10/8/2014) the region has two major associations for tailors and dressmakers. These are the Ghana National Tailors and Dressmakers Association (GTNDA) and the Tailors and Seamstresses Association of Ghana (TASAG). He further noted that the GTNDA had registered 1814 master tailors and dressmakers and 3622 apprentices in the Ashanti region as of August 2014. The TASAG has also registered 856 master craftsmen and 1114 apprentices in the Ashanti region as of August 2014. Kumasi metropolis was chosen for the study because of its accessibility coupled with the fact that a wider coverage would have been time consuming.

3.4 Sample Techniques

The sampling technique used is purposive which also included snowball sampling method since apprentices and apprentice trained in garment making is a rare and difficult population to locate.

According to Agyedu et al. (2011), purposive sampling is a type of sampling method where the researcher identifies characteristics of the population of interest and selects the elements or subject with those characteristics.

Castillo (2009) noted also that, snowball sampling is a non-probability sampling technique that is used by researchers to identify potential subjects in studies where

subjects are hard to locate. The process of snowball sampling is much like asking your subjects to nominate another person with the same trait as your next subject. The researcher then observes the nominated subjects and continues in the same way until obtaining sufficient number of subjects. The researcher therefore, in identifying the subjects for gathering data, allowed apprentices and apprenticed trained workers to nominate others for the data collection.

3.5 Sample Size

The sample size represents the sample elements taken from the population for the data and thus should be representative of the population in question. According to the sample size ‘Rule of thumb’ proposed by Dr. John Curry (2007), Professor of Educational Research, North Texas state university (now retired), and a sample size of 5% or above is good for a research which has a population of 1000-5000. Nwana (1995) also gives detail estimation in percentages as to what sample size is appropriate as:

- Population of several thousand - 5%
- Few thousand - 10%
- Several hundred – 20%
- Few hundred – 40% or more

A sample of fifty – two apprentices and fifty –two apprenticeship trained workers, amounting to a total of a hundred and four respondents were collected as data within the Kumasi metropolis to be analyzed

3.6 Source of Data

The facts, opinions and statistics that have been collected together and recorded for reference and analysis is referred to as data (Saunders et al., 2007). This study employs as main sources of data: the primary and secondary sources of data.

Primary data is data that has been collected specifically for the purpose of the research being undertaken. It is first-hand information that the researcher has collected from the field and is the first to use. Primary data is gathered from face to face interviews, telephone interviews, questionnaires, and observations.

Secondary source of data is data that has been collected originally not specifically for the research being undertaken but is relevant to the researcher's work. It is referred to as 'second – hand data'. Some of the secondary data used included relevant documented reports, articles, journals, books and information drawn from internet service.

3.7 Instrument for the Study

In collecting data for the study, interviews, and questionnaires, based on the research questions and objectives were structured and used. This was to ensure that the relevant questions were asked. The interview was based on the questionnaire for those who were not able to read and understand by themselves.

The use of interviews is commonplace in qualitative case study research (Denzin & Lincoln, 2005; Fontana & Frey, 1994). The interaction between researcher and participant through the interview is, "the establishment of human-to-human relation with the respondent and the desire to understand rather than to explain" (Fontana & Frey, 1994). Interviews with the participants was semi-structured; this provided for consistent

investigation of particular topics with the participant and basic introductory questions, but also afforded flexibility to engage in natural conversation that provided deeper insight.

The questionnaire was worded in two set for distribution to those still under apprenticeship and those who had completed apprenticeship and were working as garment manufacturers. A sample of the questionnaire has been included under appendix A1 and A2

3.8 Data analysis technique

The data collected for this research was analyzed with the help of statistical package for social scientists (SPSS) software in the chapter four. The analysis has been put into tabular form and well explained for easy understanding.



CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter concentrates on the presentation and analysis of data gathered purposely for this research and analyzed in line with the research objectives with the view of discussing and assessing the quality of garments produced by persons trained through apprenticeship.

Traditional apprenticeship has served as the source of training skilled artisans for ages, however with increase in the quality of education and the rise in the use of higher technology, clothing made by some apprenticeship trained Ghanaian artisans remain unchanging. It becomes a question of concern then, whether the training of these artisans meets the heightening standards in the world of fashion. In Ghana, standards are not set in place to regulate apprenticeship training. This has come a long way to affect the products made by artisans trained by this method. Products made are also limited to the Ghanaian market only since they do not cut the international market standards (Ascherman, 2011).

Tables are used to present relationships between variables:

- Identify the apprenticeship training method used in Kumasi Metropolis
- Assess the Quality of garments produced by persons trained through apprenticeships
- Identify the quality standards expected by Ghanaians in garments in comparison to international standard.

4.2 Demography of the Study

Table 4.1: Gender

	respondents	percentage
Male	26	25
Female	78	75
Total	104	100

Table 4.2: Age group

	respondents	percentage
15-20 years	18	17
21-25 years	35	34
26-30 years	23	22
31-35 years	20	19
36-40 years	6	6
41 and above	2	2
Total	104	100

Table 4.3: Year in apprenticeship

year of apprenticeship	respondents	percentage
1 year	26	25
2 years	48	46
3 years	24	23
4 years	6	6
Total	104	100

Table 4.4: Educational background for entering apprenticeship

	respondents	Percentage
None	13	12.5
Basic	11	10.6
JHS/JSS	56	53.8
SHS/SSS/O Level	24	23
Total	104	99.9

The demography indicates that more females enroll in the apprenticeship training than males. Also, majority of apprentices are between ages twenty-one and twenty – five. Again most apprentices captured in the sample were in their second year under apprenticeship training. Lastly, most people entered the apprenticeship programme after JHS/JSS education although 12.5% entered with no educational background. It is assumed for the purpose of this study, with reference to Table 4.2, that this 12.5 % are at least 15 years or older otherwise they are unqualified according to the children’s Act for IAT which specifies the minimum age to be 15 years or after the completion of basic education, to be enrolled into the programme.

4.3 Apprenticeship Training Methods

Apprenticeship training methods look at the training trainers undergo as well as the qualification for acceptance into apprenticeship training programme. It also discusses whether theory, practical and observation are always part of apprenticeship training programme, among others. This gives an insight into the apprenticeship training program and its procedures.

4.3.1 Training Apprenticeship Trainer Undertook

Table 4.5 shows responses regarding the training apprenticeship trainers had obtained. Ten respondents, representing 10% of the sample had no idea what training their trainers undertook. Sixty-nine respondents representing 66% of the sample indicated that their trainers have also gone through similar apprenticeship training like the one they are currently undergoing or have gone through. Also, 16 respondents which represent 15% of the sample indicate that their apprenticeship trainers obtained their training from

vocational institutions. Furthermore, 6 respondents, (6%) indicated that their trainers obtained their skill from polytechnic education. Lastly, 3% of sample which is made up of three respondents stated that their trainers obtained their training from the University. In summary, it can be seen from the statistics above that majority of apprenticeship trainers were trained through apprenticeship training programme. It is inferred that since most trainers are trained through apprenticeship they have that experience as to the mode of training and the likelihood is that, they would teach their trainees what they learnt through their training. This advantage is also disadvantageous when the apprenticeship training offered is deficient in some areas and therefore calls for more attention to be given to raising the quality of work studied by artisans under the apprenticeship program.

Table 4.5: Training Apprenticeship Trainer has Gone Through

Type of Training	Frequency	Percentage
Don't know	10	10
Apprenticeship	69	66
Vocational	16	15
Polytechnic	6	6
University	3	3
Total	104	100

Source: Field survey February, 2014

4.3.2 Qualification for Acceptance into Apprenticeship

Table 4.6 shows responses regarding the basis upon which apprentices are usually accepted into the apprenticeship training programme. Twenty-two respondents representing 21% of the sample indicated that no qualification was taken into account in selecting them into the apprenticeship training. Furthermore, fifty-one respondents

representing 49% of the sample indicated that age consideration was used in selecting them into the apprenticeship training programme. Also, 23 representing 22% of the sample said basic interest was used in selecting them into the apprenticeship programme. In addition, two said basic education was the criteria used in selecting them into the apprenticeship training programme. Furthermore, six indicated that JHS education was the criteria used in selecting them into the apprenticeship training programme. In a summary, it can be said that age consideration is the main criteria often used in selecting people into the apprenticeship training programme as shown by the responses in Table 4.6. Tables 4.5 and 4.6 indicate that most apprenticeship trainers have undergone a similar apprenticeship training where age is the consideration for admission. Since age is the major determinant of acceptance into the training programme and practically no academic basis is required, it is suggestive that, the mode of instruction must be simplified enough for the trainees to understand while not compromising on content.

Table 4.6: Qualification for entering Apprenticeship Training Programme

Qualification	Frequency	Percentage
No qualification	22	21
Age consideration	51	49
Basic interest	23	22
Basic education	2	2
JHS education	6	6
Total	104	100

Source: Field Survey February, 2014.

4.3.3 Mode of Instruction

Table 4.7 describes which of these modes; theory, practical or observation, take pre-eminence in the apprenticeship training program. Table 4.7 displays that 4 (4%) of

respondents said theory take pre-eminence in the apprenticeship training program. Nine respondents (9%) indicated that practical only take pre-eminence and 6 respondents reflecting 6% of the sample indicated that observation only dominate their apprenticeship training. Again 34 respondents representing 33% of the sample indicated that theory and practical only took pre-eminence in their training.

Furthermore, 5 (5%) of the respondents indicated that theory and observation took pre-eminence. 7 (7%) also indicated that all three took pre-eminence. Lastly, thirty-nine respondents, which constitute 38% of the sample, indicated that practical and observation dominate their training. In summary, it can be said that majority of respondents indicated that their apprenticeship training programme is dominated by practical training and observation as can be seen from Table 4.7. Observation and practical training though a vital part of any study must be supported by some amount of theoretical background which will enable the trainee to reasonably solve problems relating to work being done owing to a thorough understanding of the theories behind the practice being learnt.

Ghana's national policy on apprenticeship programme defines apprenticeship as receiving formal instruction and on the job training. All three modes are therefore necessary in different degrees for impacting the skill however only a small section (7%) are doing this. The implication of low theoretical background is a poor ability to apply knowledge to adequately solve problem as well as use techniques innovatively.

4.3.4 Garment Cutting

Table 4.8 indicated responses regarding how measurements are been translated into garments. 88 respondents representing 85% of the sample indicated that measurements are been translated into garments by 'freehand cutting'.

Table 4.7: Pre-eminent Mode of Training in Apprenticeship

Mode of Instruction	Frequency	Percentage
Theory only	4	3.8
Practical only	9	8.7
Observation only	6	5.8
Theory and practical only	34	32.7
Theory and observation only	5	4.8
Theory, practical and observation	7	6.7
Practical and observation only	39	37.5
Total	104	100

Also, 12% said customized pattern usage is what they use to translate measurements into garments. In addition, 4% indicated that measurements are been translated into garments through commercial pattern usage. The responses indicate that the majority of people use 'freehand cutting'. Freehand cutting is a method used in garment manufacture where drafting the style is usually done directly on the wrong side of the fashion fabric. By this method simple styles can be made faster than going through pattern making procedures, however not all styles can be achieved through the use of this method. Again since the drafting is done directly on the fabric, the garment on completion goes to the customer with the drafting resulting in loss of the drafted design. It is also common knowledge that there is more fabric wastage associated with this method as compared to the use of patterns.

Table 4.8: Measurements Translation into Garment

Garment cutting	Frequency	Percentage
'Freehand cutting'	88	84.6
Customized pattern usage	12	11.5
Commercial pattern usage	4	3.8
Total	104	99.9

Source: Field Survey February, 2014.

4.3.5 Records of what is taught under Apprenticeship Training

Table 4.9 shows responses regarding place for recording what has been taught under the apprenticeship training programme. 90% of the sample indicated that they always keep all that they have been taught in their memory. Also, 8% of the sample indicated that they usually write all that they have been taught in a note book. Lastly, 2% of apprentices said they usually sample what they have been taught in a swatch book. It can be seen from the above interpretation that majority of the respondents usually store all that they have been taught in their memory. As earlier been established, 'Freehand cutting', is a method where drafting the style is usually done directly on the wrong side of the fashion fabric and the drafting done goes with the garment to the customer. This means that without any proper hard copy records of what is done, as indicated in Table 4.9, all physical evidence of style, draft and constructional detail is gone with the completed garment since most apprentices only kept what was taught in memory. This can imply that if a particular procedure is not practiced over a time, its construction details may be forgotten and only a general idea of its construction may remain. It should be noted that most apprentice trainers are trained through similar apprenticeship training

programme and therefore over generations may lose very important construction details of non- regular techniques.

Table 4.9: Place for recording what has been taught under the programme

Place of record	Frequency	Percentage
In memory	94	90
In a note book	8	8
In a swatch book	2	2
Total	104	100

Source: Field Survey February, 2014.

4.3.6 Type of Apparel Studied

The Table 4.10 shows responses regarding the area of study apprenticeship training had covered. 54% respondents indicated that their apprenticeship training programme cover slit and kaba making. Also, 15% of apprentices learn men's wear making in their apprenticeship training whereas 17% of apprentices indicated that their apprenticeship training covers the making of men's and women's wear. In addition, 14% respondents said the apprenticeship training cover making of women's wear only. Also, 1% of the sample said the training programme cover making of skirt and Blouse. It can be said that since majority of the respondents indicated that the apprenticeship training programme usually cover silt and kaba making, such trained apparel makers may have specialty in slit and kaba making. However, this can also mean ignorance in other areas and inability to break into foreign markets easily since kaba and slit is indigenous to Ghanaian culture.

Table 4.10: Area of Study Apprenticeship Training has covered

Area of Study	Frequency	Percentage
Slit and Kaba	56	52.8
Men's wear	16	15
Men's and Women's wear	18	16.9
Women's wear	15	14.2
Skirt and Blouse	1	0.9
Total	106	99.8

Source: Field Survey February, 2014.

4.3.7 Issues of Prior Knowledge, Supervision and Satisfactory Training

Statement one of Table 4.11 shows responses regarding whether respondents were having prior knowledge of what they would be taught prior to their studies. 14% of respondents indicated that to a very large extent they were having prior knowledge of what they would be taught prior to their studies. Also, 15% of respondents indicated that to a large extent they were having prior knowledge of what they would be taught prior to their apprenticeship training. In addition 15% respondents indicated that to a moderate extent they were having prior knowledge of what they would be taught prior to their studies. Furthermore, 6 % of respondents indicated that, they had to a small extent some prior knowledge of what they are to learn. Lastly, 53 % respondents indicated that they were not at all having knowledge of what they would be taught prior to their studies.

Statement two of Table 4.11 shows responses regarding the adequacy of supervision in practical training. 59% of the sample indicated that supervision has been adequate to a very large extent in their practical training.

Table 4.11: Prior Knowledge, Supervision and Satisfaction

Knowledge, Supervision and Satisfaction	FQ/%	Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not at all
prior knowledge of apprenticeship programme content is present	FQ	15	16	12	6	55
	%	14	15	15	6	53
Supervision in practical training is adequate.	FQ	61	18	22	3	0
	%	59	17	21	3	0
Apprenticeship training programme is satisfactory	FQ	57	35	10	0	2
	%	55	34	10	0	2

Source: Field Survey February, 2014.

Also, 17% of the sample indicated that to a large extent supervision has been adequate in their practical training. Furthermore, 21% of the sample indicated that the extent of adequate supervision in practical training is moderate. Lastly, 3% of the sample said supervision during practical training was to a small extent adequate.

Statement three of Table 4.11 shows responses about whether respondents were satisfied with the training received under the apprenticeship training programme. 55% of the sample indicated that they were satisfied with the training given under the apprenticeship training programme to a very large extent. Also, 34% of the sample indicated that they were satisfied with the training given under the apprenticeship training programme to a large extent. In addition, 10% of the sample indicated that they were satisfied with the training given under the apprenticeship training programme to a moderate extent. Furthermore, 2% of the sample indicated that they were not satisfied with the training given under the apprenticeship training programme. In a summary,

statement three of Table 4.10 indicate that to a very large extent respondents are satisfied with what they are or were taught under apprenticeship however the majority of respondents, (more than 50%) had no prior knowledge of what is to be taught them as indicated in statement 1 of Table 4.11.

This can imply that they may be satisfied with the little they get since they are basically unaware of the extent of knowledge they are to expect from their trainers. This is reflecting in Table 4.10 which shows that most of the apprenticeship training is centered on kaba and slit making, with more than 50 % training in kaba and slit and much smaller percentages distributed among the other areas.

4.4 Quality Procedures

This section discusses the things that help achieve quality in garments production. It also discusses among others how respondents help ensure quality personally, whether they believe in getting things done right for the first time and how that helps contribute to quality. It looks at respondents' view on whether unpicking wrong stitches ensure quality, waste time and add extra cost to the company. This section also discusses whether respondents have knowledge of the existence of any standards of quality and the people who set these standards.

4.4.1 Factors contributing to the achievement of Quality in Garment

Table 4.12 shows respondents' opinion concerning the things that contribute to quality garment making. 55% respondents indicated that a clean finished garment contribute to quality in garment making. Surprisingly, only 4% of the sample indicated that straight stitching contribute to quality in garment making. In addition, 15% of the sample indicated that good fit contribute to quality in garment making. Furthermore, 14%

of the sample indicated that a garments' nice design contributes to quality in garment making. Lastly, 12% of the sample indicated that the use of good fabric contributes to quality in garment making. It is commendable then that apprentices are doing well on ensuring a clean finish to their garments but there is a large room for improvement in the area of straight stitching.

Table 4.12: Aspects of Quality in Garment

Quality Points in Garment	Frequency	Percentage
Clean finish	57	55
straight stitch	4	4
Good fit	16	15
Nice design	15	14
Good fabric	12	12
Total	104	100

Source: Field Survey February, 2014.

Table 4.13: Cleaning time

Time	FQ/%	Beginning Of Sewing	After Every Sewing Operation Completion	End Of Sewing
Time for cutting threads	FQ	23	76	5
	%	22	73	5

Source: Field Survey February, 2014.

Table 4.13 shows a further investigation into the clean finish from the previous Table. It shows responses regarding the stage respondents usually cut threads when sewing. 22% of the sample said they usually cut threads only at the beginning of sewing. Also, 73% of the sample said they usually cut threads after every sewing operation and at the end of sewing. Lastly, 5% of the sample said they cut threads only at the end of sewing. In summary, the majority of respondents usually cutting threads after every

sewing operation and at the end of sewing are a very good practice among apprentices that is commendable for the quality of a garment. The garment which is cleaned is presentable and communicates of quality at first sight.

Table 4.14: Measures of Ensuring Quality Individually

Ensuring Quality Individually	Frequency	Percentage
Careful garment handling	9	8.7
Careful sewing	9	8.7
Careful cutting	9	8.7
Using the right trimmings	1	0.9
All the above	76	73
Total	104	100

Source: Field Survey February, 2014.

Table 4.14 indicates responses from respondents regarding how they ensure quality in garments making themselves. 8.7% indicated that by carefully handling garments, they improve upon quality. Another 8.7% indicated that by carefully sewing of garments, they improve upon quality. Again another 8.74% indicated that by carefully cutting garments, they can help improve upon quality. Furthermore, 0.9% indicated that quality can be improved by using the right trimming. Lastly, 73% indicated that all the above factors can help contribute to quality in garments making. In a summary, Tables 4.12 and 14 inform the researcher that respondents are aware of the effects of a clean finish, careful garment handling, careful sewing, careful cutting and the use of right trimming on the total quality of a finished garment. The irony here is that a very small percentage is concerned with straight stitches and the use of good fabrics. A straight stitch is one of the hallmarks of a quality made garment that inform the customer of the

level of quality of a garment especially when these stitches are visible on the right side.. Careful sewing should therefore result in straight stitches among others. Respondents may therefore be aware of the constructional diligences that affect quality positively but may not prioritize them but think of only a clean finish and probably a good fit.

4.4.3 Thoughts on Work Excellence

Table 4.15: Excellence in Garment Making

Work Excellence	FQ/ %	Very large extent	large extent	Moderat e Extent	Small Extent	Very Small Extent	Total
Work is Done Right the First Time	FQ	40	31	20	7	6	104
	%	38	30	19	7	6	100
Work Done Right First Time Achieves Quality	FQ	43	50	9	1	1	104
	%	41	48	9	1	1	100
Unpicked Wrong Stitches Ensures Quality	FQ	29	28	11	2	34	104
	%	27.9	26.9	10.6	1.9	32.7	100
Unpicking Wrong Stitches Waste Time	FQ	43	29	7	10	15	104
	%	41	28	7	10	14	100
Unpicking Wrong Stitches Costs More	FQ	31	30	17	15	11	104
	%	30	29	16	14	11	100

Source: Field Survey February, 2014.

The first statement of Table 4.15 shows responses regarding whether respondents believe in getting work done right the first time. 40% of the sample said to a very large extent they believe in getting work done right the first attempt. Also, 31% of the sample indicated that to a large extent they believe in getting work done right the first attempt. In addition, 20% believe in getting work done right the first time to a moderate extent. Furthermore, 7% said they believe in getting things done right the first time to a small

extent. Lastly, 6% of the sample believes in getting work done right the first time to a very small extent. The second statement of Table 4.15 above shows responses about whether getting things done right the first time can help achieve quality. 43 (41 %) of the sample indicated that to a very large extent getting work done right first time can help achieve quality.

Also, 50(48%) respondents indicated that to a large extent getting work done right first time can help achieve quality. In addition, 9(9%) respondents indicate that to a moderate extent getting work done right first time helps to achieve quality, furthermore 1(1%) of the sample indicated that getting things done right first time can help achieve quality to a small extent. Lastly, another 1(1%) indicated that getting work done right first time would achieve quality to a very small extent. The third statement of Table 4.15 above shows respondents responses as to whether unpicking wrong stitches in garments can ensure quality. 29(28%) of the sample indicated that to a very large extent they think unpicking wrong stitches ensure quality. Also, 28(27%) of the sample indicated that to a large extent they think unpicking wrong stitches ensure quality. In addition, 11(11%) indicated that they think unpicking wrong stitches ensure quality to a moderate extent.

Furthermore, 2(2%) indicated that they think unpicking wrong stitches can ensure quality to a small extent. Lastly, 34(33%) indicated that they think unpicking wrong stitches would ensure quality in garments to a very small extent. The fourth statement of Table 4.15 shows respondents' responses as to whether unpicking wrong stitches in garments waste time. 43(41%) of the sample indicated that to a very large extent they think unpicking wrong stitches waste time. Also, 29(28%) indicated that to a large extent they think unpicking wrong stitches waste time. In addition, 7(7%) indicated that they

think unpicking of wrong stitches waste time to a moderate extent. Furthermore, 10(10%) indicated that they think unpicking wrong stitches waste time to a very small extent.

Lastly, 15(14%) indicated that they think unpicking wrong stitches would not waste time to a very small extent. The last statement of Table 4.15 shows respondents' responses as to whether unpicking wrong stitches in garments result in extra cost to their company. 31(30%) indicated that to a very large extent they think unpicking wrong stitches result in extra cost for their company. Also, 30(29%) of the sample indicated that to a large extent they think unpicking wrong stitches would lead to extra cost.

In addition, 17 (16%) indicated that they think to a moderate extent, unpicking of wrong stitches result in extra cost to them. Furthermore, 11(11%) indicated that they think unpicking wrong stitches would to a small extent add extra cost. Lastly, 11(11%) indicate that they think unpicking wrong stitches would result in extra cost only to a very small extent. From the interpretation above, it can be analyzed that respondents are unaware of the extent of resources wasted in the removal of wrong stitches. Resources such as time, thread, electrical power, manpower, cost of unpicking tools and more may be unduly spent resulting in costs unseen. Wrong stitches however need to be removed wherever found in the light of producing a quality made garment even though this unpicking may also damage delicate fabrics. The garment may also be classified into a second grade and sold for less causing losses. It is essential therefore for apprentices to get a work right the first time. Even though most apprentices believe in getting it right the first time, the fact that they are under tuition and not perfect yet may make this hardly possible since they are both under training and working.

4.4.4 Prioritizing Quality

Table 4.16 indicates responses regarding respondents' priority in garments making. 21% said meeting quality standards is their priority when making a garment. Also, 8% indicated that when it comes to garment making; meeting deadlines is their priority. Lastly, 74% said meeting deadlines and ensuring quality are both of priority to them. In a summary, this indicates the seriousness with which most apprentices attach to their work and their willingness to please their customers.

Table 4.16: Priority between Quality and Deadline

Priority Point	Frequency	Percentage
Quality garment	22	21
Meeting deadlines	8	8
Both the above	74	71
Total	104	100

Source: Field Survey February, 2014.

4.4.4 Quality Standards Awareness

Table 4.17 indicates respondents' views as to the body/institution in charge of setting quality standards for garments making. 28% of the respondents said manufacturers are in charge of setting the quality standards. Also, 40% of the sample said consumers are in charge of setting the quality standards. In addition, 28% also said a special body is in charge of setting the quality standards. Furthermore, 2 said Ghana Standard Board is in charge of setting the quality standards. Lastly, 2% said International organization for standardization is in charge of setting the quality standards. In a summary, majority of respondents said consumers are in charge of setting quality standards for garments making and this is probably so because Ghana has not set clothing manufacturing standard that clothing makers are expected to meet. Ghanaian

manufacturers therefore are inclined to do what their customers require which results in different standards with confused price tags. There is therefore a need for a generalized manufacturing standard that relates to price for the clothing industry to adapt to. This will also inform consumers on what to expect in a garment at different price points. These standards should however not fall short as compared to internationally recognized standards.

Table 4.17: Quality Standards Body

Institutions	Frequency	Percentage
Manufacturer	29	28
Consumer	42	40
A special body	29	28
Ghana Standard Board	2	2
International Organization for Standardization (ISO)	2	2
Total	104	100

4.4.5 Existence of Quality Standards

The first statement of Table 4.18 indicates respondents' responses regarding whether they are aware of the quality standards garments are usually expected to be conformed to. 26% said to a very large extent they are aware of the quality standards garments should conform to. Also, 13% said to a large extent they are aware of the quality standards garments should conform to. In addition, 22% said that to a moderate extent they are aware of the quality standards garments should conform to. Furthermore, 6% said they are aware of the quality standards garments should conform to a small extent. Lastly, 33% said they are not aware of the quality standards garments should conform to.

Table 4.18: Awareness of Quality Standard

Awareness of quality standards	FQ/%	Very large extent	large extent	Moderate Extent	Small Extent	Not at All	Total
Awareness of garment quality standards	FQ	27	14	23	6	34	104
	%	26	13	22	6	33	100
Quality standards are necessary	FQ	35	41	12	1	15	104
	%	34	39	12	1	14	100
Consumers part in defining quality standards in garment	FQ	44	46	6	4	4	104
	%	42	44	6	4	4	100
Consumer's expectation of quality in garment	FQ	57	38	6	2	1	104
	%	54.8	36.5	5.8	1.9	1	100
Influence of Consumer's expectations on manufacturers input of quality	FQ	41	32	17	11	3	104
	%	39	31	16	11	3	100
Sufficiency of apprenticeship training to produce expected quality	FQ	35	36	18	11	4	104
	%	33.7	34.6	17.3	10.6	3.8	100

Source: Field Survey February, 2014.

The second statement of Table 4.18 shows respondents' opinions as to whether quality standards are necessary or not. 34% of the total respondents said quality standards are necessary to a very large extent. Also, 39% of respondents said quality standards are necessary to a large extent in order to improve garment making. Furthermore, 12% said to a moderate extent, quality standards are necessary in order to improve garment

making. In addition, only 1% of the sample said quality standards are necessary to a small extent to improve garment making.

Lastly, 14% of the sample thought quality standards are not at all necessary in garments making. The third statement of Table 4.18 above indicates views from respondents as to whether consumers have a part in defining quality standards in a garment. 42% of the total respondents said that to a very large extent consumers have a part in defining quality standards in a garment. Also, 44 % of the total respondents said that to a large extent consumers have a part in defining quality standards in a garment. In addition, 6% said to a moderate extent, consumers to have a part in defining quality standards in a garment. Furthermore, 4% of the sample said that consumers contribute to defining quality standards in a garment to a small extent. Lastly, 4% said that consumers do not have a part in defining quality standards in a garment.

The fourth statement of Table 4.18 shows responses as to whether customers expect quality in garments. Fifty-seven (55%) of the sample said to very large extent customers usually expect quality in garments. Also, 38(37%) of the sample said to large extent customers usually expect quality in garments. Furthermore, 6(6%) of the sample said to a moderate extent customers expect quality in garments. In addition, 2(2%) of the sample said customers expect quality in garments to a small extent. Lastly, 1(1%) said customers do not usually expect quality in garments. The last statement of Table 4.18 shows responses regarding whether consumer expectations influence manufacturers input of quality in garments. 41(39%) of the sample indicated that consumer expectations can influence manufacturers input of quality to a very large extent. Also, 32(31%) of the sample indicated that consumer expectations can influence manufacturers input of quality

to a large extent. In addition, 17(16%) of the sample indicated that consumer expectations influence manufacturers input of quality to a moderate extent.

Furthermore, 11(11%) of the sample indicated that consumer expectations can influence manufacturers input of quality to a small extent. Lastly 3(3%) of the sample indicated that consumer expectations would not influence manufacturers input of quality. It can be seen from the data above that the majority of respondents are unaware of any standards cloths are expected to conform to even though the majority believe that to a large extent standards are a necessity indicating that although the importance standards are seen there is either no clothing standards publicized in the country. The majority also hold it that consumers have a part in defining quality standards in garment and their expectation of quality totally informs how much quality the manufacturer puts into a garment.

Even though the voice of the consumer is important in defining standards, there will be much deviation and variations in standards if manufactures standards are only consumer informed. There is the need for an authorized body to also access needs in garment as well as consumer expectations and standardize the input of quality in garment. Respondents however believe that their training is sufficient to produce expected quality. This quality expected is however explained as “good fit”. This leave more to be desired of quality in a garment since the only aspect incorporated in garment is the fit.

4.4.6 Consumers Expectation of Quality

Table 4.19 indicates Ghanaian consumers’ level of expectations on quality garments. 2 % of the total respondents said Ghanaian consumers do not have any expectations regarding quality in garments. Also, 9% of the total respondents said

Ghanaian consumers have low expectations regarding quality in garments. Furthermore, 26% of the total respondents said Ghanaian consumers have minimal expectations regarding quality garments. In addition, 47% of the total respondents said Ghanaian consumers have high expectations regarding quality garments. Lastly, 16% of the total respondents said Ghanaian consumers have very high expectations regarding quality garments. Since Ghanaians are expectant of high quality in garments then producers must meet that need. Producers are however meeting this need by doing what the customer desires. The missing link however is that different consumer has their own description of what quality should look like and this is why a set body must describe acceptable standards for manufactured clothes.

Table 4.19: Ghanaian Consumers Level of Expectation of Quality

Level Of Expectation	Frequency	Percentage
No expectation	2	2
Low expectation	9	9
Minimum expectation	27	26
High expectation	49	47
Very high expectation	17	16
Total	104	100

In Table 4.20, 47% of total respondents said what consumers require most in garments is good fit. Also, 14% of total respondents said what consumers require most in garments is nice designs. Furthermore, 2% of total respondents said what consumers require most in garments is good finishing. In addition, 1% of total respondents said what consumers require most in garments is good sewing.

Table 4.20: What Consumers Expect in Garment

Consumer Expectation	Frequency	Percentage
Good fit	49	47
Nice designs	14	13
Good finishing	2	2
Good sewing	1	1
Total garment quality	38	37
Total	104	100

Source: Field Survey February, 2014.

Lastly, 37% of total respondents said what consumers require most in garments is total garment quality. From Table 4.18 it is derived that consumers have high expectations of quality however Table 4.19 explains this high quality as simply good fit. This is an indication that the consumer expectation of quality alone should not inform the input quality. This is because, it might not communicate the input high quality since it is simply good fit that is most expected by consumers. There is quite a significant percentage of respondents that are expectant of total quality. This number though might not be the majority is a significant voice that tells of the need of total quality.

4.5 Quality associated with Garments

This section discusses quality associated with garments. It looks at among others, the things respondents usually check for before choosing trimmings such as thread, lining and zippers. It also looks at respondents' opinion regarding the things that make a stitch a good stitch, the seam allowance respondents usually leave on a completed garment, when pressing should be done, whether pressing is of much importance in achieving quality garments among others.

4.5.1 Choice of Constructional Trimming

Table 4.21 shows respondents' views as to the things they check for before choosing and using constructional trimmings. A total average of 68% of respondents of all three statements, usually check the colour of the trimmings before choosing and using it. However, a total average of 22.3% indicated they usually check for all the above, that is colour, durability and type of fiber of the thread before choosing and using it. It can be seen from the above interpretation that majority of respondents indicated that the colour is their main consideration before deciding to choose and use any trimming however other variables such as durability and conformation to fibre are an important consideration ignored by the majority. The produced garment by these respondents may therefore have aesthetic appeal, but no promise of durability and longevity.

Table 4.21: Choice of Trimming

Choice of Trimmings	FQ / %	Colour	Thickness	Durability	Type of fiber	All the above
Thread	FQ	55	-	6	5	38
	%	53	-	6	5	37
Lining	FQ	81	2	3	3	15
	%	78	2	3	3	14
Zippers	FQ	76	4	3	4	17
	%	73	4	3	4	16

Source: Field Survey February, 2014.

4.5.2 Good Stitches

Table 4.22 shows responses regarding what makes a stitch a good stitch. 22(21%) of the respondents indicated that correct stitch per inch is what makes a stitch a good stitch. Also, 41(39%) of the respondents indicated that even stitches are what make a

stitch a good stitch. In addition, 23(22%) of the respondents indicated that using a good needle is what makes a stitch a good stitch. Furthermore, 4 (4%) of the respondents indicated that a stitch which is not puckered is a good stitch. Lastly, 14 (13%) of the respondents indicated that ensuring a balanced tension in a stitch makes a good stitch. The interpretation of the Table indicates that respondents do not have extensive knowledge on what contributes to making a good stitch. A good stitch would need to be suited for the fabric in stitch per inch and this affect the strength of the stitch. The low response in stitch per inch and puckering demonstrates the low quality of stitch from garments made by apprentices and therefore results in low quality garment.

Table 4.22: What makes a stitch a good stitch?

Good Stitch Means	Frequency	Percentage
Correct stitch per inch	22	21.2
Even stitches	41	39.4
Good needle	23	22.1
Not puckered	4	3.8
Balanced tension in stitch	14	13.4
Total	104	99.9

Source: Field Survey February, 2014.

Table 4.23 shows responses regarding the seam allowances respondents usually leave on completed garments. 3 (3%) of the respondents said they usually leave 5/8 of an inch (1.5cm) seam allowance on completed garments whereas, 58 (56%) respondents said they usually leave two inches (5cm) or more seam allowance on completed garments.

Table 4.23: Final Seam Allowance

Final Seam Allowance	Frequency	Percentage
Half an inch	21	20
5/8 of an inch	3	3
3/4 of an inch	6	6
1 inch	16	15
2 inches or more	58	56
Total	104	100

Source: Field Survey February, 2014.

Five centimeters or more is a huge allowance to leave in any finished garment compared to the recommended 1.5 centimeters recommended for the side seam on most garments according to Singer's Complete Photo Guide to Sewing. This large allowance affects the hang of the garment and the garment is unflattering on the wearer. It also takes from the garment a good finished look.

4.5.3 Pressing Issues

Table 4.24: Importance of Pressing

Pressing is important	Frequency	Percentage
Not at all	7	6.7
Hardly	20	19.2
Fairly	8	7.7
Strongly	36	34.6
Very strongly	33	31.7
Total	104	99.9

Source: Field Survey February, 2014.

Table 4.25: Pressing time

Time	FQ/%	Beginning Of Sewing	After Every Sewing Operation Completion	End Of Sewing
Time for pressing	FQ	12	91	1
	%	12	88	1

Source: Field Survey February, 2014.

Tables 4.24 and 4.25 indicate responses regarding whether pressing is of much importance in achieving quality garments as well as the times for pressing. A total of 25.9% of the respondents from Table 4.24 said pressing is not of much importance in achieving quality garments. Also, 7.7% of the respondents said pressing is fairly of much importance in achieving quality garments. Furthermore, a total of 66.3% of the respondents said pressing is of much importance in achieving quality garments. This high percentage coupled with the high percentage of respondents that press after every sewing operation is complete is an indication of the high awareness of the importance of pressing in quality garment making process among apprentices.

Table 4.26 indicates responses regarding how pressing should be done. 41% of the sample said pressing should be done by gliding the iron over the area. Also, 26% of the sample said pressing should be done by lifting and lowering the iron at the area. In addition, 26% of the sample said pressing should be done with a press piece if necessary. Lastly, 7% of the sample said pressing should always be done with an appropriate temperature. The majority of the respondents who indicated that pressing should always be done by gliding the iron over the area is an indication that the technique of pressing is not a mastered technique among apprentices. Gliding the iron after every sewing operation will most likely mar certain fabrics by adding undesired shine.

Table 4.26: Pressing

Pressing Procedure	Frequency	Percentage
Gliding the iron over the area	43	41
Lifting and lowering the iron at the area	27	26
With a press piece if necessary	27	26
Appropriate temperature	7	7
Total	104	100

Source: Field Survey February, 2014.

4.5.4 Machine issues

Table 4.27: Condition of machines

Condition of machines	FQ/%	Very large extent	large extent	Moderate Extent	Small Extent	Not at all	Total
Better machines are required	FQ	53	18	15	9	9	104
	%	51	17	14	9	9	100

Source: Field Survey February, 2014.

The first statement of Table 4.27 shows responses from respondents regarding whether they require better machines to produce quality garments. A total of 71(68%) respondents indicated that they really require better machines in order to produce quality garments. 15(14%) respondents indicated that to a moderate extent they require better machines in order to produce quality garments. Furthermore, 18 (18%) respondents indicated that it is they don't really require better machines in order to produce quality garments. The majority however use hand sewing machines (Table 4.28) which has speed appropriate for learning. If apprentices require better machines for quality production, the real problem may be associated with the care, proper and mastery use of the machine in order for it to function properly.

Table 4.28: Sewing machine type used

Sewing Machine type	Frequency	Percentage
Hand sewing machine	40	38
Domestic electric machine	31	30
Industrial machine	33	32
Total	104	100

Source: Field Survey February, 2014.

4.5.5 Garment Labeling

4.5.5a Labeling

Statement one of Table 4.29 shows responses from respondents regarding whether they put labels in their garments. A total of 38 (36%) respondents indicated that they put labels in their garments. 3 (3%) respondents indicated that to a moderate extent they put labels in their garments. Furthermore, 63 (61%) respondents indicated that they barely or do not put labels in their garments at all.

Table 4.29: Labeling

Labeling	FQ /%	Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not At All	Total
Garments with labels	FQ	20	18	3	8	55	104
	%	19	17	3	8	53	100
Care labels are essential for quality	FQ	41	20	17	10	16	104
	%	39.4	19.2	16.3	9.6	15.4	99.9

Source: Field Survey February, 2014.

Statement two of Table 4.29 shows responses regarding whether respondents think care labels are essential when thinking of quality. Out of the total sample, 58.6% indicated that care labels are essential when it comes to quality. Sixteen percent indicated

that care labels to essential to a moderate extent when it comes to quality. Furthermore, 25% indicated that care labels are not really essential. In a summary this is an indication although respondents do not label their garments they are certain that care labeling is a quality feature that should exist in quality garments.

Table 4.30: Type of Label

Type of Label	Frequency	Percentage
Brand label	61	59
Care label	25	24
Size label	18	17
Total	104	100

Source: Field Survey February, 2014.

Table 4.30 shows responses from respondents as to the kind of label they usually put in their garments. Sixty-one (59%) respondents indicated that they usually put brand labels on their garments. Twenty-five (24%) respondents said they usually put care labels on their garments. Lastly, 18 (17%) respondents said they usually put size labels on their garments. It is clear that most respondents put brand labels on their garments but why put a brand label if not for branding, naming the product as a choice product. Branding a product gives a sense of assurance that a product has a promise of good quality. Quality should therefore be inculcated well into the garment by adding other labels such as care and size labels to make this promise authentic.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the researcher summarizes the major findings arising from the data collected, draws conclusions to the study and makes appropriate recommendations.

5.2 Summary of Findings

The following constitute the summary of major findings from the collected data and analysis

5.2.1 Apprenticeship Training Method

In a summary, the analyses from apprenticeship training methods indicate that the majority of apprentice trainers were trained through apprenticeship training programme. This implies that most trainers have experience as to the mode of training and are likely to teach their trainees what they learnt through their training. It is inferred that since most trainers are trained through apprenticeship they have experience as to the mode of training and the likelihood is that, they would teach their trainees what they learnt through their training. It was also seen that majority of the respondents usually store all that they learnt in their memory and as such no proper documentation of what is learnt is done and since most apprentice trainers are trained through similar apprenticeship training programme, very important construction details of non- regular techniques may be lost over generations.

It is further determined that aspect of observation and practical of the mode of instruction be supported by some amount of theoretical background which will enable the

trainee to reasonably solve problems relating to work being done owing to a thorough understanding of the theories behind the practice being learnt. The free hand method of cutting is popular among apprentices and though this method may be faster for small runs, may place certain limitations on the variety of style that can be cut in addition to increasing fabric wastage and loss of drafted design patterns. The facts that there is no prior knowledge of what is to be taught them make apprentices satisfied with their training. It was also determined that the majority of the respondents indicated that the apprenticeship training programme usually covered Silt and Kaba making and as such they may not be knowledgeable in the making of other apparel.

5.2.2 Quality Procedures

Concerning quality procedures, it was established that apprentices (55%) were ensuring a clean finish to their garment by cutting threads during and at the end of sewing. They however were not keen on straight stitching and the quality of fabrics (4%, 12% respectfully), which are also vital for quality. Respondents (73%) were aware of the constructional diligences that affect quality positively but not prioritize them but think of only a clean finish and probably a good fit. Respondents are unaware of the extent of resources wasted in the removal of wrong stitches. Respondents said consumers are in charge of setting quality standards for garments making. Respondents are however unaware of any standards cloths are expected to conform to. The majority believe that to a large extent standards are a necessity, indicating however that no known clothing quality standards are publicized in the country. It was discovered that respondents (34.6%) are aware of the importance of pressing and good finish, however the technique is not mastered.

Most respondents do not put labels in their garments and the few that do only put in brand labels even though majority of the respondents indicated that care labels are very essential when it comes to thinking about quality in garments production.

5.2.3 Quality Standards Awareness and the Quality Standards Expected by Ghanaians Consumers

It was discovered through the majority of respondents (47%) that Ghanaians are expectant of high quality in garments. If this is so then producers must meet that need. Producers are however meeting this need by doing what the customer desires. The missing link however is that different consumers have their own description of what quality should look like and this is why a set body must describe acceptable standards for manufactured clothes.

This is an indication that the consumer expectation of quality alone should not inform the input quality. This is because, it might not communicate the input of high quality since it is simply good fit that is most expected by consumers. There is quite a significant percentage of 37% respondents that are expectant of total quality. This number though might not be the majority is a significant voice that tells of the need of total quality.

5.3 Conclusions

In conclusion the analysis show that the apprenticeship training though offering high supervision, is not providing training in various garment making intricate techniques that ensure total garment quality such as pressing, good stitching and seams and choice of constructional trimmings. The area of training is also limited to kaba and slit among the majority. However, kaba and slit does not have ready market internationally. It is evident

that the apprenticeship trained is unaware of the totality of high quality garment construction and unaware of what the high quality seeking Ghanaian and international community look for in a garment. It was realized that there are no recognizable organizations in Ghana devoted to the course of high quality garments and those of the international communities such as the ISO are not available at the grassroots. A further research can be conducted into consumer preference of quality in garment and how this can in combination with quality expertise in garment manufacturing create a document for Ghanaian quality standard in garment.

5.4 Recommendations

5.4.1 Apprenticeship Training must cover a set Syllabus

Apprenticeship training should be valued by both the artisans and the society and structured well by the National Vocational and Technical Institute (NVTI), covering a set syllabus to command the respect in the society that it deserves since it is on the job training is very valuable in practical terms

5.4.2 Insisting on the Proper Way

Proper technicality in garment making must be encouraged by apprenticeship trainers in areas such as pressing and seam construction to create quality finished garment under the apprenticeship with no room for compromises, made effective by periodic visit from a monitoring team from the council for technical and vocational education and training (COTVET).

5.4.3 Research by Apprentices

The data revealed that apprentices usually have no prior knowledge in the training. In this age of internet availability, it is recommended that recruits and even those

in training read around that which is studied to gain a good world of knowledge and understanding in the area of garment making.

5.4.4 Records of Training

Trainees under apprenticeship must record whatever is being studied in writing or by sample book in order not to forget the correct process of the various procedures. This record must be a requirement for sitting the final examination of the National Vocational and Technical Institute (NVTI).

5.4.5 Top-up Courses

There should be top-up courses for trainers of apprentices to bring them to terms with current trends and quality issues organized by the National Vocational and Technical Institute (NVTI), Council for Technical and Vocational Education and Training (COTVET) and some high level academic institution like the Universities and Polytechnics.

5.4.6 Quality Standards Body

There should be an organization devoted to the set quality standards in garment construction in Ghana. This could be a collaboration between COTVET and the Ghana Standards Authority (GSA). Garment producers should be overseen by this set organization where periodic inspections are conducted and where garments are valued according to the level of quality inculcated into a garment.

5.4.7 Quality Standard Document

There is the need for a garment quality standard document containing set standard that garment are to conform, to be developed by a team from the Council for Technical and Vocational Education and Training (COTVET), the Ghana Standards Authority

(GSA) and some recognized experts in the field of garment construction. These standards are to conform to international quality standards and made available to various garment producer groups to reach individual shops.



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APPENDICES

Appendix A

Questionnaire for Apprentices

I am a student of M.Tech Fashion and Textiles at the University Of Education, conducting a research on the topic:

Apprenticeship Training Methods; Effect of Quality in Garment Construction (A Case Study at Kumasi Metropolis)

Your views will be treated as confidential and used purely for academic purposes.

Respondent's background

1. Gender: Male Female
2. Age group: 15-20years 21 – 25 years 26-30 years 31 – 35 36 – 40 41 and above
3. Location:
4. Year in apprenticeship: 1st year 2nd year 3rd year 4th year and above
5. Educational background before starting apprenticeship : None Basic JHS/JSS SHS/SSS/O Level

Apprenticeship training methods

6. What training did your apprenticeship trainer go through? Don't know apprenticeship vocational polytechnic university
7. What qualified you to be accepted into the apprenticeship training programme? No qualification Age consideration basic interest basic education JHS education
8. How long is your apprenticeship training anticipated to last? 1 year 2 years 3 years 4 years and above
9. Is theory, practical and observation a part of your apprenticeship training? Very large extent Large extent Normal Partially Not at all
10. Which of the following takes preeminence in your current training; A. theory B. practical's C. observation? A only B only C only A and B only A and C only A, B and C B and C only
11. How are measurements translated into garments? Freehand cutting customized pattern usage commercial pattern usage
12. Which area of study has your apprenticeship training covered so far?
.....
.....
.....
13. How are you assessed to know if your training has been effective?

- Practical tests practical and written tests by what you sew daily no assessment
14. In your opinion is supervision adequate in your practical training? Very large extent Large extent Normal Partially Not at all
15. Are you satisfied with how you are being trained under the apprenticeship programme? Very large extent large extent normal partially not at all
16. Did you have any prior knowledge of what would be studied? Very large extent Large extent Normal Partially Not at all
17. How did you record what was taught under the apprenticeship programme?
In memory in a note book in a swatch book
18. Are garments cut for you or do you do the cutting.....,
19. Are you made to understand the effects of the techniques you learn? Very large extent Large extent Normal Partially Not at all

Quality Procedures

20. In your opinion what contributes to a quality garment.
- (a) clean finish
 - (b) straight stitch
 - (c) Good fit
 - (d) Nice design
 - (e) Good fabric
21. How do you personally ensure quality?
Careful Garment handling Careful sewing Careful cutting Using the right trimmings All the above
22. Do you believe in getting a work right the first time? Very large extent Large extent Normal Partially Not at all
23. Do you think this helps achieve quality? Very large extent Large extent Normal Partially Not at all
24. Do you think unpicking wrong stitches ensure quality Very large extent Large extent Normal Partially Not at all
25. Do you think unpicking wrong stitches waste time? Very large extent Large extent Normal Partially Not at all
26. Do you think unpicking wrong stitches are extra cost to your company? Very large extent Large extent Normal Partially Not at all
27. What will be your priority? Quality garment Meeting deadlines both
28. Are you aware of the quality standards garments should conform to? Very large extent Large extent Normal Partially Not at all

29. Who do you think sets these standards? Manufacturer Consumer A special body Ghana Standard Board International Organization For Standardization(ISO)
30. In your opinion are these standards necessary? Very large extent Large extent Normal Partially Not at all
31. What is /are your responsibilities in achieving these standards?.....
.....
.....
32. Do you think that consumers have a part in defining quality standards in a garment? Very large extent Large extent Normal Partially Not at all
33. What do consumers require in garments? Good fit Nice designs Good finishing Good sewing Total garment quality
34. Do customers expect quality? Very large extent Large extent Normal Partially Not at all
35. What is the Ghanaian consumers' level of expectations on quality garments?
No expectation Low expectation Minimum expectation High expectation Very high expectation
36. Do you think consumer expectations influence manufacturers input of quality? Very large extent Large extent Normal Partially Not at all
37. In your opinion, is your apprenticeship training enough to produce this expected level of quality? Very large extent Large extent Normal Partially Not at all
38. What consumer group do you serve most? Ghanaians Foreigners Both

Quality associated with garments

39. What do you check for before choosing and using the following;
- a) Thread: Colour Thickness Durability Type of fiber All the above
 - b) Linings: Colour Thickness Durability Type of fibre All the above
 - c) Zippers: Colour Thickness Durability Free opening All the above
40. In your opinion, what makes a stitch a good stitch
- a) Correct stitch per inch
 - b) Even stitches
 - c) Good needle
 - d) Unpacked
 - e) Balanced tension in stitch

41. What seam allowance do you leave on completed garment?
- Half an inch
 - 5/8 of an inch
 - 3/4 of an inch
 - 1 inch
 - 2 inches and more
42. How should pressing be done
- Gliding the iron over the area []
 - Lifting and lowering the iron at the area []
 - With a press piece if necessary
 - Appropriate temperature
43. Is pressing of much importance in achieving quality garment?
- Not at all []
 - Hardly []
 - Fairly []
 - Strongly []
 - Very strongly []
44. When should pressing be done when assembling a garment
- Only at the beginning of sewing []
 - After every sewing operation and after sewing is fully completed []
 - Only at the end of sewing []
45. At what stage do you cut threads when sewing
- Only at the beginning of sewing []
 - After every sewing operation and end []
 - Only at the end of sewing []
46. What machines are you currently using for your sewing operations?
- Hand sewing machine
 - Domestic electric machine
 - Industrial machine
47. Do you require better machines to produce quality garments? Very large extent []
Large extent [] Normal [] Partially [] Not at all []
48. Do you think the set up in your work place facilitates quality garment procedures?
Very large extent [] Large extent [] Normal [] Partially [] Not at all []
49. Do you put labels in your garments? Very large extent [] Large extent [] Normal
[] Partially [] Not at all []
50. What labels do you put in your garments? Brand label [] Care label [] Size label
[]
51. Do you think care labels are essential when thinking of quality? Very large extent
[] Large extent [] Normal [] Partially [] Not at all []

52. Are there any recommendations you will like to offer apprentices trainers in Ghana

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Appendix B

Questionnaire for Apprenticeship Trained Workers

I am a student of M.Tech Fashion and Textiles at the University Of Education, conducting a research on the topic:

Apprenticeship Training Methods; Effect of Quality in Garment Construction (A Case Study at Kumasi Metropolis)

Your views will be treated as confidential and used purely for academic purposes.

Respondent's Background

53. Gender: Male Female
54. Age group: 15-20years 21 – 25 years 26-30 years 31 – 35 36 – 40 41 and above
55. Location:.....
56. Year of completing apprenticeship training?
57. Educational background before starting apprenticeship : None Basic JHS/JSS SHS/SSS/O Level
58. Current place of work.....
59. Have you had any extra training in garment making procedures after apprenticeship training? Yes no
60. If 'yes' please specify.....

Apprenticeship training methods

61. What training did your apprenticeship trainer go through? Don't know apprenticeship vocational polytechnic university
62. What qualified you to be accepted into the apprenticeship training programme? No qualification Age consideration basic interest basic education JHS education
63. How long did your apprenticeship training last? 1 year 2 years 3 years 4 years and above
64. Was theory, practical and observation a part of your apprenticeship training? Very large extent Large extent Normal Partially Not at all
65. Which of the following took preeminence in your training; A. theory B. practical C. observation? A only B only C only A and B only A and C only A, B and C B and C only
66. Which of the following do you currently use? Freehand cutting customized pattern usage commercial pattern usage
67. Which area of study did your apprenticeship training cover?
.....
.....

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68. In your opinion was supervision adequate in your practical training? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
69. Were you satisfied with your apprenticeship training? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
70. Did you have any prior knowledge of what would be studied? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
71. How did you record what was taught under the apprenticeship programme?
Only in memory [] in a note book [] In a swatch book []
72. Would you say your apprenticeship training was effective? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
73. Would you say your training was exhaustive? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
74. Have you found need to upgrade yourself? Very large extent [] Large extent [] Normal [] Partially [] Not at all []

Quality Procedures

75. In your opinion what contributes to a quality garment
- clean finish []
 - straight stitch []
 - Good fit []
 - Nice design []
 - Good fabric []
76. How do you personally ensure quality
Careful Garment handling [] Careful sewing [] Careful cutting [] Using the right trimmings [] All the above []
77. Do you believe in getting a work right the first time? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
78. Do you think this helps achieve quality? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
79. Do you think unpicking wrong stitches ensure quality? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
80. Do you think unpicking wrong stitches waste time? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
81. Do you think unpicking wrong stitches are extra cost to your company? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
82. What will be your priority? Quality garment [] Meeting deadlines [] both []
83. Are you aware of the quality standards garments should conform to? Very large extent [] Large extent [] Normal [] Partially [] Not at all []

84. Who do you think sets these standards? Manufacturer Consumer A special body Ghana Standard Board International Organization For Standardization(ISO)
85. In your opinion are these standards necessary? Very large extent Large extent Normal Partially Not at all
86. What is /are your responsibilities in achieving these standards?.....
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.....
87. Do you think that consumers have a part in defining quality standards in a garment? Very large extent Large extent Normal Partially Not at all
88. What do consumers require in garments? Good fit Nice designs Good finishing Good sewing Total garment quality
89. Do customers expect quality? Very large extent Large extent Normal Partially Not at all
90. What is the Ghanaian consumers' level of expectations on quality garments?
No expectation Low expectation Minimum expectation High expectation Very high expectation
91. Do you think consumer expectations influence manufacturers input of quality?
Very large extent Large extent Normal Partially Not at all
92. In your opinion, is your apprenticeship training enough to produce this expected level of quality Very large extent Large extent Normal Partially Not at all
93. What consumer group do you serve most ? Ghanaians Foreigners Both

Quality associated with garments

94. What do you check for before choosing and using the following;
- d) Thread: Colour Thickness Durability Type of fibre All the above
 - e) Linings: Colour Thickness Durability Type of fibre All the above
 - f) Zippers: Colour Thickness Durability Free opening All the above
95. In your opinion, what makes a stitch a good stitch
- f) Correct stitch per inch
 - g) Even stitches
 - h) Good needle
 - i) Unpacked
 - j) Balanced tension in stitch

96. What seam allowance do you leave on completed garment?
- a) Half an inch
 - b) $\frac{5}{8}$ of an inch
 - c) $\frac{3}{4}$ of an inch
 - d) 1 inch
 - e) 2 inches and more
97. How should pressing be done
- a) Gliding the iron over the area []
 - b) Lifting and lowering the iron at the area []
 - c) With a press piece if necessary
98. Is pressing of much importance in achieving quality garment?
- a) Not at all []
 - b) Hardly []
 - c) Fairly []
 - d) Strongly []
 - e) Very strongly []
99. When should pressing be done when assembling a garment
- d) Only at the beginning of sewing []
 - e) After every sewing operation and after sewing is fully completed []
 - f) Only at the end of sewing []
100. At what stage do you cut threads when sewing
- a) Only at the beginning of sewing []
 - b) After every sewing operation and end []
 - c) Only at the end of sewing []
101. What machines are you currently using for your sewing operations?
- a) Hand sewing machine
 - b) Domestic electric machine
 - c) Industrial machine
102. Do you require better machines to produce quality garments? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
103. You think the set up in your work place facilitates quality garment procedures? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
104. Do you put labels in your garments? Very large extent [] Large extent [] Normal [] Partially [] Not at all []
105. What labels do you put in your garments? Brand label [] Care label [] Size label []

106. Do you think care labels are essential when thinking of quality? Very large extent [] Large extent [] Normal [] Partially [] Not at all []

107. Are there any recommendations you will like to offer apprentices in Ghana.....
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