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A MANUAL ON THE TEACHING OF QUILTING, PATCHWORK AND SMOCKING IN SCHOOLS AND COLLEGES IN HOHOE MUNICIPALITY, GHANA

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APRIL, 2022

DECLARATION

STUDENT'S DECLARATION

I, SIMPI ELIZABETH EMEFA, declare that this thesis with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE: ……………………………………………..

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SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidance for supervision of thesis as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: MR. ISAAC ABRAHAM

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DATE: …..

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this thesis to God Almighty my creator, my strength, my strong pillar, my Source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program. I dedicate this research work to my children Felicia Kufe Simpi, Cutlin Kufe and Emmanuella Narh.

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ABSTRACT

In Ghana, quilting, patching and smocking are not well established in the schools and colleges as part of the teachers' curriculum. Teachers play a key role in ensuring that every learner can participate in every learning process in the practical subjects like quilting, patching and smocking in schools. Availability of manual as a teaching strategy or a guide puts a huge demand on teachers in terms of time and resources. Based on this, the study investigated the development of a manual that encourages and guide teachers in teaching quilting, patching and smocking. The study focused on teachers of school and colleges in Hohoe Municipality of Ghana. The target population comprised all teachers in 14 schools and colleges in Hohoe Municipality of Ghana. Census and purposive sampling technique was employed in selecting all the 14 and 34 quilting, patching and smocking teachers at the Senior High/Technical Institute in Hohoe Municipality of Ghana. The findings indicated that teachers have a positive perception towards teaching and learning of quilting, patchwork and smocking. The finding showed that lack of sufficient time, and too many recommended quilting/patchwork texts books are major challenge to effective teaching of quilting/patching and smocking. The study discovered that the developed manual can identify and appreciate the guidelines in the teaching and learning of quilting, patching and smocking. It was concluded that the developed manual could improve teachers understanding, and be useful for the purpose of improving effective teaching and learning of quilting, patching and smocking at the various schools and colleges. The study recommended that Ghana Education Service should see to it that the needed tool, materials and facilities are made available to the schools in order to motivate the teachers to readily and effectively teach quilting/patchwork and smocking to the students.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In today's world of modernisation, fashion is changing rapidly. There is a need to bring innovative changes and new designs of garments and accessories (Rastogi, 2012). Nowadays there are many types of garments and accessories, which are readymade and handmade. A need for change in fashion and style has always led the way to execute creative ideas in different directions. Quilting, patchwork and smocking are techniques used for a diverse range of objects, from clothing to intricate objects such as pincushions (Gagne, 2007). Quilting is a method of stitching layers of material together. Although there are some variations, a quilt usually means a bed cover made of two layers of fabric with a layer of padding (wadding) in between, held together by lines of stitching. The stitches are usually based on a pattern or design. Whereas quilting is used to form the structure of a quilt, patchwork is the process of sewing fabric pieces together to create a block (usually square) or a stripe design.

Fundamentally, patchwork quilts consist of many fabric pieces of differing patterns, colours and textures, combined in a variegated style – but with an underlying theme (Kerr, 2007). As indicated by Toth (2014) smocking is a design technique to control the fullness in a fabric, with beautiful embroidery stitches. To do smocking, regular gathers (or pleats) are taken on the fabric with long stitches on the back and very small stitches in the front. Most of the time other embroidery details like flower designs are done along with smocking. Although closely linked to quilting and patchwork, smocking is a different technique, with its distinct history. Smocking is a technique used to gather fabric so that it can stretch. Before elastic, smocking was

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commonly used in cuffs, bodices, and necklines in garments where buttons were undesirable.

In the 21st century an emphasis on sewing skills has continued within exploratory or introductory courses at Junior and Senior High School, and in advanced or career development courses at the tertiary levels in Ghana. Quilting, patchwork and smocking from a technical perspective continue to be a predominant part of Clothing and Textiles course in the classroom. It is essential therefore to reflect upon how learning experiences such as quilting, patchwork and smocking supports educational goals (Sackey, 1995). One major goal of Ghana's educational system is to equip individuals with employable skills to enable them to contribute meaningfully towards the development of the nation. Consequently, the main aim of teaching practical work like quilting, patchwork and smoking are to train students to acquire knowledge and skills in clothing production and management (Broni-Afful & Ziggah, 2007).

Skills in quilting and patching are the ability to do something expertly and well. It is an organized sequence of action, proficiently executed and usually displaying flexible but systematic temporal patterning (Orkorie, 2000). A skill or talent is the learned capacity to carry out pre-determined results often with the minimum outlay of time or energy. Knowledge is information processed by humans and put together contextually. Its proper use is always beneficial to human beings. The distinguishing factor between knowledge and skill is that knowledge is contained in the head and skills are those that are done by the hand. According to Magagula, Mpofu and Bhebhe (2019), teacher competencies in the teaching of practical work like quilting, patchwork and smocking can be measured by the ability to impart knowledge and practical skills to the students. These skills are the manipulative skills and accuracy of

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sewing processes, machine stitching skills and hand stitching skills. Komolafe (2016) revealed that teachers have low competence in pattern drafting, cutting out and the use of different needlework techniques even though these skills are the key foundation in garment construction.

Forster, Quarcoo, Ashong and Ghanney (2017) stated that teachers should be competent enough to enable them to teach the right skills to the students. Kaindi, Mburugu, Nguku and Obere (2016) echoes that it is difficult and impossible for a teacher to teach what he or she is supposed to teach with no manual or guide. This suggests that a teacher that teaches quilting, patching and smocking cannot impart better practical skills without a guide or manual. Kaindi *et al.* (2016) further state that teaching guides are considered important as they defined direction towards the subject. This has thus necessitated developing a manual that will encourage and guide teachers in teaching quilting, patching and smocking.

1.2   Statement of the Problem

Quilting, patching and smocking are the most popular crafts practiced around the world, and the variety of these techniques is staggering. The opportunities to experience beauty through this craft are nearly endless (Rastogi, 2012). Achievements of clothing and textiles education goals to a large extent depend on student active participation and involvement in the teaching and learning transaction. Teachers play a key role in ensuring that every learner can participate in every learning process in the practical subjects like quilting, patching and smocking in schools. Teachers are required to use the same methods in other subjects in teaching quilting, patching and smocking technique since there are no manuals to guide the teaching in enhancing student participation in the lessons. It appears that quilting, patching and smocking

technique is not very commonly observed, and most certainly is not the central organising theme in most schools in Ghana, it is important for clothing and textile teachers to understand the nature of quilting, patching and smocking; not only why quilting, patching and smocking technique is taught in schools, but also what, and how quilting, patching and smocking is taught. Availability of manual as a teaching strategy or a guide puts a huge demand on teachers in terms of time and resources.

In Ghana, quilting, patching and smocking are not well established in the schools and colleges as part of the teachers' curriculum (Fiadzo, 2010). As such, it appears many teachers feel less prepared to teach quilting, patching and smocking in schools, especially when it comes to the use of the currently-preferred inquiry approach (Fiadzo, 2010). However, to date, there are few studies dedicated to finding out factors hindering the teachers in quilting, patching and smocking in their teaching. This study, therefore, aimed at investigating the perception of teachers, the method used in teaching, challenges in teaching, and developing a manual for improving upon the teaching and learning of quilting, patchwork and smocking technique.

1.3   Objectives of the Study

The specific objectives of the study were:

1. To identify the perception of teachers in teaching quilting, patchwork and smocking in schools.

2. To identify the challenges in teaching and learning of quilting, patchwork and smocking in schools.

3. To develop a manual for improving upon the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students.

1.4 Research Questions

The following research questions were developed to guide the study:

1. What are the perception of teachers in teaching quilting, patchwork and smocking in school?

2. What are the challenges in teaching and learning of quilting, patchwork and smocking in school?

3. How can the developed manual be used to improve the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students?

1.5 Significance of the Study

The findings of the study are expected to contribute to the existing literature on teaching and learning of practical subjects like quilting, patching and smocking in the realm of schools and colleges in Ghana. It will also help researchers in the field of fashion to appreciate quilting, patching and smocking as a basis for further research work.

The outcome of the study will help practitioners to develop quilting, patchwork, and smocking assessment processes across a range of domains and aids subsequent implementation at institutional and practitioner levels. It will provide teachers with a set of overarching principles for implementing successful quilting, patchwork, and smocking processes. It will also provide a set of directions that teachers might wish to consider for aiding decision-making about teaching and learning of quilting, patchwork, and smocking at the various schools and colleges in Ghana.

The outcome of the study will build confidence in teachers in teaching quilting, patching and smocking of which the manual can make a substantial contribution and

there is also a longer-term ambition to develop a network of practitioners committed to use this manual as a conduit for sharing further ideas and as a springboard for taking quilting, patching and smocking to a new level across the sector.

Policy-makers will be guided by the knowledge in their decision in dealing with teachers who teaches quilting, patching and smocking at the various schools in Ghana.

1.6   Scope of the Study

The study was confined to issues related to developing manual or a guide on teaching of quilting, patchwork and smocking in school and colleges in Hohoe Municipality of Ghana. It was specifically related to the perception of teachers in teaching quilting, patchwork and smocking in school, challenges in teaching and learning of quilting, patchwork and smocking in school, and manual for improving upon the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students.
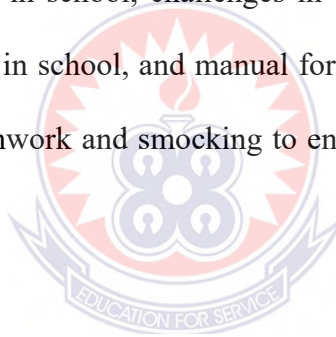
1.7   Organization of the Study

The study is organized into five chapters. The first chapter talks about the background to the study, the statement of the problem, the research objectives and questions. The chapter also deals with the significance of the study, the delimitations and limitations encountered in the study. The second chapter deals with the review of the related literature and the theoretical framework.

The third chapter talks about the research methodology which includes study area, research design, population for the study, sample and sampling data collection instruments type of data, administrations, and data analysis. The fourth chapter deals with the data presentation and analysis. The data was obtained through primary and

secondary sources. The presentation was in the form of mean and standard deviation, which was captured in tables. The last chapter, which is chapter five talks about the summary of findings, the conclusions that were drawn and the recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

This chapter reviews the theoretical and empirical basis of the study by authorities and researchers in the field of practice. It specifically reviews the overview of quilting, patchwork and smocking, teaching and learning of quilting, patchwork and smocking, and perception of teachers in teaching quilting, patchwork and smocking. The study further reviews the strategies for improving teaching of quilting, patchwork and smocking in schools.

2.2   Overview of quilting, patchwork and smocking

In textiles, fabrics are manufactured in wide varieties and designs. In addition, different designs and effects are produced on fabric with various mechanisms that are helpful to form different weaves and lots of design which enhances the look of apparels (Lam & Stylios 2016). Quilting, patchwork and smocking are various mechanisms of fabric manufacturing. Quilting, patchwork and smocking have been used for a diverse range of objects, from clothing to intricate objects. The quilts have been preserved for many different reasons, whether sentimental or commemorative, as examples of needlework skills and techniques, or even because of the specific fabrics used in their designs.

2.2.1   Quilting

Quilting is the term given to the process of joining a minimum of three layers of fabric together either through stitching manually by hand using a needle and thread, or mechanically with a sewing machine or specialised longarm quilting system

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(Hargrave, Harriet & Carrie, 2015). An array of stitches is passed through all layers of the fabric to create a three-dimensional padded surface. The three layers are typically referred to as the top fabric or quilt top, battling or insulating material and the backing. As indicated by Johnson (2014), quilting varies from a purely functional fabric joinery technique to highly elaborate, decorative three-dimensional surface treatments. A wide variety of textile products are traditionally associated with quilting that includes bed coverings, soft home furnishings, garments and costumes, wall hangings, artistic objects and cultural artefacts.

According to Hargrave et al. (2015), the quilter that contribute to the final surface quality and utility of the quilted material can employ a wide range of effects. The quilter controls these effects through the manipulation of elements such as material type and thickness, stitch length and style, pattern design, piecing and cutting. Two dimensional effects such as optical illusions can be achieved through aesthetic choices regarding colour, texture and print. Three dimensional and sculptural components of quilted material can be manipulated and enhanced with further embellishment which may include applique, embroidery, and the inclusion of other objects or elements such as pearls, beads, buttons, and sequins. Some quilters dye or create their own fabrics (Hargrave et al., 2015).

The word *quilt* comes from the Latain *culcita* meaning a stuffed sack, but it came into the English language from the French word *cuilte* (Johnson, 2014). Usage of the term seems to have been used first in England in the 13th century. However, the sewing techniques of piecing, applique, and quilting have been used for clothing and furnishings in diverse parts of the world for several millennia and a wide range of quilting styles and techniques have uniquely evolved around the globe. The earliest known quilted garment is depicted on the carved ivory figure of a Pharaoh dating

from the ancient Egyptian First Dynasty (c. 3400 BC). In 1924 archaeologists discovered a quilted floor covering in Mongolia, estimated to date between 100 BC and 200 AD. In Europe, quilting has been part of the needlework tradition from about the fifth century, with early objects containing Egyptian cotton, which may indicate that Egyptian and Mediterranean trade provided a conduit for the technique. However, quilted objects were relatively rare in Europe until approximately the twelfth century, when quilted bedding and other items appeared after the return of the Crusaders from the Middle East. The medieval quilted gambeson, aketon and arming doublet were garments worn under or instead of armor of maille or plate armor. These developed into the later quilted doublet worn as part of fashionable European male clothing from the fourteenth to seventeenth century.

In American colonial times, quilts were predominantly whole-cloth quilts-a single piece of fabric layered with batting and backing held together with fine needlework quilting. Broderie perse quilts were popular during this time and the majority of pierced or appliqued quilts made during the 1170–1800 period were medallion-style quilts (quilts with a central ornamental panel and one or more borders) (Hargrave et al., 2015). Quilting in America dates to the 1770s, the decade the United States gained its independence from England. These late-eighteenth- and nineteenth-century patchwork quilts often mixed wool, silk, linen, and cotton in the same piece, as well as mixing large-scale and small-scale patterns (Brackman, 2004). Some antique quilts made in North America have worn-out blankets or older quilts as the internal batting layer, quilted between new layers of fabric and thereby extending the usefulness of old material.

African-American quilts were made by slaves, both for themselves and for their owners. The style of these quilts was determined largely by time period and region,

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rather than race, and the documented slave-made quilts generally resemble those made by white women in their region (Brackman, 2006). After 1865 and the end of slavery in the United States, African-Americans began to develop their own distinctive style of quilting. Harriet Powers, an African American woman born into slavery, made two famous "story quilts" and was one of the many African-American quilters who contributed to the development of quilting in the United States. The first nationwide recognition of African-American quilt-making came when the Gee's Bend quilting community was celebrated in an exhibition that opened in 2002 and traveled to many museums, including the Smithsonian. According to Curran (2018), the contributions made by Harriet Powers has been recognized in modern quilt-making.

In the early 21st century, modern quilting became a more prominent area of quilting. Modern quilting follows a distinct aesthetic style which draws on inspiration from modern style in architecture, art, and design using traditional quilt making techniques (May, 2014). Modern quilts are different from art quilts in that they are made to be used (Ellis, 2014). The characteristics of a modern quilt may include: the use of bold colors and prints, high contrast and graphic areas of solid color, improvisational piecing, minimalism, expansive negative space, and alternate grid work

Plate 2. 1: The Tristan Quilt   **Plate 2. 2: Hunting coat**
Source: Victoria and Albert Museum, London

During the medieval period, quilting was also used to produce clothing that was light as well as warm. Padded wear could be put on under armour to make it more

comfortable, or even as a top layer for those who could not afford metal amour (Plate 2.1). Another quilted clothing in the collection is an Indian hunting coat (Plate 2.2), made in the 17th century, when the Mughal dynasty ruled South Asia. The exquisite 'tambour' chained stitch (worked from the top surface with a special needle called an 'ari', similar to a crochet hook) suggests that it was probably the work of a specialist craft workshop that would produce work for export to the West as well as for the Mughal court (Victoria & Albert Meseum, 2020).

Plate 2. 3: Bed cover created for the marriage   Plate 2. 4: Quilted Indian bed covers
Source: Victoria and Albert Museum, London

Although quilting can just use basic running stitch or backstitch, each stitch has to be made individually to ensure it catches all the layers within the quilt. Where the stitching is laid down in decorative patterns, it can be extremely fine work (Victoria & Albert Meseum, 2020). Because items such as bed covers typically involve large surface areas, quilt making is often associated with social occasions where many people share the sewing. Particularly in north America, where early settlers from England and Holland established quilting as a popular craft, there is a tradition of a quilt-making 'bee' for a girl about to get married, with the aim of stitching a whole quilt in one day. One American 'Bride's Quilt' in the collection was created for the marriage of John Haldeman and Anna Reigart in 1846 (Plate 2.3). It uses a pattern

known as 'sunburst' or 'rising sun', popular for its symbolic associations with the dawning of a new day (Victoria & Albert Meseum, 2020).

In Britain, quilting was most popular in the 17th century, when it was used for quilted silk doublets and breeches worn by the wealthy and later for petticoats, jackets and waistcoats. Quilts were produced professionally in major towns and cities – London, Canterbury and Exeter are all linked with sumptuous examples in our collection. Quilts were also imported. Quilted Indian bed covers made from chintz fabric (Indian painted and dyed cotton) (Plate 2.4) were very popular export items for both the British and Dutch markets in the late 17th and 18th centuries.

Plate 2. 5: Chapman quilt
Source: Victoria and Albert Museum, London, Museum no. T.299-1999

Many of the English quilted items in the Museum's collection are the work of women sewing domestically for their own use (Victoria & Albert Museum, 2020). While some were made by necessity, others were made to mark specific life occasions, such as a birth or wedding, or, like the Chapman quilt, were perhaps made for a dowry (Plate 2.5).

2.2.2   Patchwork

Patchwork is a form of needlework that involves sewing together pieces of fabric into a larger design. The larger design is usually based on repeating patterns built up with different fabric shapes (which can be different colors). These shapes are carefully measured and cut, basic geometric shapes making them easy to piece together (Anderson, 2015). Patchwork is most often used to make quilts, but it can also be used to make rugs, bags, wall-hangings, warm jackets, cushion covers, skirts, waistcoats and other items of clothing. Some textile artists work with patchwork, often combining it with embroidery and other forms of stitchery (Sharon, 2005). Sharon, 2005) affirmed that when used to make a quilt, the larger patchwork or pieced design becomes the "top" of a three-layered quilt, the middle layer being the batting and the bottom layer the backing. To keep the batting from shifting, a patchwork or pieced quilt is often quilted by hand or machine using a running stitch in order to outline the individual shapes that make up the pieced top, or the quilting stitches may be random or highly ordered overall patterns that contrast with the patchwork composition (Whittle, 2013).

Patchwork was used by ancient Egyptians for their clothes, wall decorations, draperies and furniture, with oldest depictions from 5,500 years ago (3,400 BCE) (Brick, 2012). Chinese patchwork is storied to have begun by Emperor Liu Yu of the Liu Song Dynasty (Aqiusha, 2014). Earliest preserved pieces have been dated from the early middle Ages, where among other uses layers of quilted fabric were used in the construction of armor-this kept the soldiers warm and protected. Japanese armor was made in a similar fashion (Aqiusha, 2014). Using this technique, quilts began to appear in households of the 11th to 13th centuries. As the European climate became colder around this time, the incidence of the use of bed quilts rose, and so developed

the practice of embellishing a simple cloth through the creation of pattern and design, alongside the development of decorative quilting. The Pilgrims (Brick, 2012) took the tradition of making quilts in this fashion to America.

In Britain, the most enduring method is known as 'piecing over paper'. In this method, the pattern is first drawn onto paper and then accurately cut. Small pieces of fabric are folded around each of the paper shapes and tacked into place (also known as basting, this uses long, temporary stitches that will eventually be removed). The shapes are then joined together from the back using small stitches called whipstitches. According to May (2014), if quilting is often associated with warmth and protection, patchwork is more closely associated with domestic economy – a way of using up scraps of fabrics or of extending the working life of clothing. Unlike quilting, patchwork remained a predominantly domestic, rather than professional, undertaking. Not all patchwork was produced for reasons of economy, however. There's evidence that some of the patchwork quilts in our collection used significant amounts of specially bought fabrics and these quilts have been attributed to middle-class women making these objects for pleasure rather than necessity.

Plate 2. 6: Bed cover military patchwork   Plate 2. 7: Ann West's coverlet
Source: Victoria and Albert Museum, London

If quilting is often associated with warmth and protection, patchwork is more closely associated with domestic economy-a way of using up scraps of fabrics or of extending the working life of clothing (Victoria & Albert Museum, 2020). Unlike quilting, patchwork remained a predominantly domestic, rather than professional, undertaking. There was also a tradition of military patchwork sewn by male soldiers while posted overseas in the second half of the 19th century (Plate 2.7). As revealed by Victoria and Albert Museum (2020), some patchwork used fine silks and velvets of the 17th and 18th centuries through to the cheap cottons manufactured during the Industrial Revolution.

The largest number of fine silks and velvets patchwork date from the 19th century. During this period, intricate designs were used to portray a number of different motifs – from scripture and biblical scenes, as seen in Ann West's coverlet to scenes of world events and even playing-card designs, as seen in a bed cover dated to 1875 – 85 (Plate 2.7). This kind of patchwork was so popular that several examples were displayed at the Great Exhibition of 1851 (Victoria & Albert Museum, 2020).

Plate 2. 8: Bed cover   Plate 2. 9: At the end of the Day
Source: Victoria and Albert Museum, London

During the 1875 – 85 period, patchwork was promoted by the likes of prison reformer Elizabeth Fry as a skill that should be taught to female inmates – a means of providing

the prisoners both employment and allowing time for reflection (Plate 2.8 and Plate 2.9). Social Enterprise Fine Cell Work (SEFCW) adopted the concept of Elizabeth Fry with the inmates in designing patchwork, and these patchwork (Kerr, 2007).

2.2.3 Smocking

Smocking is an embroidery technique that is probably thousands of years old. Smocking refers to work done before a garment is assembled. It usually involves reducing the dimensions of a piece of fabric to one-third of its original width, although changes are sometimes lesser with thick fabrics. Individual smocking stitches also vary considerably in tightness, so embroiderers usually work a sampler for practice and reference when they begin to learn smocking (Toth, 2014). Traditional hand smocking begins with marking smocking dots in a grid pattern on the wrong side of the fabric and gathering it with temporary running stitches. These stitches are anchored on each end in a manner that facilitates later removal and are analogous to basting stitches. Then a row of cable stitching stabilizes the top and bottom of the working area (Reader's Digest Association, 2014).

Smocking Arts Guild of America (2018) revealed that the name smocking was coined during 1700's in England. The technique used at the time was gathering. A full work shirt was gathered at the bodice and the sleeves. This gathered effect in the garment was then called a "smock". Smocking was introduced to work man garment mainly to give fullness or free movement of their body and arms. Smocked garments were worn by agricultural labourers, trades men, and shepherds in earlier times. In the 19th century, artists, to cover their clothing, received smocks and women adapted them in a modified form with fancy embroidery. Later babies clothing, silk under garments for ladies, and even afternoon dresses appeared with smocking. Ladies magazines had

instructions for hand smocking and patterns for garments. At present smocking has become the fashion statement (Smocking Arts Guild of America, 2018).

The industrial revolution changed the smocking styles and patterns drastically. There are many types of smocking known throughout the world. The Italians have "shirring" worked from the back of the fabric, the Romanians have a patterned design using tubes that resemble reeds, and other countries stress picture formation over gathered threads, again all done by hand. Smocking basically consists of pleated fabric and a fibre (usually a floss) for embellishment stitches. Smocking requires lightweight fabric with a stable weave that gathers well. Cotton and silk are typical fiber choices, often in lawn or voile. Smocking is worked on a crewel embroidery needle in cotton or silk thread and normally requires three times the width of initial material as the finished item will have. Historically, smocking was also worked in pique, crepe de Chine, and cashmere (Reader's Digest Association, 2014).

Plate 2. 10: **Pleated smocked**
Source: Crane (2020)

According to Toth (2014), early smocking, or gauging, was done by hand. Some embroiderers also made their own guides using cardboard and an embroidery marking pencil. By 1880, iron-on transfer dots were available and advertised in magazines such as Weldon's. The iron on transfers places evenly spaced dots onto the wrong side of the fabric, which were then pleated using a regular running stitch. Smocking may

be done in many sophisticated patterns. Reader's Digest Association (2014) revealed the standard hand smocking stitches include:

- **Cable stitch**: a tight stitch of double rows that joins alternating columns of gathers.

- **Stem stitch**: a tight stitch with minimum flexibility that joins two columns of gathers at a time in single overlapping rows with a downward slope.

- **Outline stitch**: similar to the stem stitch but with an upward slope.

- **Cable flowerette**: a set of gathers worked in three rows of stitches across four columns of gathers. Often organized in diagonally arranged sets of flowerettes for loose smocking.

- **Wave stitch**: a medium density pattern that alternately employs tight horizontal stitches and loose diagonal stitches.

- **Honeycomb stitch**: a medium density variant on the cable stitch that double stitches each set of gathers and provides more spacing between them, with an intervening diagonal stitch concealed on the reverse side of the fabric.

- **Surface honeycomb stitch**: a tight variant on the honeycomb stitch and the wave stitch with the diagonal stitch visible, but spanning only one gather instead of a gather and a space.

- **Trellis stitch**: a medium density pattern that uses stem stitches and outline stitches to form diamond-shaped patterns.

- **Vandyke stitch**: a tight variant on the surface honeycomb stitch that wraps diagonal stitches in the opposite direction.

- **Bullion stitch**: a complex knotted stitch that joins several gathers in a single stitch. Organized similarly to cable flowerettes.

2.3   **Teaching and learning of quilting, patchwork and smocking**

As a technique, quilting, patchwork and smocking have been used for a diverse range of objects, from clothing to intricate objects such as pincushions. Practical subjects like quilting, patchwork and smocking are where students use hands and the brain to acquire lifelong skills (Anderson, 2015). Quilting, patchwork and smocking are techniques that imparts both practical and theoretical skills in the learner. Arubayi and Obunadike (2011) stated that the aim of teaching and learning of quilting, patchwork and smocking is to help learners acquire knowledge, skills and techniques for meeting personal and societal clothing needs. It is also the view of Mberengwa (2004) that quilting, patchwork and smocking in schools curricula also provided students with an apprenticeship in Clothing. Teaching and learning of quilting, patchwork and smocking which if properly carried out would equip them with strategies for earning income in the future.

According to Muzenda (2014), vocational-technical schools are targeted at cultivating practical application skills of students, with both property of higher education and property of vocational technique. The fundamental characteristics of teaching and learning quilting, patching and smocking in schools should be not to pursue systematic and completeness of theory, but to emphasize integrity and practicability of practical capacity (Ncube & Tshabalala, 2014). Students studying quilting, patching and smocking in schools should place extra emphasis on basic competence and skills required for practice, with the precondition that they grasp requisite basic theoretical knowledge and professional knowledge. However, due to influences of traditional education for quite a long time, vocational-technical schools still follow the traditional educational mode, and experiments and practice courses in most schools perform practically no function at all (Ncube & Tshabalala, 2014).

According to Wei (2009), experiments and practical courses are not qualitatively distinguished from courses of knowledge impartation, teachers just echo what the books say, students copy notes, and experiments and practical courses become courses of "an armchair strategist". In terms of teaching content, theory is overemphasized, while practical training is ignored; theoretical teaching is dominant, while practical teaching is placed at a secondary position, which cannot reflect characteristics of vocation and technique (Wei, 2009). Furthermore, vocational-technical schools even become general compression-type regular higher education. In such way, it is an established fact that students studying quilting, patchwork and smocking are lacking in practical skills and practical manipulative ability, which cannot satisfy demand of the society on vocational-technical talents, and which may make vocational-technical education deviate from normal educational philosophy. For the time being, some vocational-technical schools merely regard practical teaching as a means to train skills of students, but ignore its comprehensive functions in training of their knowledge, capacity and quality. Therefore, functions and effects of practical teaching cannot be brought into full play.

According to Examinations Council of Swaziland (2018), teacher skills in the teaching of Fashion and Fabrics practical component can be measured by the ability to impart knowledge and practical skills to the students. These skills are the manipulative skills and accuracy of sewing processes (seams, pockets, control of fullness, hem, facing/ waistband, embellishment, fasteners, collar, sleeves), machine stitching skills and hand stitching skills. The skills needed by teachers include; drafting of basic blocks e.g. bodice, skirt, pants and sleeves; and adaptation and use of commercial patterns (Komolafe, 2016). Joana, Selase, Selorm and Emefa (2015) also

reported that teachers have low competence in teaching fashion and fabric contents like quilting, patchwork, and even cutting out.

Forster, Quarcoo, Ashong and Ghanney (2017) states that teachers should be competent enough to enable them teach the right skills to the students. Kaindi, Mburugu, Nguku and Obere (2016) asserted that it is impossible for a teacher to teach what he or she is not familiar with. This suggests that quilting, patchwork and smocking teachers cannot impart practical skills that they are not competent in. Kaindi et al. (2016) further states that teacher competences in Fashion and Fabrics are considered important as they define their disposition towards the subject. Teacher capabilities and skills influence students' learning outcomes.

Teachers are the most important resource in teaching and learning of quilting, patchwork, and smocking in schools, and their practical capacity plays a crucial role in training of application-based talents (Wei, 2009; Muzenda, 2014). However, a large majority of teachers in come from other disciplines, with few practice experiences. Therefore, a large number of teachers do not have working experiences in enterprises. Besides, they are lacking in necessary practice afterwards, so it is difficult for them to conduct "application-based" education on students. Furthermore, establishment of teaching materials lags behind, and content of some materials is alienated from reality, so it's hard for them to achieve a perfect education goal (Forster, Quarcoo, Ashong & Ghanney, 2017).

Forster et al. (2017) indicated that young teachers in most vocational-technical schools account for a larger proportion, most of whom "enter schools from schools" and are short of specific working experiences in the forefront of enterprises, so their manipulative ability is generally far from enough. It is inevitable that a teaching force constituted by these teachers is relatively weak in terms of practical teaching, and

their theoretical teaching usually goes out of joint with practice. On the other hand, the study by Wei (2009) revealed that the number of part-time teachers occupies a small proportion in practical teaching. In recent years, in order to promote close connection between colleges and universities and economic and industrial circles and to maintain flexibility of teachers, and also in order to increase efficiency in school management, colleges and universities in developed countries invite a large proportion of part-time teachers. Invitation of a large number of part-time teachers is a trend for vocational-technical schools to share human resources with other institutions, which can save considerable expenditure (Wei, 2009).

In addition, Joana et al. (2015) pinpoint that in order to keep synchronized development of technology with forefront of the production, no other method is better than inviting teachers from technicians in the forefront of the production, because information and methods they introduce and their experiences in occupation are not at command of teachers in vocational-technical schools. For the time being, due to issues, such as limited teaching funds and weak teaching force etc, in vocational-technical schools, practice teaching staff are not paid due attention, which results in such a situation that teachers are not willing to give correct guidance on practice teaching. Teachers are the leading factor in teaching, and, without doubt, without perfect teachers in a school and without stability of teaching staff, the quality of practice teaching is unlikely to get deserved guarantee.

2.4   Perception of teachers in teaching quilting, patchwork and smocking

Perception is the process of becoming aware of objects, qualities, or relations by way of the sense organs (Hilgard, Atkinson, Atkinson, 2009). Hilgard et al. (2009) further explained that while sensory content (i.e. the five senses) is always present in

perception, whatever is perceived is influenced by prior experience, so that perception is more than a passive registration of stimuli impinging on the sense organs. Similarly, Berelson and Steiner (2014) defined perception as the process by which we select, organize and interpret input to create a meaningful picture of the world. Kotler and Keller (2009) explained that in marketing, perceptions are more important than reality, because it is perception that affects the consumer's actual behaviour. They added that people's perception about objects or subjects depends not only on physical stimuli but also on the stimuli relationship to the surrounding field and conditions within each individual.

The perceptions of people towards technical and vocational programmes in recent time is moving towards positive direction because people have come to realize that technical education is the foundation for national development. The high rate of unemployment and the large volumes of untapped natural resources have awakened the government of the day to call for curriculum reforms that would promote technical education to provide solutions to these problems. A significant proportion of current TVET trainees, particularly in the informal sector (primarily apprenticeships), are therefore labelled as school dropouts, which impacts on the self-esteem and external perceptions of trainees' abilities. In the past, technical education was misconceived as belonging to the less unfortunate in society. Even today some people still have the wrong perception that vocational education belongs to those who do not have the ability to cope with pure academic work.

Bortei-Doku, Doh and Andoh's (2011) study on vocational education and training in Ghana, reported a consensus among informal trainees and informal graduates that only people who are unable to get the grades to enter into higher academic pathways opt to go into TVET. Bortei-Doku et al. from the study remarked: 'We are not

respected because we are unable to speak English. One graduate pointed out that 'the country has no respect for trade workers, they think of them as complete 'illiterates'. TVET, however, poorly perceived, is often seen as the reserve option for those unable to achieve the grades to enter into higher education (Bortei-Doku et al., 2011). Draft African Union Strategy to Revitalise TVET in Africa (2007) affirmed that many countries including Ghana considered vocational and technical education as a career path for the less academically able. Bortei-Doku et al. (2011) emphasised that negative perception about vocational education was mostly expressed by those in the informal traditional apprenticeship system rather than those in the formal TVET system. Trainees from formal TVET institutions did not feel technical and vocational education belonged to those with low academic ability. The majority saw themselves as on the same level, in terms of academic competence, as those in the secondary school system.

Sheng, Hall and Rojewski (2016) indicate that some teachers had a different opinion when discussing quilting and patchwork. Sheng et al. (2016) further revealed that educators expressed that teaching and learning of quilting and patchwork will therefore be always needed and will continue to create jobs for its learners. Ameleke (2015) affirmed that if practical subjects like quilting and patchwork education is taken seriously and industries are well supported by the government, the sector is capable of enhancing revenue generation in Ghana just like in Italy. However, studies by Tashie (2016)) show that very few students opt for the subject and few teachers trained to teach subjects like quilting and patchwork. In 2006, the UNESCO Institute of Statistics (UIS) commissioned a study to assess the extent of current data knowledge about global provision of TVET in thirty countries including Ghana. The findings also showed that TVET education is portrayed as inferior to general

education (Oketch, 2007; UNESCO/UNEVOC, 2006). According to Maduaka (1997), many teachers perceived teaching quilting and patchwork as a very difficult area in Home Economics. Obrifor (1993) and Aiyede (1995) respectively found that 55% and 70% of Home Economics teachers preferred to teach Food and Nutrition to teaching Clothing and Textiles. Aiyede (1995) further indicated that a subject which offers students opportunity to acquire occupational skills should not be allowed to fade out, especially in a developing country where the need to mobilize all resources for employment and revenue generation is critical.

Werhan et al (2004) elaborates that some teachers view teaching things such as design like quilting, smocking and patchwork are being outdated. They see it as a way to reinforce homemaking and further the traditional roles of women instead of advocating for gender equality being supported. On the other hand, Clover (2005) says most teachers view Textile Technology and Design like quilting and patchwork are subjects for underperform students. As expressed by Uwaifo and Uwaifo (2009) cited in Mandina (2012), who argue that the subject is viewed as one that should be done by under achievers than by academics. In the same vein, some teachers agree with this notion. As such, they end up not delivering the subject content to the best of their abilities, discouraging learners in the process. Another issue of contention in the teaching of the practical subjects like quilting and patchwork are the unavailability of resources. Teachers generally feel discouraged to teach subjects if there are inadequate resources to do so (Manwa, 2013).

According to Hendrickz (2014) emphasized that in teaching practical subjects like quilting, students must be provided with an environment which furthers their natural tendency to act and with the objective to explore, to manipulate and experiment. Without the necessary tools to enable the learners to experiment with fabrics and the

use of different types of designing technologies, the learning becomes redundant and both the teacher and the learner are demotivated. Uwameiye (2015) says the classroom is the major component of the learning. A good learning environment allows easy acquisition of skills and techniques involved in practical subjects. Perhaps if the resources were made available to the teachers and the learners this may enhance their understanding of the subject and shape interests positively. In the same breadth, the availability of resources has to be complimented by the presence of adequate staff. Chisaka and Vakalisa (2003) indicate that rural schools are made worse by high teacher turnover and large classes which also pose a burden for both teachers and pupils. The source of a negative attitude here is the high teacher-learner ratio.

Wilson and Berne (2008), revealed that the curriculum does not encourage practical teaching and learning. These are possible in discouraging the teacher who at this point in the curriculum would be trying to find their bearings and making sense of the subject they are meant to teach. Building on the previous issue, Mandina (2012) says that: The government should ensure that teachers who teach practical subjects are adequately in-serviced, staff developed and assisted to obtain the highest qualifications and skills possible in the field so that they can be able to impart these to the learner. Chivore (1994) presents the opinion that teachers who are well educated and trained are rendered less effective if schools lack basic facilities, equipment and materials for teaching and learning. Kasambira (2004) buttresses the point by saying good teachers can be better teachers when they have plenty of material with which to work. With the availability of learning resources, the teacher's perception change in line with the requirements of the subjects and the desired results are achieved.

For practical subjects like quilting, patchwork and smocking to be effective, teacher quality should be good, the right infrastructure and the teaching-learning materials

should also be available and adequate. According to Asare and Nti (2014), in an era where quality education is a concern for education-focused international organizations and dominates national debates, teacher quality must equally be a priority. The fact is most professionals, including teachers after their academic training, experience shock when the theory and technical skills they acquired during their academic preparation prove to be ineffective when confronted with problems of practice. According to Kowalski (2012), their bewilderment stems from a misunderstanding of theory and limited insights about the effects of contextual variables on the consistency of applying theory. Teachers are expected to be able to structure their content and pedagogy to suit the cultural environment of their learners since the environment in which they acquire skills for teaching practical subjects like quilting and patchwork may be completely different from that of their learners. A teacher who is not able to contextualize content and pedagogy may simply avoid teaching the subject or not teach it well.
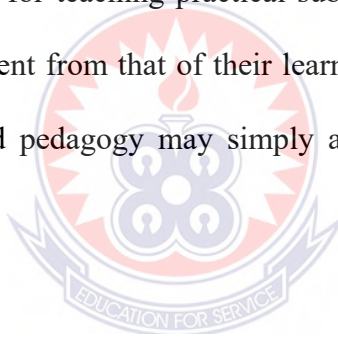
2.5   Challenges in teaching and learning of quilting, patchwork and smocking

Quilting, patchwork and smocking are very distinct forms of textile art used across cultures to make a diverse range of decorative objects (Johnson, 2017). Since the medieval age, people have been using these techniques to create clothing pieces, furnishing items, heirlooms, and intricate objects. According to Jessica (2021), quilting and patchwork have been around for a long time. They are used for making everyday use articles and decorative pieces; however, they vary on various grounds. The best way to learn patchwork and quilting is by going to a class or workshop. Emily (2006) indicated in teaching and learning of quilting and patchwork, the students bring their own cloth patches and the teacher provide needles and thread,

and learn so-and-so's name as part of the art of classroom quilting. Emily (2006) further mentioned that the teacher watches as the students practice their stitch in time, fashioning their pieces, creating their own covering, unravelling threads, and often re-stitching. As affirmed by Emily (2006), time does not permit in learning a new quilting and patchwork technique at school. With the incessant emergence of many different problems in societies, there is a need to constantly be updating and improving practical subjects' curriculum. Desforges and Abouchaar (2003) affirmed that the first factor that affects the successful implementation of practical subjects curriculum is the school itself. If the school administration shows visible strength and support for practical subjects like quilting and patchwork then its implementation will be a success (Desforges & Abouchaar, 2003). Chiweshe, et al (2013) mentioned that shortage of funds is critical problem in teaching practical subjects in vocational/technical schools. Chiwesh et al. further asserted that school managements are not actively participating in the implementation due to the shortage of funds to do so fully. Where the school tone is rather bland towards practical subjects like quilting and patchwork, the learners will also become apathetic to the subject because the school tone will be negative (Chiweshe et al., 2013).

Kim and Kim (2012) stated that, the community also plays a big factor in the implementation and introduction of new systems in schools. Mohamood et al (2012) revealed that parents are important predictors of children's academic and social development especially in making decisions for their education. According to UNICEF, (2017) the parents have grievances on how the curriculum are rashly implemented. They expressed concerns that there were inadequate consultations from different stakeholders. As such parents are reluctant to buy the necessary equipment and stationery needed for learning practical subjects in school. ―Mupfumira and

Rubaya (2014) purports that there must be a change of attitudes by parents, policy makers and educators towards practical subjects. Some parents even go as far as forcing their children to abandon practical skills training in favour of academics.

Gaidzanwa (2012) study revealed that lack of learning resources affects adequate teaching and learning of practical subjects like quilting, patchwork and smocking. Puyate (2008) noted that effective teaching of vocational subjects cannot take place without the adequate provision of learning facilities. This means that the shortages of textbooks, sewing machines and other things required for the learning of quilting, patchwork and smocking make it hard for the learners to like the subject, as they know that they will face difficulties in doing their work. As such, the lack of learning provisions makes it hard for the learners to concentrate in their studies. Mupfumira and Rubaya (2014) in their studies on the performance of rural and urban school-children agreed that parents of low socio-economic status do not value education. This therefore means that the learners will in turn have an attitude towards their studies. Coupled with the failure of schools to prioritise the learning of the subject, the situation is worsened.

A study by Arubayi and Obunadike (2011) found that teacher quantity and quality is a great problem in teaching and learning of practical subjects like quilting and patchwork. Arubayi and Obunadike (2011) further indicated that there were inadequate teachers in schools that do practical subjects like quilting and patchwork, the available teachers did not teach the subject very well and were not innovative and resourceful. Besides, the teachers spent almost all the class time on the lessons with no time left for practical work, they mostly did mere dictation of notes, and were not concerned that as many students as possible understand the lessons. Mberengwa

(2004) mentioned that, the insufficient quantity of teachers have the tendency to influence teaching negatively with its implications on performance.

Azih (2001) also found that the quality of teachers in public secondary schools is so low. Azih (2001) suggest that many of the Clothing and Textiles teachers are deficient in attainments, unknowledgeable in skill and accepted teaching practice. Azih further indicated that the teachers lacked innovation and resourcefulness. This finding may be because teacher education has failed to prepare the Clothing and Textiles teachers adequately for classroom practice, and prepare the Clothing and Textiles teachers adequately for classroom practice, and inservice seminar or workshops are not regularly organized for the teachers. Poor quality teaching is a problem that adversely affects learning because Anyakoha (2002) made it clear that what students learn cannot go beyond what their teachers are able to present them.

Several research reports such as Olaitan and Mbah (2001), Osisefo (2004) and Uko-Aviomah (2005) indicated that students' poor performance at the end of a school year is attributable to factors relating to the skill and effectiveness of the teachers. If teachers are weak in content knowledge and pedagogical competence so vital for effective learning, then the limits of achievements of learners will equally be weak. It was further found that lack of funds, inadequate instructional materials, lack of improvisation and utilization of teaching aids, as well as inadequate laboratory constituted problems to the teaching and learning of Clothing and Textile.

Ogwo and Oranu (2006) also found that inadequate instructional materials and unwillingness of teachers to improvise is a great impediment to practical subject instruction. The lack of materials is compounded by teachers' lack of interest to use the limited ones available or even improvise simple materials. Inability of teachers to improvise might be due to insufficient time. Sammons (2014) observed that teachers

who already have too much class work and school responsibilities may find that instructional materials require additional time to improvise and to prepare for using them in the classroom. They may feel that they have no extra time to spare to facilitate their use of such materials. Lack of incentives for the teachers who sacrifice their time to improvise and integrate improvised instructional materials in their classes contributes significantly to teachers' lack of resourcefulness and teacher incompetence in the operation of teaching aids. Many instructional materials do not necessarily have to be bought or factory produced. This researcher believes that teachers can improvise materials, or rather exploit objects and situations in the classroom such as nature corner for teaching different aspects of Clothing and textile because the absence of instructional materials will place serious limitations on what the teacher can achieve. Finally, some curriculum issues were identified as problems. These include; wide syllabus, difficult tests and topics, lack of excursions and fieldtrips, too much of measurement and calculations, and uninteresting methods of teaching.

Shulman (2017) observed that few teachers are capable of using effective methods to manage ideas within classroom discourse as few teachers neither know how to sequence materials, formulate questions, teach frameworks explicitly, organize studies nor monitor classrooms well. Similarly, Shulman (2017) observed that few teachers are capable of using effective methods to manage ideas within classroom discourse as many do not know how to sequence materials, formulate questions, teach framework explicitly, organize studies nor monitor classrooms well. Anyakoha (1991) also observed that Clothing and Textiles curriculum is wide and demanding, but she urged teachers to use appropriate instructional methods in teaching. Given the students' responses in this study, it appears that Clothing and Textiles teachers'

combination of subject matter; understanding and pedagogical skills are unimpressive. These curriculum issues are likely to result in a classroom atmosphere of disenchantment, which would make teaching and learning virtually impossible.

2.6   Strategies for improving teaching of quilting, patchwork and smocking

Quilting, patchwork and smocking are popular crafts that people use to create beautiful artforms. Existing issues in vocational-technical schools in teaching and learning of quilting, patchwork and smocking are generated in their own development, but it is not unchangeable. Given current issues in practical teaching, it is necessary to make attempt in the following several aspects.

2.6.1   Deepening the cognition and transforming concepts

Resolution of issues in practical teaching like quilting, patchwork, and smocking rests with cognition deepening of the system and concept transforming of education. Emily (2006) indicated that all faculty and staff in vocational-technical education, without exception, should have a systematic, comprehensive and in-depth cognition in educational philosophy of vocational-technical schools. Only updating and switching traditional educational concept and determining direction can ensure successful progress of strengthening practical teaching in vocational-technical schools. Switching the concept includes three aspects: firstly, to organize middle management staff to deeply learn and study theory of vocational and technical education; secondly, to concentrate training on the extensive teachers; thirdly, to educate on students by all sorts of means (Wei, 2009).

As indicated by Wei (2009), through propaganda and learning of public opinions on a large scale, a perfect atmosphere emphasizing practical teaching should be built

within the schools, and educational philosophy and thinking of educators should be changed. Each one should pay sufficient attention to practical teaching with consciousness whether in thinking or inaction, so as to take the initiative in organizing and implementing each teaching assignment in accordance with goals of school running.

2.6.2 Timely updating teaching content of quilting, patchwork and smocking

The primary task of teaching practical subjects like quilting, patchwork and smocking is to cultivate application-based talents proficient in both theory and competence (Wang, 2009). In order to achieve the goal, they have to increase proportion of practical teaching. Based on the principle of "competence as the standard", there should be an attempt to explore a new curriculum system (Wang, 2009). Optimization and integration is necessary for professional courses, together with pertinence and practicableness. The proportion of practical teaching should be increased on a large scale in the entire teaching program, so as to achieve a rational proportion between hours of theoretical teaching and hours of practical teaching.

In the content of practical teaching, traditional demonstration and replication experiments should be reduced, while designable, comprehensive and applicable experiments should be largely increased, so as to form fundamental comprehensive practice ability, competence of professional technology application and operational skills (Wei, 2002). Such practical training should be particularly paid attention to as new manufacturing technique and new technology, etc. Selection and compilation of teaching materials should concentrate on internship teaching, and should detach internship materials from theoretical materials which they are originally attached to.

Wei (2002) mentioned that experimental (internship, practical training) guidebooks, quality standard of practical teaching and assessment criteria of practical teaching etc, should be researched according to the teaching program in order to formulate scientific and normative practical teaching materials. In compilation of practical teaching materials, introduction of "new" concepts should be paid attention to, modernized information and technology should be made full use of, corresponding and relevant courseware should be set up and advanced teaching application software should be applied for practical teaching.

2.6.3   Strengthening establishment of teaching staff

The effect of practical teaching like quilting, patchwork and smoking in vocational-technical schools mainly depends on establishment of a perfect teaching team. Wei (2009) affirmed that teachers should be sent to relevant production units for short-term and medium-term practice. Those lacking in practical experiences and skills should be regularly sent to corresponding production department for specialized practice and skill practice, so as to improve their competence of practical teaching. Then, scientific service and development should be vigorously advocated. Zhang (2009) revealed that scientific service and development is a significant component of vocational and technical education, which has a multi-directional and radiative effect upon vocational-technical schools, and encourage teachers to shift towards "double-quality". Teacher's development does not only strengthen connection and cooperation but also ensures opportunities and conditions for teachers in terms of productive practice and space for improvement.

Furthermore, teachers should be encouraged for further education. Professional backbone teachers are encouraged to take the exam of on-job postgraduates and to

participate in training of social skills, which will be taken into consideration in annual assessment as part of the teaching load (Wang, 2009). As for teachers who are conferred with certificates of master's degree and doctor's degree as well as certificates of all sorts of skills, their post allowance should be raised. In addition, vocational-technical schools should make full use of all resources to make much acquaintance with more authoritative persons with professional knowledge and high social popularity. For instance, the schools can invite these authoritative persons as guest professors, and invite them to give more lectures to teachers and students. In such way, their industrial experiences and advantages can be brought to fully enrich our teaching (Wang, 2009). Meanwhile, we can maintain a long-term and harmonious cooperative relationship with them, and enable them to play a positive role in the establishment of teaching staff in practical teaching (Emily, 2006).

2.6.4 Intensifying the evaluation and assessment of practical teaching

Assessment of practical teaching and assessment of theory not only have closely linked features, but have their own characteristics. Assessment of practical teaching like quilting and patchwork should, on one hand, involve part of theoretical knowledge, and, on the other hand, should pay more attention to quantitative assessment and qualitative assessment in technology of core speciality and in vocational skills. The latter emphasizes that industrial standard and international standard should be introduced into the teaching content, and that occupation skill appraisal should be brought into the teaching program and listed in assessment and evaluation. Therefore, emphasis of assessment on practical teaching in vocational-technical schools should be placed on assessment of technology of core speciality and vocational skills and on acquisition of job qualification certificates (Ellis, 2014).

According to Wei (2009), assessment and evaluation of practical teaching should not only concentrate on practical competence, but should also avoid muddling through the work. Assessment and evaluation of practical teaching should involve establishing a new evaluation and assessment system, which should be centered with improving students' occupational competence. Evaluation of practical teaching can be further classified into three aspects: firstly, evaluation on laboratory course, namely, to train and examine students' competence to grasp theoretical knowledge and basic skills through teaching of laboratory course; secondly, evaluation on intramural practical training, namely, to allow students to assume professional labor, field work and part of scientific and research task and to cultivate their comprehensive application competence at intramural training bases; thirdly, evaluation on extramural practical training, namely, to make comprehensive practices on a large scale at extramural training bases, and to cultivate students' work competence on the post through actual contact (Wei, 2009).
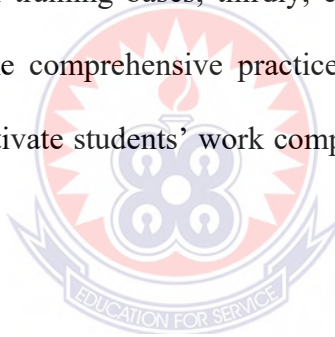
CHAPTER THREE

METHODOLOGY

3.1　　Introduction

This chapter explained the various methods that were employed in the study. It specifically takes a critical look at the research approach, research design, the population, sampling size and sampling technique employed. It also focused on the data collection instrument and data analysis method.

3.2　　Research Approach

Quantitative research approach was adopted for this study. Quantitative method is used to determine the extent of a problem or the existence of a relationship between aspects of a phenomenon by quantifying the variation (Boateng, 2014). It usually includes the investigation of frequencies and different measurable variables with the aim of explaining a certain phenomenon (Phoya, 2012). Phoya asserted that the advantage of the quantitative approach is that it measures the reactions of a great many people to a limited set of questions, thus facilitating comparisons and statistical aggregation of the data, and so the results can be generalized. Also, quantitative method has the advantage of allowing the researcher to reach conclusions with a known degree of confidence about the extent and making of precise statements (Weiss, 1998). The quantitative method deals with numerical measurements which mainly consist of several kinds of data collection tools including questionnaires and checklists.

3.3   Research Design

This study adopted descriptive survey research design. Descriptive survey design was used because the researcher expects to have target group explain or describe certain issues about important variables of the study. According to Amedahe (2000), in descriptive survey research, the events or conditions either already exists or have occurred and the researcher merely selects the relevant variables for an analysis of their relationships. Hence; the design is selected to satisfy this aspect of the study. Descriptive research was useful in describing the characteristics of a large population. This helped the researcher to ask many questions that provided considerable flexibility in the analysis. It is an efficient way to obtain information needed to describe the attitudes, opinions and views of various stakeholders on issue at hand. Also, it allows for a greater degree of accuracy, reliability, standardizations of measurement and uniqueness of the study.
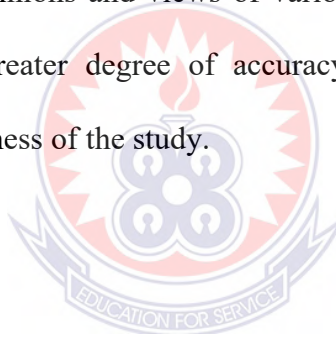
3.4   Population

Population is a group of elements or cases, whether individuals, objects or events, that conform to specific criteria and to which we intend to generalize the results of the research (McMillan & Schumacher, 2006). The target population comprised all teachers in school and colleges in Hohoe Municipality of Ghana. Statistics from the Hohoe Metropolitan Office (2020) put the population of Senior High school/Technical institute at 14 and 34 quilting/patchwork teachers. The accessible population was quilting/patchwork teachers of school and colleges in Hohoe Municipality of Ghana.

3.5   Sample Size and Sampling Technique

The sample size is a small group of people chosen from the targeted population. Getting a sample in a research is very important. This is because all members of the study area cannot be studied. Moss (1994) is of the view that one cannot study everyone everywhere doing everything. In determining the sample size for the study, all 34 teachers in the 14 schools were used, since the population was small.

In selecting respondents for the study, census and purposive sampling technique was employed in selecting all the 14 Senior High/Technical Institute. In census every Senior High/Technical Institute in Hohoe Municipality was considered. The key advantage of census is to give a high degree of statistical confidence in the survey results. According Creswell and Plano-Clark (2011), a census study occurs if the entire population is very small or it is reasonable to include the entire population (for other reasons).

Purposive sampling technique was also used in selecting the 34 teachers that teaches quilting/patchwork at the selected schools and colleges in Hohoe Municipality of Ghana. The study adopted a purposive sampling approach to strategically select respondents based on the assumption that, the samples possess specific characteristics which are essential to the study (Kothari, 2004). This technique was adopted based on the researcher's judgment in respect of the respondents' competency to provide detail and appropriate responses to the research instruments.

3.6   Data Collection Instrument

In order to achieve the aim and objectives of the study, well-structured close-ended questionnaires were designed to gather information from the quilting/patchwork teachers at the selected schools and colleges in Hohoe Municipality of Ghana. Close-

ended questionnaires were used because of the fact that they are easy for respondents to answer and they are also easy for researchers to analyse data (Gay, 1996). The questions focused on these forms of dichotomous response and rating scale questions. The researcher gave out the questionnaires personally to the respondents, and collected them at the appointed time in order to minimize low responses. It is to be emphasized that the questionnaire allowed respondents time to think through the questions to provide accurate answers. The questionnaire guarantees high efficiency in data collection and high generalizability of results over the more intensive research designs.

The questionnaire was categorized into two sections, the first talks about the profile of the respondent and the second about the view of the teachers in teaching quilting, patchwork and smocking technique. The first part sought information on the background of respondents; gender, number of years of experience in the school, and educational background. The second part of the questionnaire is sub-divided into three sections. The first section sought to explore the perception of teachers the method used in teaching. Section two addresses the, challenges in teaching quilting, patchwork and smocking technique. Section four presents the manual for improving upon the teaching and learning of quilting, patchwork and smocking technique. The respondents were asked to rank based on a rating scale of 1 to 5, where "1=Strongly Disagree" and "5= Strongly Agree".

3.6.1   Pre-Testing of the Questionnaire

Prior to the major survey, a pilot survey was carried out. The pilot study is a trial run that can help the researcher to modify the survey instrument to ensure that the respondents in the main survey did not have many problems in completing the

questionnaire (Moore & Abadi, 2005). The importance of the pilot study was to test the wording of the questionnaire, identify ambiguous questions, test the intended technique for data collection and measure the usefulness of the potential responses. The research instruments were pre-tested in Vocational and Technical institute in Afadjato District by using a sample size of 5 randomly selected teachers teaching quilting, patchwork and smocking technique.

The pilot questionnaires were administered and collected by hand in order to help increase the response rate. Covering letters explaining the purpose of the pilot study were attached to the questionnaires. Then, the respondents were asked to critically assess the questions and provide their opinions based on the significance and understanding of the questions, length and time for completing questionnaire and recommendations were all considered to amend the questions.

3.6.2 Data Collection Procedure

The questionnaires were distributed personally and collected by the researcher. A total of 34 questionnaires were administered to the teachers. A letter of introduction was obtained from the researcher's Head of Department to carry out the research work in the selected study area. The researcher visited the heads of the participated schools and when the permission was granted, the researcher administered the questionnaires personally and gave them appropriate. Structured questionnaires containing close ended questions were administered to respondents. All the respondents were able to read and understand the questionnaire items and therefore completed the questionnaire independently.

3.7   Reliability of Data Instrument

The reliability of an instrument is the degree of consistency which measures the attribute, it is supposed to be measuring (Cooper & Schindler, 2001). Cooper and Schindler (2001) is of the view that, the ultimate test of a sample design is how well it represents the characteristics of the population, it purports to represent in measurement terms, and the sample must be valid. Validity of a sample depends on two considerations: accuracy and precision. Accuracy is the degree to which bias is absent from the sample (Cooper & Schindler, 2001) whereas precision is measured by the standard error of estimate, a type of deviation measurement: where the smaller the standard error of estimate, the higher the precision of the sample.

The survey instrument designed for this research study was organised to discover the view of the teachers on teaching quilting, patchwork and smocking technique. Hence, reliability was done to determine the measurement scale that had been developed to find out whether it will produce consistent results if measurement is done on repeated basis. This study deployed internal consistency method in determining the instrument reliability with the Cronbach Alpha, as the relevant coefficient to evaluate. Cronbach's alpha will be used to test the reliability of the instrument. A coefficient more than 0.5 will be deemed enough to justify the use of the instrument for the study.

3.8   Validity of Data Instruments

There are various methods for determining validity: face validity, content validity, construct validity and criterion-related validity. In this research, the researcher conducted a content validity. According to Flynn, Schroeder and Sakakibara (1994) content validity is a technique which the items in a scale measure the same construct and it can be evaluated sending the questionnaire item to experts on the subject

(academicians well versed in the teaching vocational and technical course) to check the comprehensiveness of the items under each construct. The feedback from these experts would then be used to improve the content as well as ease understanding to eliminate ambiguity and duplication of tests.

Content Validity is used to ensure that the measure actually measures what it is intended to measure (i.e. the contents), and no other variables. Using an experts familiar with the content is a way in which this type of validity can be assessed. The participants can also examine the items and decide what that specific item is intended to measure. Content validity is concerned with the way the instrument appears to the experts and the participant (Pickard, 2012). The content validity was conducted by requesting my supervisor to provide his views on the relevance of questions on the questionnaire. My supervisor indicated whether each question on the questionnaire was relevant or not, and even adjusted the objectives of this study to suit the questionnaire. Based on his recommendations, questions that were deemed not valid were taken out of the questionnaire.

3.9   Data Analysis

Quantitative data were gathered for the study using questionnaires. After cleaning up the data from the survey and rectifying the few errors that were identified in the filling of the questionnaires, the data were coded and fed into SPSS software, version 23.0, for Windows. Analysis was undertaken to generate a descriptive picture of the data gathered. With the SPSS software, descriptive statistics was used to analyse the quantitative data obtained. The analysis (presented in the next chapter) is organised under themes derived from the data and the research questions that guided the entire investigation.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter deals with the results and discussion of the data collected from field survey. It focuses on the demographic characteristics, perception of teachers in teaching quilting, patchwork and smocking, challenges in teaching and learning of quilting, patchwork and smocking in schools, and manual for improving upon the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students. The data was analyzed on the need of basis of frequency and percentage.

4.2 Demographic Characteristics of the Respondents

The demographic characteristics of the teachers concentrate on their sex distribution, age category, and their educational level.

Table 4. 1: Gender distribution of respondents

Gender	Frequency (N)	Percentage (%)
Male	5	14.7
Female	29	85.3
Total	**34**	**100.0**

Source: Field Survey, 2022

The result on the gender of the selected quilting/patchwork teachers is depicted in Table 4.1. The result of the analysis shows that 5 respondents constituting 85.3% of the respondents were females as against 29 respondents representing 14.7% who were males. This indicates that quilting/patchwork teachers of school and colleges are females.

Table 4. 2: Age group of respondents

Age group	Frequency (N)	Percentage (%)
26-30years	2	5.9
31-35years	6	17.6
36-40years	20	58.8
41years and above	6	17.6
Total	**34**	**100.0**

Source: Field Survey, 2022

Table 4.2 clearly shows that the respondents were fairly distributed among the age brackets set out on the questionnaire. Two (2) respondents constituting 5.9% were between the ages of 26-30years, whiles, 6(17.6%) were in the age category of 31-35years. In addition, 20(58.8%) of the participants were between the ages of 36-40years. However, the remaining 6(17.6%) of the respondents were between the ages of 41years and above. This indicates the majority of the quilting/patchwork teachers of school and colleges were between the ages of 35-40years and they are matured to be included in a study like this. This implies that majority of the teachers were middle-aged, which can be attributed to general population in the country. Furthermore, the findings show that in the age group with the highest respondents that is 31-40 years. This implies that middle aged teachers make up the highest number of teachers at the selected senior high schools.

Table 4. 3: Educational background of respondents

Educational level	Frequency (N)	Percentage (%)
Diploma	5	14.7
First degree	26	76.5
Masters degree	3	8.8
Total	**34**	**100.0**

Source: Field Survey, 2022

In terms of the highest level of education attained by the quilting/patchwork teachers of school and colleges, the results pointed out that first degree (76.5%) was the commonest among teachers, whiles diploma qualification (14.7%) was the next common among the teachers, 8.8% of the respondents had Masters degree. This clarifies that the c quilting/patchwork teachers of school and colleges included in this study had good educational background and are in a good standing to argue professionally on the issue under study.

Table 4. 4: Years of working in the current school

Number of years	Frequency (N)	Percentage (%)
1-5yeras	5	14.7
6-10years	20	58.8
11-15years	7	20.6
16years and above	2	5.9
Total	**34**	**100.0**

Source: Field Survey, 2022

From the findings presented in Table 4.4, 5 respondents representing 14.7% had taught for 1-5years; 20 respondents constituting 58.8% had been in the teaching field for 6 – 10years. However, 7 respondents constituting 20.6% had been teaching in the current school for 11-15years, whereas the remaining 2 of them constituting 5.9% had been in the teaching field for 11-15years. The statistics indicates that most of the teachers had taught for more than 5 years which is encouraging. Experience might not necessarily be the best teacher, but it almost always results in the most enduring lessons.

4.3   Perception of teachers in teaching quilting, patchwork and smocking

This section addresses the perception of teachers in teaching quilting, patchwork and smocking. The respondents were asked to indicate the extent to which they agree with

each statement. Table 4.5 shows the perception of teachers towards the teaching of quilting, patchwork and smocking. The variables under consideration were computed. The computed means were compared with the predetermined mean of 3.0.

Table 4. 5: Responses on perception towards quilting/patchwork and smocking

S/N	Perception of teaching and learning history	Mean	Std. Dev.	Decision
	Positive perception			
1.	Quilting/patchwork offers students opportunity to acquire occupational skills	3.94	0.983	Agreed
2.	Quilting/patchwork is a very important topic every student should study	3.91	0.830	Agreed
3.	Students are self employed after completion	3.68	1.249	Agreed
4.	It helps improve one's colour selection	3.47	1.261	Agreed
5.	I enjoy teaching quilting, patchwork and smocking	3.38	1.256	Agreed
6.	It improves students self esteem	2.59	1.234	Disagreed
	Negative Perception			
7.	It is very difficult to use varied methods in the teaching quilting, patchwork and smocking	2.68	1.319	Agreed
8.	Given the opportunity, I will teach another topic other than quilting, patchwork and smocking	2.35	1.368	Agreed
9.	The scope of the topic is too broad to be taught within the time frame.	2.26	1.214	Agreed
10.	It is a topic for females only	1.85	1.132	Agreed
11.	It is a topic for academically weak students	1.65	0.734	Disagreed

Source: Field Survey, 2022   *x-bar ≥3.0 =Agreed: < 3.0= Disagreed*

4.3.1 Positive perception on teaching of quilting/patchwork and smocking

In this section, the study sought to find out if teachers have positive perception towards teaching of quilting/patchwork and smocking. Hence, Items 1 – 6 of the Table 4.5 were used. The teachers were expected to rate the extent to which they agreed or disagreed with given statements. Generally, data displayed in Table 4.5 shows that teachers have a positive perception towards quilting/patchwork and smocking. This is because teachers agreed to the statements which indicated a

positive direction in which quilting/patchwork and smocking perceived. For instance, responses to the statement, "Quilting/patchwork offers students opportunity to acquire occupational skills" had a mean score of 3.94 and a standard deviation of 0.983. Again, in relation to the statement "Quilting/patchwork is a very important topic every student should study" had a mean score of 3.91 and a standard deviation of 0.830. Moreover, concerning the statement "Students are self-employed after completion" a mean score of 3.68 and a standard deviation of 1.249 was recorded. However, on the statement that "It helps improve one's colour selection" had a mean of 3.47 and a standard deviation of 1.261. Also, the respondents agreed that they enjoy teaching quilting, patchwork and smocking with a mean score of 3.38 and a standard deviation of 1.256

The overall results show that the direction of teachers perception towards the teaching quilting, patchwork and smocking is positive. The result agrees with Sheng et al. (2016) who revealed that educators expressed that teaching and learning of quilting and patchwork will therefore be always needed and will continue to create jobs for its learners. Ameleke (2015) affirmed that if practical subjects like quilting and patchwork education is taken seriously and industries are well supported by the government, the sector is capable of enhancing revenue generation in Ghana just like in Italy. According to Hendrickz (2014) teachers have positive insight about teaching practical subjects like quilting. Necessary tools and equipment enable the learners to experiment with fabrics and the use of different types of designing technologies.

4.3.2   Negative perception on teaching of quilting/patchwork and smocking

From Table 4.5, it is observed that teachers have a positive perception of the teaching of quilting/patchwork and smocking as they disagreed with a lot of the statements which were indicating negative perception of teaching quilting/patchwork and

smocking. For instance, teachers strongly disagreed to statements like, "It is very difficult to use varied methods in the teaching quilting, patchwork and smocking" (x=2.68, SD=1.319), "Given the opportunity, I will teach another topic other than quilting, patchwork and smocking (x=2.35, SD=1.368), "The scope of the topic is too broad to be taught within the time frame" (x=2.26, SD=1.214), "It is a topic for females only" (X=1.85 SD=1.132) and "is a topic for academically weak students" (x=1.65, SD=0.734). The result clearly indicates that the direction of the perception of teachers towards the teaching of quilting/patchwork and smocking is positive.

The findings imply that teachers have a positive perception of the teaching of quilting/patchwork and smocking. It can be argued that the positive perception held by teachers is to help build effective collaboration between teachers and students in the teaching environment. Such a situation will make the teaching and learning process more interactive. The finding collaborates to numerous studies (Bortei-Doku et al., 2011; Maduaka, 1997; Aiyede, 1995) that teachers have a positive perception of teaching of practical topics like quilting/patchwork and smocking. The findings also demonstrate that a greater number of the teachers that when given another opportunity they would still teach quilting/patchwork and smocking as a topic. This may probably mean that quilting/patchwork and smocking teachers attach great concern to the teaching of the subject. This finding supports the research finding of Werhan et al (2004) that secondary school teachers have substantial concern for teaching practical subjects including quilting/patchwork and smocking. The implication that that quilting/patchwork and smocking teachers at the various schools have positive perception towards the teaching of the topic and they can impart more knowledge and motivate the students towards the learning of quilting/patchwork and smocking.

4.4   Challenges in teaching and learning of quilting, patchwork and smocking

In addressing the research question two, the respondents were asked to indicate the challenges in teaching and learning of quilting, patchwork and smocking. Table 4.6 addresses the challenges faced by teachers in teaching and learning of quilting, patchwork and smocking. The variables under consideration were computed. The computed means were compared with the predetermined mean of 3.0.

Table 4. 6: Responses on the challenges in teaching quilting/patchwork and smocking

S/N	Challenges	Mean	Std. Dev.	Decision
	Instructional challenges			
1.	Lack of sufficient time to use instructional materials during quilting/patchwork lesson	3.94	1.205	Agreed
2.	Too many recommended quilting/patchwork texts books	3.62	1.129	Agreed
3.	Inability of school authorities to provide materials needed for learning quilting/patchwork	3.59	1.258	Agreed
4.	Lack of well-equipped practical workshop	3.50	1.052	Agreed
6.	Poor attitudes of students during quilting/patchwork lesson	2.44	1.440	Disagreed
7.	Lack of teachers' knowledge and skill to use the available materials	2.26	1.286	Disagreed
	Curriculum Challenges			
8.	Quilting/patchwork and smocking demand too much of measurement and calculations	3.74	1.377	Agreed
9.	There are no excursions or fieldtrips	2.92	1.303	Agreed
10.	Students are not exposed to practical until the final certificate examination	2.26	1.377	Agreed
11.	Quilting/patchwork content is too wide	2.09	1.138	Agreed
12.	Quilting/patchwork and smocking is a difficult lesson	1.85	1.105	Disagreed

Source: Field Survey, 2022   *x-bar ≥3.0 =Agreed: < 3.0= Disagreed*

4.4.1   Instructional challenges

Concerning the instructional challenges teachers face in teaching quilting, patchwork and smocking, the teachers agreed that there is lack of sufficient time to use

instructional materials during quilting/patchwork lesson. This statement had a mean score of 3.94 and a standard deviation of 1.205. Also, with a mean of 3.62 and a standard deviation of 1.129, teachers emphasized that there are too many recommended quilting/patchwork texts books which affects effective teaching. In addition, the respondents agreed the teachers to the inability to school authorities to provide materials needed for learning quilting/patchwork as a challenge. This statement reflected a mean of 3.59 and a standard deviation of 1.258. Furthermore, with a mean score of 3.50 and a standard deviation of 1.052, the respondents agreed that lack of well-equipped practical workshop is a challenge to effective teaching of quilting/patchwork. On the contrary, it appeared that the teachers disagreed to poor attitudes of students during quilting/patchwork lesson (x=2.44, SD=1.440), and lack of teachers' knowledge and skill to use the available materials (x=2.26, SD=1.286) as instructional challenge to effective teaching of quilting/patching and smocking.

The findings imply that lack of sufficient time, too many recommended quilting/patchwork texts books, inability of school authorities to provide materials, and lack of well-equipped practical workshop are major instructional challenge to effective teaching and learning of quilting/patching and smocking. The finding agrees with Gaidzanwa (2012) study revealed that lack of learning resources and insufficient time affects adequate teaching and learning of practical subjects like quilting, patchwork and smocking. Puyate (2008) noted that effective teaching of vocational subjects cannot take place without the adequate provision of learning facilities. This means that the shortages of textbooks, and other things required for the learning of quilting, patchwork and smocking make it hard for the learners to like the subject, as they know that they will face difficulties in doing their work. Arubayi and Obunadike (2011) the teachers spent almost all the class time on the lessons with no time left for

practical work, they mostly did mere dictation of notes, and were not concerned that as many students as possible understand the lessons. Ogwo and Oranu (2006) also found that inadequate instructional materials and unwillingness of teachers to improvise is a great impediment to practical subject instruction. The lack of materials is compounded by teachers' lack of interest to use the limited ones available or even improvise simple materials. Inability of teachers to improvise might be due to insufficient time.

4.4.2 Curriculum Challenges

As displayed in Table 4,6, the respondents agreed that quilting/patchwork and smocking demand too much of measurement and calculations. This statement had a mean score of 3.74 and a standard deviation of 1.377. This indicates that too much measurement and calculations posed a challenge to the teachers. On the contrary, the respondents disagreed to no excursions or fieldtrips (x=2.92, SD=1.303), students not exposed to practical until the final certificate examination (x=2.26 SD=1.377), quilting/patchwork content is too wide x=2.26 SD=1.377), and quilting/patchwork and smocking is a difficult lesson x=2.26 SD=1.377) as curriculum challenge to effective teaching of quilting/patching and smocking.

The finding shows that too much of measurement and calculations only posed a challenge to teachers teaching of quilting/patchwork and smocking. This implies that curriculum challenges are not major constraints to teachers teaching of quilting/patchwork and smocking. This shows that the teachers certainly find their way out in the teaching of quilting/patching and smocking. The finding by Shulman (2017) observed that teachers are capable of using effective methods to manage ideas within classroom and the teachers know how to sequence materials, formulate

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questions, teach frameworks explicitly, organize studies and monitor classrooms well. Similarly, Shulman (2017) observed that few teachers are capable of using effective methods to manage ideas within classroom discourse as many do not know how to sequence materials, formulate questions, teach framework explicitly, organize studies nor monitor classrooms well.

4.5   Manual for improving the teaching of quilting, patchwork and smocking

A manual was developed to improve the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students. It was evident from the finding that there is lack of teaching and learning materials (TLMs) for teaching quilting/patchwork and smocking, and also there are too many recommended quilting/patchwork texts books. Therefore, a manual was developed to help in effective teaching and learning of quilting, patchwork and smocking (Plate 4.1).

Plate 4. 1: Cover page of the developed Manual

4.5.1 Manual for Teaching

Easy Approach to Smocking, Quilting and Patch Work Making

Smoking is and embroidery technique used to gather fabrics so that it can stretch. Smoking is commonly used in cuffs, bodies and necklines. It also used in decorative ways to make household articles such as arm rest, pillow case, purse, cushion covers, wall hangings, baby mats, curtains, bed spreads etc. Smoking is also a technique of wavy patterns on fabrics and garments unlike embroidery more fabric is required for smoking. There are different techniques and materials followed for each of the smoking type vary.

Materials and Tools used for smocking

Fabrics – Ideally, smocking is best suited to soft fabrics such as cotton, voile, satin, soft linens and silk. Gingham fabrics are ideal because the checks make the marking part of the process very easy. Thin fabrics are best as thicker fabrics are hard to pleat and may add too much volume to the garment.

- Needles
- Thread
- Smoking pattern
- Fabric pen
- Ruler
- Awl

Firm fabrics are always preferred and easier and easier to embellish. The amount of fabric you use for smocking is bigger than the amount you need to make unsmoked articles. For this reason, use a smocking pattern and take gauge into account. It is a

type of fabric manipulation where your hands sewing folds on the back of fabric to create a beautiful designs on front.

This technique will shrink your fabric quite a bit so if you have your finished size, double it to get your starting size. The smoking rule of thumb is roughly 3 to 4 times the amount of finished fabric needed when making small pleats. But the size of each pleats drives that number up.

Types of Smoking

- Outline stitch

- Cable stitch

- Wave stitch

- Honeycomb stitch

- Vandyke stitch

- Surface honeycomb stitch (with some beading)

- Lattice stitch

Basic Methods Used in Smock Making

There two basic method that can be used in smoking making. Smoking basically consist of pleated fabric and fiber (usually a floss) for embellishment stitches.

How to Sew Lattice Smocking

Start with a square that is 20 by 20 inches. Draw your stitching grid on the wrong side of the fabric. You can use any measurement you want to create your grid lines.

- ❖ Draw parallel line 1 apart going across the whole section as shown in Plate 4.2, and Plate 4.3

Plate 4. 2: Horizontal line   **Plate 4. 3: Square**

Rotate your 90 degrees to draw the next set of parallel lines 1 apart. End up with a grid like this. As shown in Plate 4.4
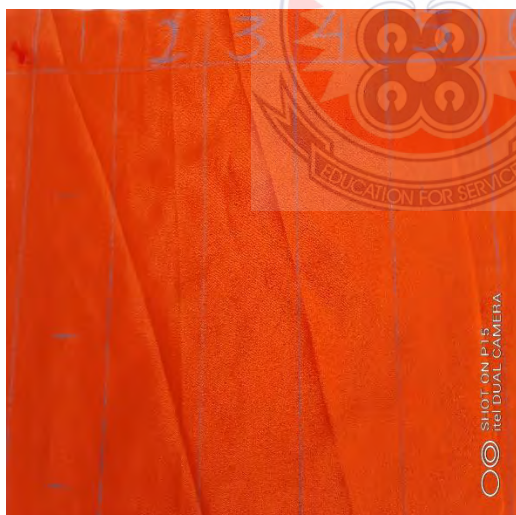

Plate 4. 4: Grid

❖ Start at the top box of the first column, draw the diagonal line from the top left corner to the bottom right corner. As shown in Plate 4.5

Plate 4. 5: Diagonal line

❖ Skip the next box and repeat for the third box dawn

❖ Continue this same pattern for the length of column 1 skipping every other box

❖ For the second column, you will skip the first box and start with the second box

❖ The diagonal line will go in the opposite direction, so from the top right corner to the left corner. As shown in Plate 4.6

Plate 4. 6: Diagonal line going opposite direction

❖ Continue doing this for the whole second column, again skipping every other box.

❖ For the third column it will be repeated of the first column.

❖ And the fourth column will be a repeat of the second column.

Just keep repeating this pattern until you run out of columns. You need to have an even number of columns. As shown in Plate 4.7

Plate 4. 7: Repeating pattern

Stitching

❖ Thread on hand needle. Use enough thread at least to get to the bottom of the column.

❖ Tie a knot at the end of thread. As shown in Plate 4.8 and 4.9

Plate 4. 8: Threaded needle   **Plate 4. 9: Stitching**

❖ When sewing work in pairs of columns (that is 1 and 2 together, 3 and 4 together continue till end

❖ Take one diagonal line at a time. As shown in Plate 4.10

Plate 4. 10: Stitching diagonal line at a time

Start here, go there and here and there.

❖ NOTE always start at the bottom of the diagonal line

❖ Start working at the wrong side. Grab a little bit of fabric.

❖ Use the smallest stitch for if not appear on the right side.

Just pull through from corner to corner and knot. Repeat the knot.

❖ Dot not stitch on the diagonal line, it is there to give you direction on how to sew. Once you have stitch on the corner to corner of the diagonal line just pull gently towards the first stitch (Plate 4.11)

❖ Create a loop and go through that loop and create a knot to hold it in place.

❖ Start again at the bottom of the diagonal and grab a little bit of fabric (tiny stitch). Do it until you get to the bottom of the columns. Knot and cut off thread. Repeat the process with column 3 and 4 and so on (Plate 4.12 and Plate 4.13)

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Plate 4. 11: Stitch on the corner to corner of the diagonal line

Plate 4. 12:Wrong side   **Plate 4. 13: Right side**
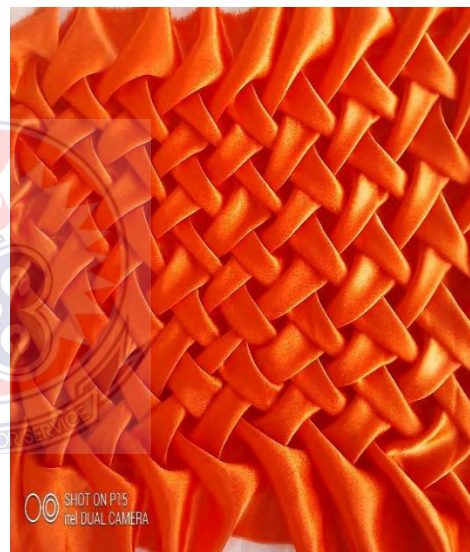
When finished your fabric should have a beautiful design like this. This smocking design can be for many household articles such as table runner, place mat, center piece, chair backs, baby pillow, try cloth, armrest, beds spread, sleeves, dresses etc.

MAKING ARM REST

➢ Measure length and breadth of the design and cut the backing

➢ Prepare zipper extension 2 inches and fix zip

Plate 4. 14: Zip at wrong side
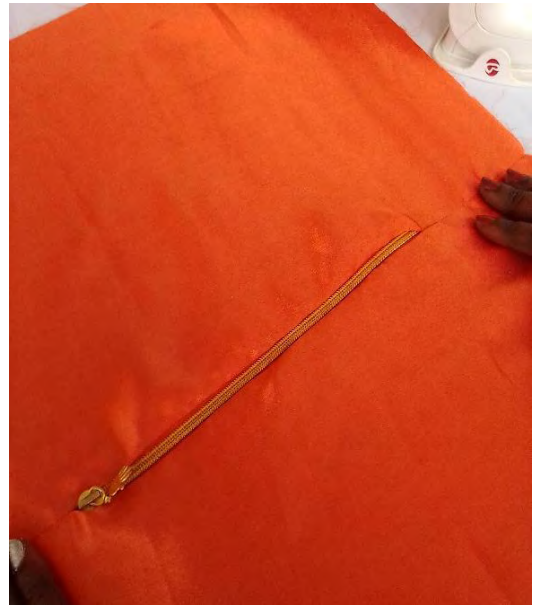
Plate 4. 15: Zip shown at the right side

Place the backing fabric on the right side of the design fabric

➤ Pin, tack and stitch

Plate 4. 16: Backing at right side

Plate 4. 17: Invert

➤ Invert through the zip opening

➤ Press and stuff it.

Many articles can be made out of lattice smocked design. As shown in Plate 4.18, 4.19, 4.20, 4.21.

Plate 4. 18: Arm Rest

Plate 4. 19: Chair Back

Plate 4. 20: Place Mat

Plate 4. 21: Baby pillow

WAVE SMOCKING DESIGN
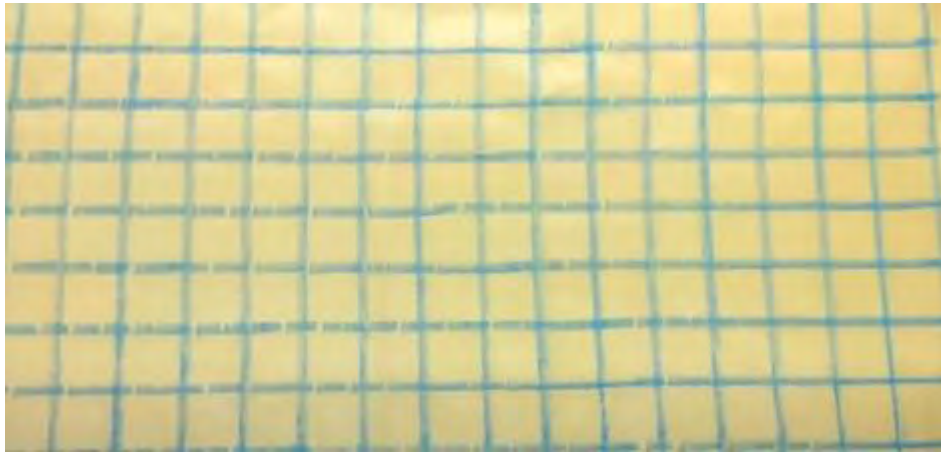
Plate 4. 22: Grid lines

You can use any measurement you want to create your grid lines.

❖   Draw parallel line 1 apart going across the whole section.

❖   Rotate your 90 degrees to draw the next set of parallel lines 1 apart. End up with a grid like this. (mark an interval of 1 inch)
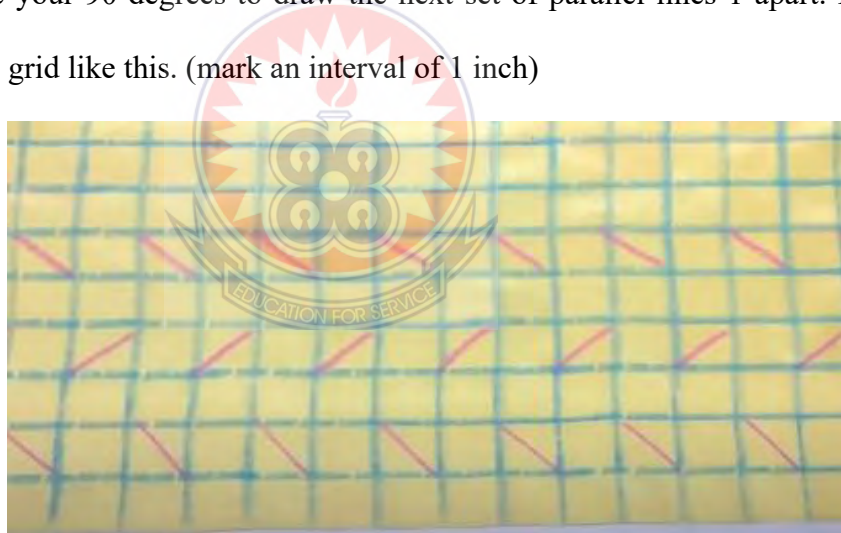
Plate 4. 23: Columns and diagonal lines

❖   Leave the first lines from all sides and start marking from the second lines

❖   Start at the top box of the first column, draw the diagonal line from the top right corner to the bottom left corner.

❖   Skip the next box, mark the next box, and skip the next box, mark the next box continue till end of column.

❖   skip the second column

❖ The third column, skip the first box, mark second box continue till end of column

❖ Just keep repeating this pattern until you run out of columns (Plate 4.24)

Plate 4. 24: Final diagonal lines

Stitching

❖ Thread on hand needle. Use enough thread at least to get to the bottom of the column.

❖ Tie a knot at the end of thread. As shown in Plate 4.25 and Plate 4.26

Plate 4. 25: Stitching corner to corner   **Plate 4. 26: Stitching from top to bottom**

❖ always start at the bottom of the diagonal line

❖ Start working at the wrong side. Grab a little bit of fabric.

❖ Use the smallest stitch for if not appear on the right side.

Just pull through from corner to corner and knot. Repeat the knot.

❖ Dot not stitch on the diagonal line, it is there to give you direction on how to sew. Once you have stitch on the corner to corner of the diagonal line just pull gently towards the first stitch.

❖ Create a loop and go through that loop and create a knot to hold it in place.

❖ Start again at the bottom of the diagonal and grab a little bit of fabric (tiny stitch). Do it until you get to the bottom of the columns. Knot and cut off thread. Repeat the process with column 3 and 5 sand so on (Plate 4.27 and Plate 4.28).

Plate 4. 27: Wrong side

Plate 4. 28: Right side

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❖ Cut a backing, prepare zipper extension and fix zip (Plate 4.29 and Plate 4.30)

Plate 4. 29: Backing

Plate 4. 30: Fix zip

❖ Place the backing fabric on the right side of the design fabric (Plate 4.31)

Pin, tack and stitch and bring it out through opening.

Plate 4. 31: Backing on the right side

Plate 4. 32: Invert

Plate 4. 33: Cushion cover

Plate 4. 34: Table Mat

Plate 4. 35: Sleeve

Plate 4. 36: Baby Pillow

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QUILTING

Quilting is the term given to the process of joining a minimum of three layers of fabric together. Either through stitching manually by hand using a needle and thread, or mechanically with a sewing machine or specialized long arm quilting system. Some quilters dye or create their own fabrics. OR Quilting is a method of stitching layers of material together. Although there are some variations, a quilt usually means a bed cover made of two layers of fabric with a layer of padding (wadding) in between, held together by lines of stitching. The stitches are usually based on a pattern or design.

How to Quilt

- Steps to Making a Quilt (by machine)
- Pre wash fabrics to prevent shrinkage of the finished work
- Gather all supplies
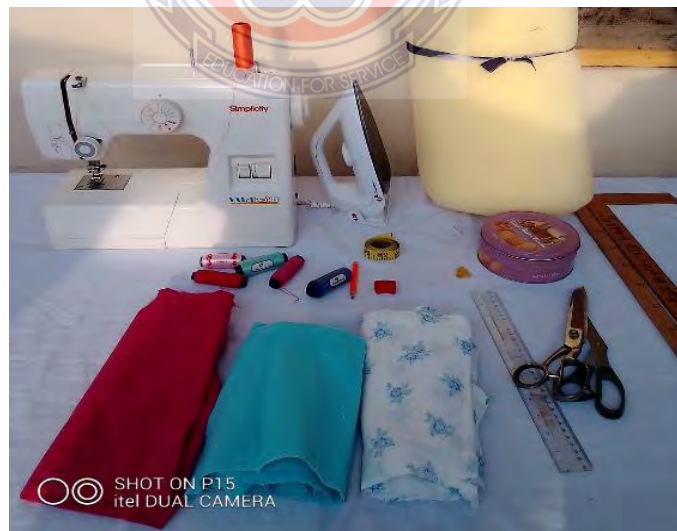
Plate 4. 37: Tools and equipment used

Cut the main fabrics

➢ Measure length and width of fabric. I am using 30 inches length/ 5 inches width of fabric.

➢ Cut strips of fabric

Plate 4. 38: Strips of fabric

➢ Pin and join the strips together using sewing machine with seam allowance (Plate 4.39 and Plate 4.40)

Plate 4. 39: Join Strips of fabric   **Plate 4. 40: Pressing of seams**

➢ Iron your fabric. Place the sewn fabric strips on the ironing board with the wrong side of the fabric facing you. Press each of the seams towards the darker fabric.

➢ Cut the middle layer fabric (batting) larger than the quilt top and straight cuts.

➢ Cut backing fabric to size that is big enough for the entire quilt.

➢ Assemble the quilt. Pin the quilt top, batting and backing fabric together, or use quilt adhesive to secure all layers.
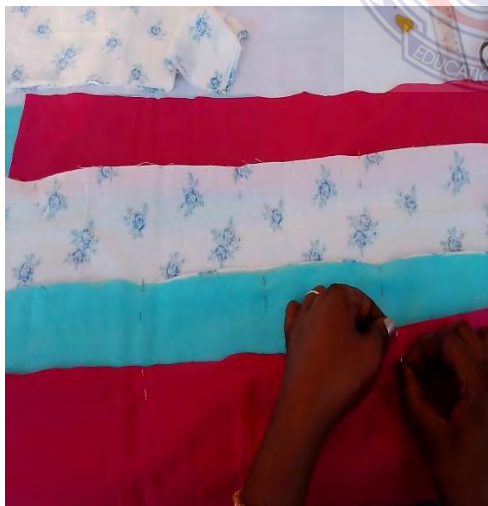
➢ Measure and mark lines using erase marking pen, pencil and chalk, as a guide for quilting.

➢ Quilt as desired

Plate 4. 41: Assembling the fabric   **Plate 4. 42: Marking on fabric**

➢ Cut binding strips.

➢ Sew the strips together. Check that they are long enough to go around the entire perimeter of the quilt. Trim the excess.

➢ Sew the binding to the quilt. Place the binding against the edge of the quilt. The raw edge of the binding should align with the raw edge of the quilt. Sew the binding to the right side of the quilt, a ¼" away from the edge. Leave a 3" tail at the beginning.

Plate 4. 43: Attach bias binding

➢ Sew around the corners. When you come to a corner, sew in a straight line until you are about ¼" away from the end. Pivot the quilt so that you finish stitching at a 45 degree angle to your seam. Remove the quilt from the machine and fold over the binding. Begin sewing again from the top of the new edge.

➢ Finish the quilt (Plate 4.44 and Plate 4.45)

Plate 4. 44: Diagonal quilt   **Plate 4. 45: Straight quilt**

These quilt patterns can be used to design articles such as bags, bed spread, baby's bed, door mats, shoe racks, peruse etc.

PATCHWORK

Once upon a time, patchwork was a method of making beautifully patterned fabric at your own pace and in the design you want, with whatever fabric you have. Today there are differently patterned fabrics available at shops, but patchwork still holds its place as a creative work involving fabric. It is a major part of quilting and also for making a lot of other sewn articles.

Patchwork: refers to joining shaped fabric pieces together to create a bigger fabric piece in beautiful designs. Traditionally, fabric scraps leftover from other sewing projects and salvaged from old clothes are used to make the patchwork pieces.

Patchwork: it is a technique of sewing small pieces of shaped fabrics, of mixed pattern, colours and texture, all together to create larger geometric designs. Patchwork is an art that encourages recycling and thus, provide numerous environment benefits. By re-using existing fibres and textiles, there is no need to make these textiles from raw materials (such as cotton, wool, and synthetic fibres). This saves on the energy used and pollution caused during manufacturing processes like dying, washing, and scouring.

Tools and materials used to make patchwork:

Cotton Fabric: Pieces of cotton fabric is the basic material used for making the applique patchwork. Medium-weight 100% pure cotton fabrics are the simplest to start off with. Avoid those fabrics which are lightweight and heavyweight fabrics such as velvet and curtaining, as again they are more difficult to work with.

Scissor: Scissor is used for cutting extra fabric and thread. A smaller pair of scissors is ideal when you want to trim threads, clip points or seam allowances.

Thread: Thread is used for stitching the pieces of fabric together. Use synthetic thread with synthetic fabrics, and 100% cotton thread, or a cotton-polyester thread with cotton fabrics.

Needle: **N**eedle is used for sewing the fabric. Betweeners size number 8 or10 are manageable when first starting out. The needle will determined by the thickness of the material.

Pins: Use dressmaker's pins that often have glass-heads as they are sharp and easily pierce through layers of fabric.

Quarter seamer: is an ideal tool to help you rule your seams accurately and quickly. It is usually made of Perspex and is a quarter of an inch wide on all four sides.

Ruler: Make sure that it is well marked, and ideally it has both imperial and metric measurements, as they are still both used in patchwork.
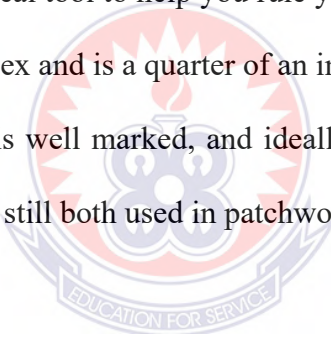
How to Make Patchwork

To make patchwork blocks for sewing, you will first need to cut out your fabric pieces to specific dimensions. Then, you can sew the blocks together as desired, and add a backing fabric to complete your patchwork piece. Prewash and iron your fabric. Wash and dry the fabric before you work with it to ensure that it will not shrink after sewing, since this may warp the appearance of your finished project. Then, use an iron to flatten out the fabric and prepare it for cutting.

Use the lowest possible setting on your iron to help prevent damage to your fabric.

STEP 1

- ➢ Get all your supplies (thus tools and materials)

➢ Your projects instructions will determine the amount of fabric, size of shapes. Thus square or angels you will need. If you are trying to make tablecloth, bedspread etc. you have to make a large number of squares. You could a small 5.5 by 5.5 inches (14cm by 14cm).

➢ Place the desired fabric on cutting mat and cut or draft to get final patterns using accurate measurement. As shown in Plate 4.46 and Plate 4.47

Plate 4. 46: Pattern drafting   **Plate 4. 47: Cutting mat**

➢ Square the edges using a clear ruler.

➢ Make sure the corners of the fabric are at 90 degree angles before you start cutting your fabric into strips and squares, make sure the edges of the larger fabric pieces are at 90 degree angles. This will help to ensure that all pieces will be even and ready to sew.

➢ Create a strip of fabric that is width you want the pieces to be

➢ Cut the fabric in 1 even in multiple strips.

➢ Cut the strip into sections to make square or rectangles.

➢ After you have a strip of fabric, you can cut it width-wise to get required dimensions.

> ➢ To cut squares, cut the pieces to the same length as the width of the strip, 14 inches (10cm) for 4 by 4 inches (10 10 cm) squares. 2. To create rectangles to use for patchwork, then cut the strip into section that are shorter or longer than the width the strip (Plate 4.48)

> ➢ Continue cutting out pieces until you have the desired amount (Plate 4.49)
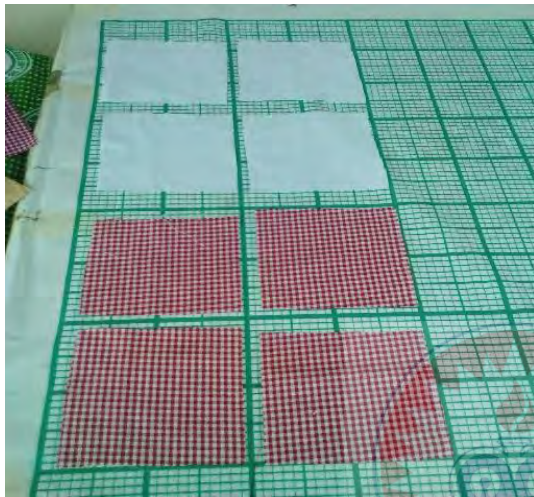
Plate 4. 48: Strips into section   **Plate 4. 49: Cutting to desired amount**

Sawing Patchwork Pieces Together

Pin 2 pieces side-by-side with the right (print) sides facing each other. When you are ready to sew together the patchwork pieces you have cut out, pin the edges of 2 of them together so that they are side-by-side and the right sides of the pieces are facing each other. Leave about 0.25 to 0.5 in (0.64 to 1.27 cm) of fabric as the seam allowance for each piece. Insert the pins perpendicular to the edge of the fabric so that it will be easier to remove as you sew. You will need to remove each of the pins before you sew over a pinned area to avoid damaging your sewing machine. As shown in Plate 4.50.

Plate 4. 50: Pinning pieces of fabrics together

Sew a straight stitch along edges to join 1 pair when you have all your pieces pinned. Begin sewing them. Sew a straight stitch along the pinned area to secure 2 pieces together and sew the next pieces onto the edge of the pieces. You can connect the pieces in a long strip of patchwork or create a patchwork square or rectangle with the pieces. Depending on what you need for your project. Keep sewing pieces until you have as many as needed and block of patchwork is the desired dimension. As shown in Plate 4.51.

Plate 4. 51: Stitching of pieces of fabrics together

Iron the seams on the back of the joined strips. After you have finished sewing together all of your pieces, turn the block of patchwork over so that the seams are facing up. Then, iron the seams to flatten them out. This will help the finished patchwork block to lay flat against your backing material. Use another fabric to cover the right side of the work while pressing to prevent sheen (Plate 4.52)
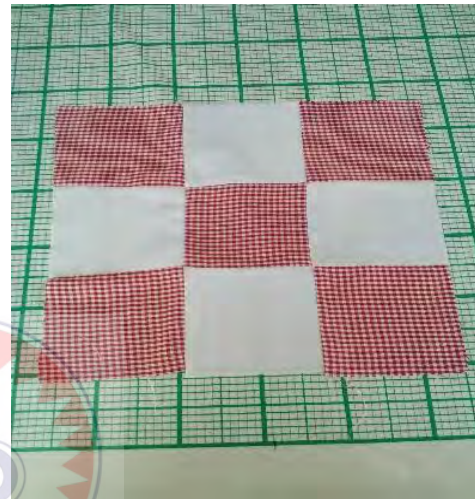

Plate 4. 52: Pressing of seams　　　**Plate 4. 53: Desired pattern**

Cutting and pinning patchwork block and backing fabric

Cut out the required size of backing fabric. You will need to have a piece of backing fabric that is the same size as your block of fabric. Measure the dimensions of your block to be sure, and then measure and cut the same dimensions in your backing fabric.
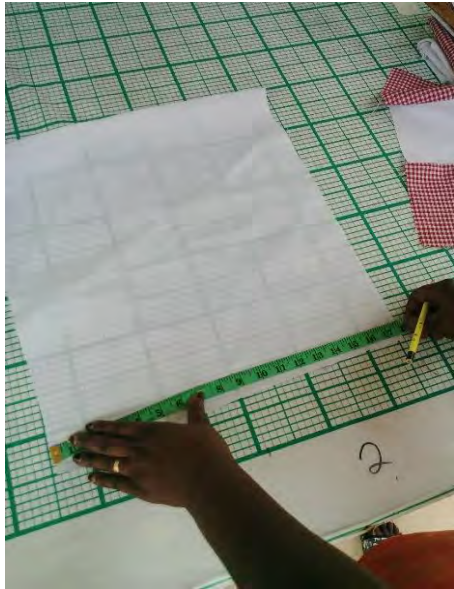
| **Plate 4. 54: Cutting of backing** | **Plate 4. 55: Placing the backing at the right side** |
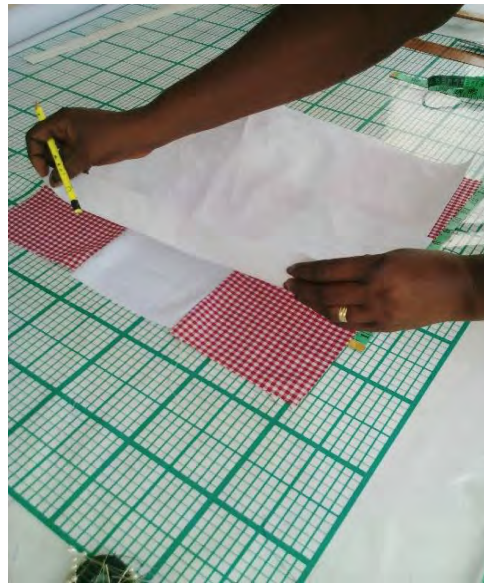
Pin the backing fabric and patchwork block with the right sides together. Lay the backing fabric on a flat surface with the right (print or outer) side facing up, and then lay the patchwork block over it with the right side facing down. Make sure that the edges of the 2 pieces of fabric are completely even with each other. Insert pins perpendicular to the edges of the fabric to make it easier to remove when stitching.

Sewing

1. Stop sewing when you reach the corners and raise the lever. Make sure the needle is in the fabric, and turn the fabric 90 degrees before counting (Plate 4.56)

Plate 4. 56: 90 degrees turning

2. Keep sewing all the way around the block of fabric until you get to the very end where you have marked for the opening (Plate 4.57).

Plate 4. 57: Stitching around all block

3. Cut the thread to release it from the sewing machine after you reach the end.

4. After you finish sewing and before you invert (inside out) the fabric, cut off the excess fabric at the corners of your block. This will help to reduce bulk in the corners when you invert the piece. Leave about a 0.25 in (0.64 cm) seam allowance at the corners.
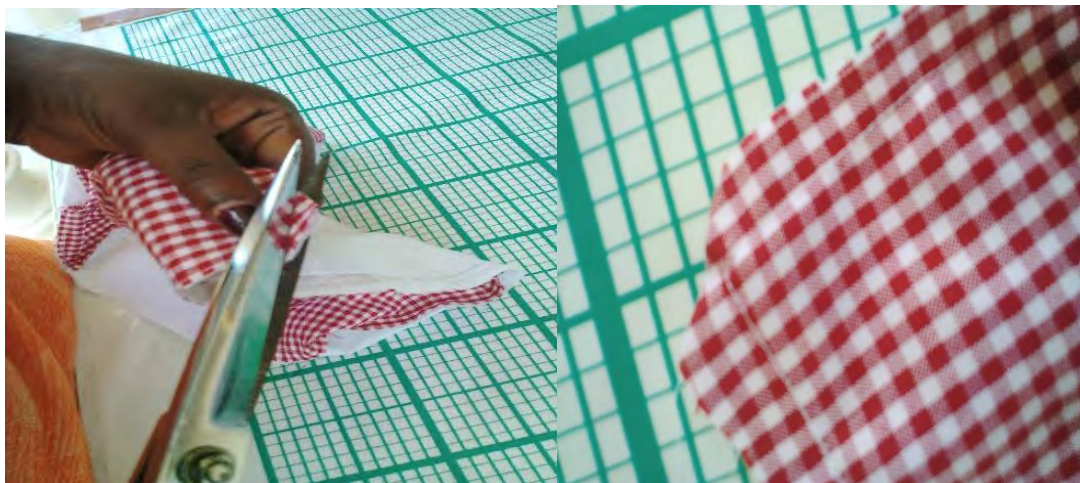
Plate 4. 58: Cut excess fabric at the corner

5. Invert (inside out) of the fabric (Plate 4.59)

Plate 4. 59: Invert (inside out)

Plate 4. 60: Final pressing

Plate 4. 61: Coffee set

Plate 4. 62: chair back

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Procedure for simple bedside or doormat (patch work)

1. To get the pattern, fold the paper into four (4) (Plate 4.63)

2. Measure the width 10 inches, length 10 inches and cut out
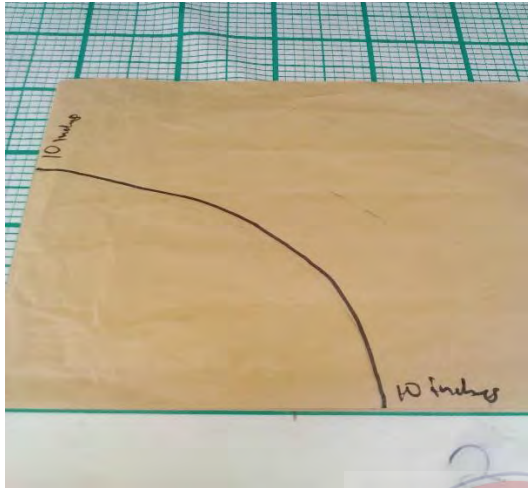
Plate 4. 63: Pattern drafting
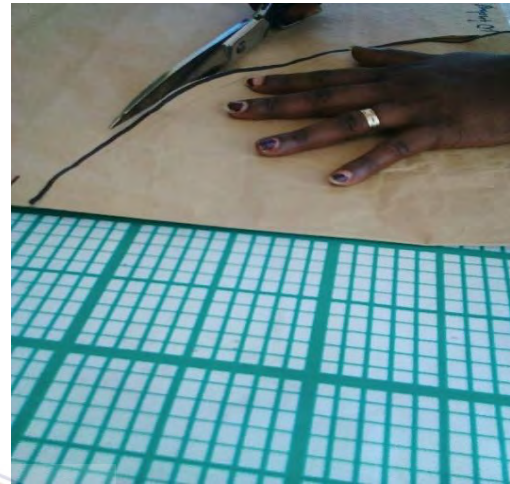
Plate 4. 64: Pattern drafting

3. Open, the pattern, divide into number of parts you desire and indicates the numbers on the pattern (Plate 4.64)
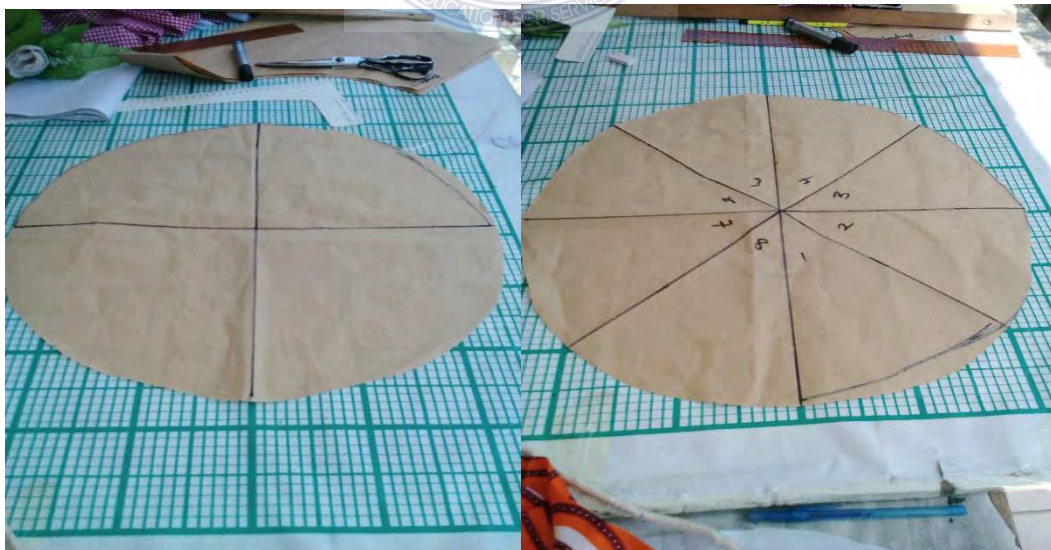
Plate 4. 65: Final pattern

4. Trace out one section and use it to cut out all pieces (Plate 4.66)

Plate 4. 66: Cut out pattern pieces

5. Join the pieces together one by one to get the desire shape and press (Plate 4.67)

Plate 4. 67: Join pattern pieces together

6. Cut fabric or any soft notion to fix it at middle or center (Plate 4.68)

Plate 4. 68: Fix notion/pieces at the centre

7. Cut out the required size of backing fabric, lay the backing fabric at the right side pin, tack and mark 2 inches for invert (inside out) (Plate 4.69)

Plate 4. 69: Fixing of backing at the centre

8. Attach fringe, flounce, lace at the right sized or bind to embellish it (Plate 4.70)

Plate 4. 70: Attach fringe

Plate 4. 71: Final Product   **Plate 4. 72: Bedside mat / Doormat**

4.5.2 Evaluation of Manual

The proposed manual was verified using the questionnaire method. The quilting/patchwork and smocking teachers including the headmasters/mistress at various school and colleges in Hohoe Municipality filled in the questionnaire after they had suggested the appropriate response and after they were shown the manual. The structural questionnaire (see Appendix B) required the teachers and headmasters/mistress to choose one of the answers offered. The explanation of each question, the answers provided by the teachers and headmasters/mistress and the conclusions in connection to the answers are shown in the various Figures.
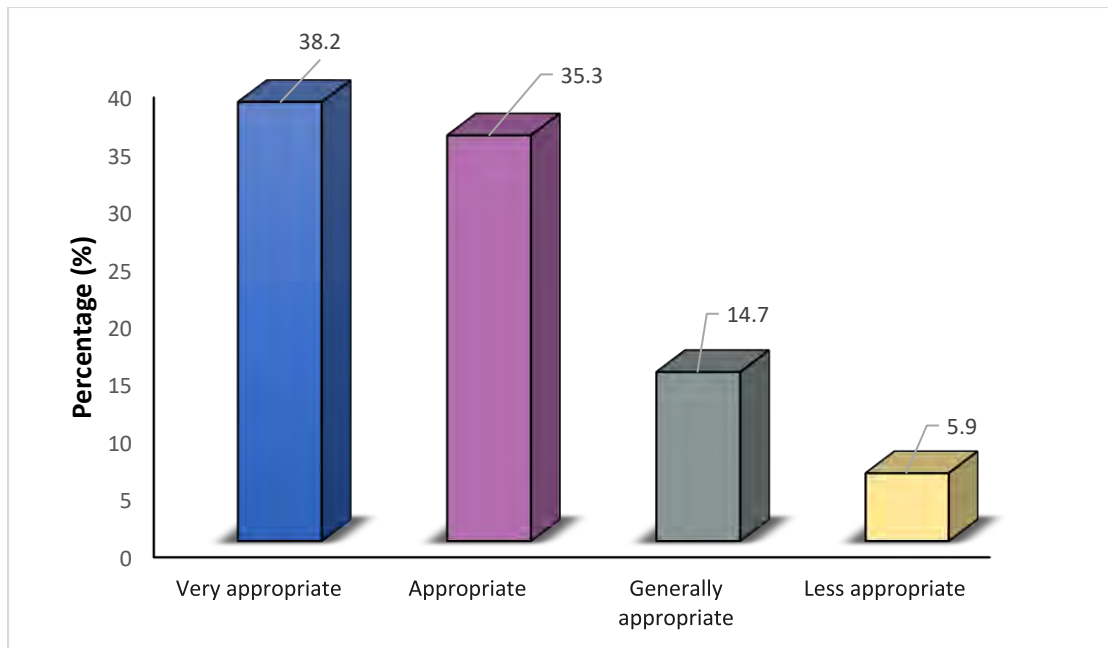
Figure 4. 1: Developed manual for quilting, patching and smocking
Source: Researcher Field Work, 2022

From Figure 4.1 the respondents were asked "What do you think about the development of the manual for quilting, patching and smocking". From the data, 13 respondents forming 38.2% considered the developed manual *Very appropriate*, 12 respondents representing 35.3% considered the manual appropriate, 5 respondents constituting 14.7% considered it *Generally Appropriate* and the 2 respondents each constituting 5.9% considered the manual *Less Appropriate and Not appropriate.* The teachers and headmasters/mistress thus verified the manual proposed, which is especially important for the teaching and learning of quilting, patching and smocking.
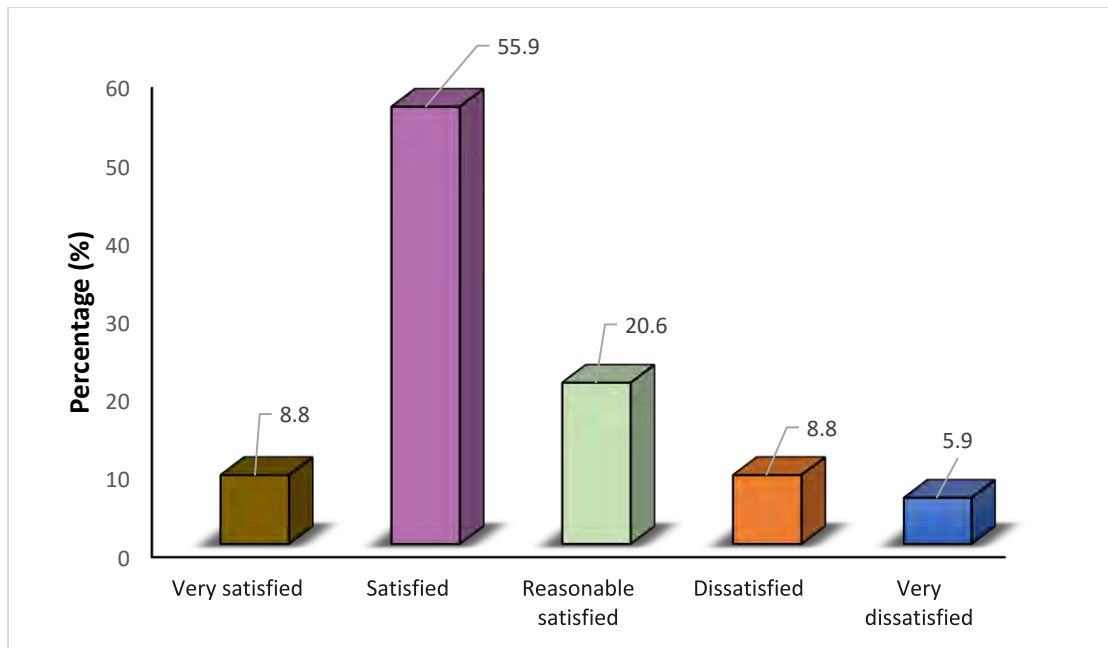
Figure 4. 2: Satisfied with the developed manual
Source: Researcher Field Work, 2022

The developed manual offers an alternative approach to teaching and learning of quilting, patching and smocking. The respondents were asked whether they are satisfied with the manual. The respondents confirmed that this is a suitable manual because 3 of them representing 8.8% were *Very Satisfied* with it, 19 respondents constituting 55.9% were *satisfied* and 7 of them forming 20.6% were *Reasonably Satisfied*. However, 3 respondents representing 8.8% was *dissatisfied,* whereas 2 of them constituting 5.9% were *Very Dissatisfied* with the manual. This indicates that the manual can identify and appreciate the guidelines in the teaching and learning of quilting, patching and smocking.
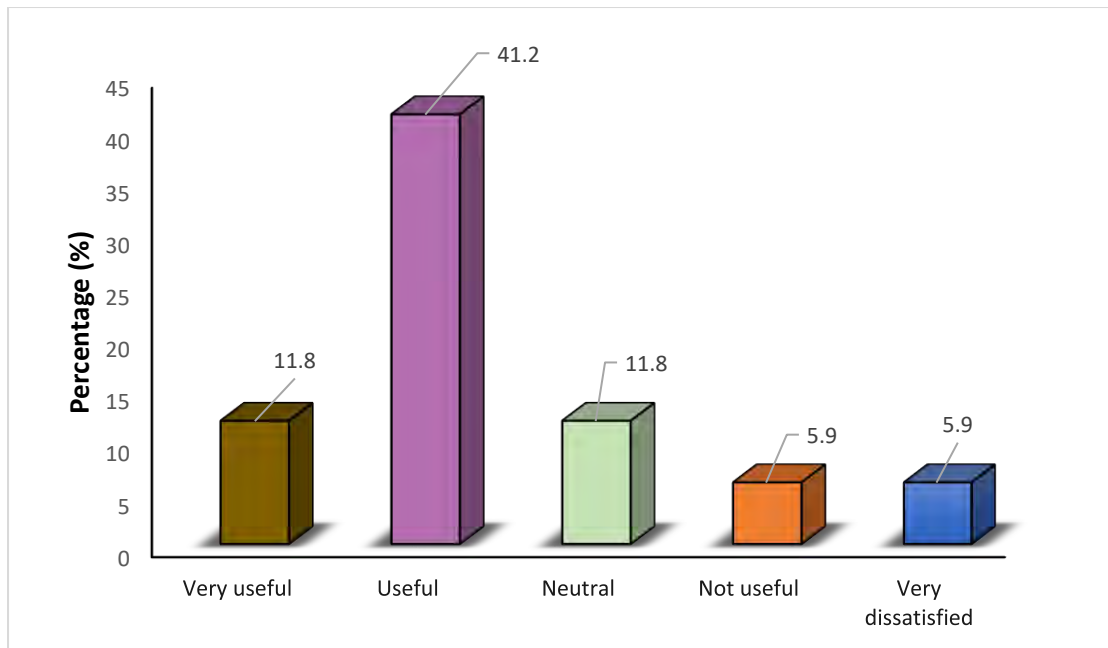
Figure 4. 3: Important of the manual to improve teaching and learning
Source: Researcher Field Work, 2022

As depicted in Figure 4.3, the respondents were asked whether the manual is important in improving teaching and learning of quilting, patching and smocking. This question tested the whether the goal of this research was successfully realised and the respondents answers are very encouraging. From the data collection, 4 respondents constituting 11.8% considered the manual *Very Useful,* 14 of them forming 41.2% considered it to be *Useful,* 10 respondents representing 29.4% considered the manual to be somewhat useful. However, 4 of the respondents forming 11.8% considered it to be Neutral, whereas 2 respondents constituting 5.9% considered the manual to be not useful. The finding showed that the developed manual is important in improving teaching and learning of quilting, patching and smocking at Senior High school/Technical institute.
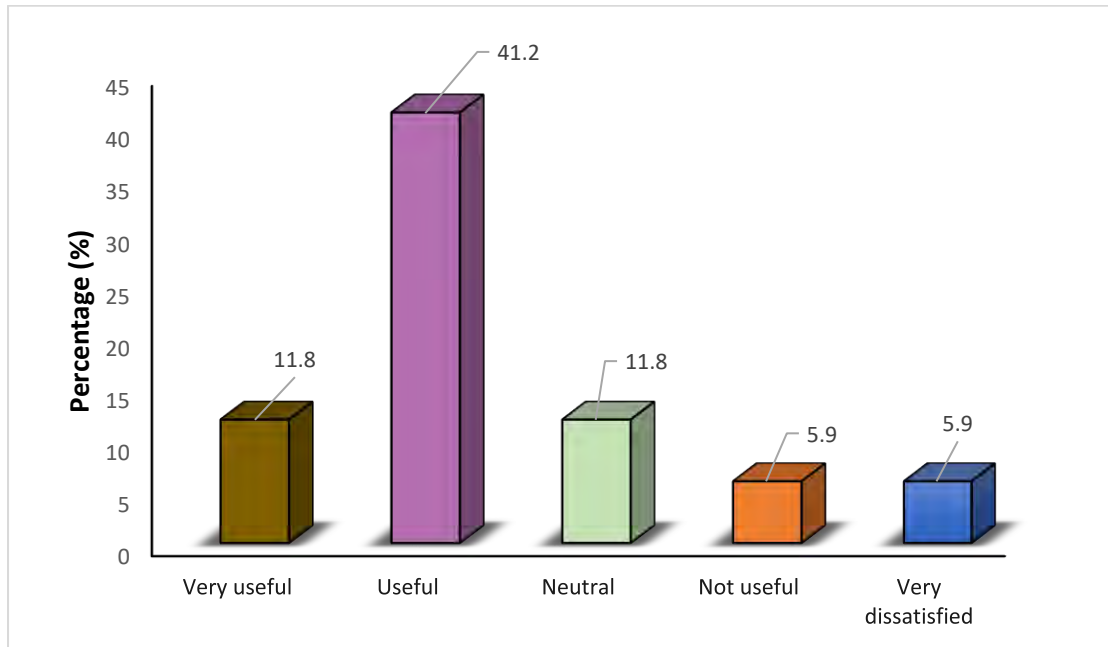
Figure 4. 4: Acceptability of the identified risk regardless of the project types and size
Source: Researcher Field Work, 2022

As displayed in Figure 4.4, a question was posed "what extent does using the developed manual improve your understanding of quilting, patchwork and smocking". From the data collection, 6 respondents representing 17.6% answered that the developed manual will help improve teachers understanding of quilting, patching and smocking *Very Much*, 20 respondents forming 58.8% answered *Much* understanding. However, 2 respondents constituting 5.9% mentioned that manual will help improve teachers understanding *Not Much.* Again, 4 of them constituting 11.8% revealed that manual will help improve teachers understanding to *Some Extent*. The remaining 2 respondents constituting 5.9% asserted that the manual will *Not at all* improve teachers understanding of quilting, patching and smocking. This affirmed that the developed manual could improve teachers understanding of quilting, patching and smocking at the various schools and colleges.
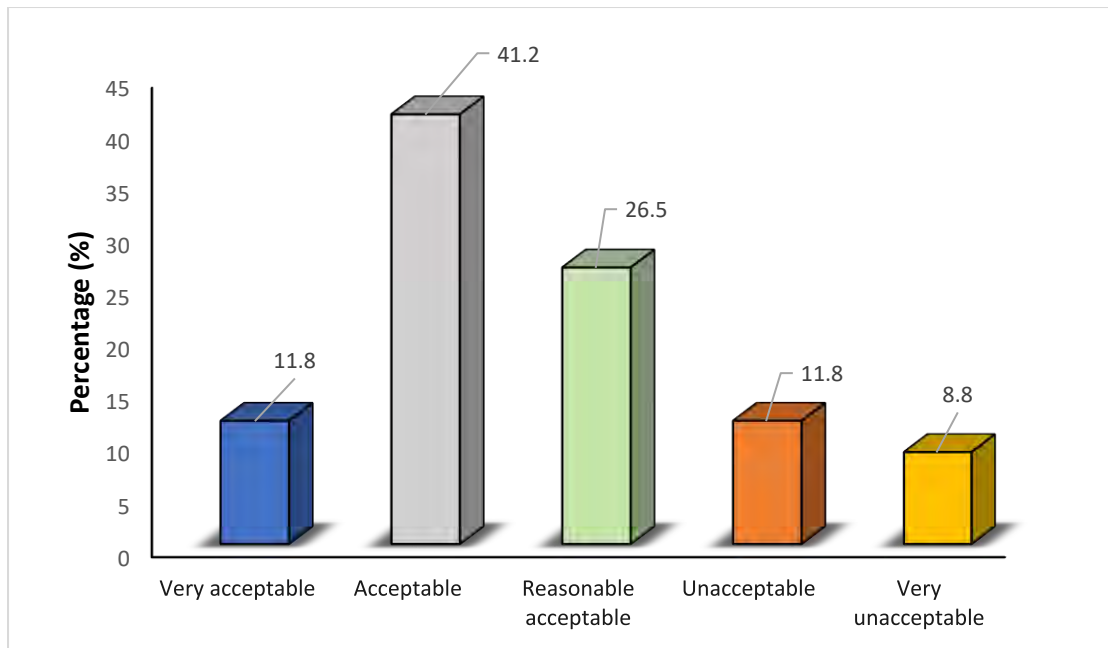
Figure 4. 5: **Acceptability of the manual**
Source: Researcher Field Work, 2022

The respondents about what they think about the acceptability of the manual. For some of the respondents this had been the first encounter with this manual whereby the decision-making process unfolds through a series of judgments about the interrelationships of alternatives with reference to given criteria and given goal. From Figure 4.5, 4 respondents constituting 11.8% gave the answer *Very Acceptable*, 14 experts forming 41.2% indicated that the manual is Acceptable. In addition, 9 respondents constituting 26.5% answer *Reasonably Acceptable*. Four (4) respondents forming 11.8% considered this manual *Unacceptable,* and 3 respondents representing 8.8% answered *Very Unacceptable*. This has verified the use of the manual to be useful for the purpose of improving effective teaching and learning of quilting, patching and smocking at the various schools and colleges.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1   Introduction

This section focuses on the general overview of the study, findings of the study, conclusions drawn from the main findings and finally proffer recommendations.

5.2   General Overview of the Study

Education is a tool that enhances capacity building and is responsible for the maintenance of society for decades. It is a means for acquiring practical skills, relevant knowledge and habits for surviving in the changing world. Quilting, patching and smocking are the most popular crafts practiced around the world, and the variety of these techniques is staggering. Teachers play a key role in ensuring that every learner can participate in every learning process in the practical subjects like quilting, patching and smocking in schools. Teachers are required to use the same methods in other topics in teaching quilting, patching and smocking technique since there are no manuals to guide the teaching in enhancing student participation in the lessons. It appears that quilting, patching and smocking technique is not very commonly observed, and most certainly is not the central organising theme in most schools in Ghana. Availability of manual as a teaching strategy or a guide puts a huge demand on teachers in terms of time and resources.

With this background, the study investigated in developing a manual that encourages and guide teachers in teaching quilting, patching and smocking. The specific objectives of the study were to identify the perception of teachers in teaching quilting, patchwork and smocking in schools, find out the challenges in teaching and learning

of quilting, patchwork and smocking in schools, develop a manual for improving upon the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students. In order to achieve the objectives of the study, the study focused on teachers of school and colleges in Hohoe Municipality of Ghana. The study sampled 34 quilting/patchwork teachers from 14 Senior High school/Technical institute in Hohoe Municipality of Ghana. Purposive and Census sampling technique were employed in selecting all Senior High/Technical Institute and the teachers respectively. The main instruments employed in this study were questionnaire. The data gathered were coded and fed into SPSS software, version 23.0, for Windows. Analysis was undertaken to generate a descriptive picture of the data gathered.

5.3 Findings of the Study

The presentation of the main findings of the study was presented according to the specific objectives.

5.3.1 Perception towards the teaching and learning of history

- The findings indicated that teachers have a positive perception towards teaching and learning of quilting, patchwork and smocking. The teachers strongly agreed to quilting/patchwork offering students opportunity to acquire occupational skills, very important topic every student should study, and students are self-employed after completion.

5.3.2   Challenges in teaching and learning of quilting, patchwork and smocking

- The finding showed that lack of sufficient time, too many recommended quilting/patchwork texts books, inability of school authorities to provide materials, and lack of well-equipped practical workshop are major instructional challenge to effective teaching and learning of quilting/patching and smocking

- The study indicated that too much of measurement and calculations is a major curriculum challenge to teachers teaching of quilting/patchwork and smocking.

5.3.3   Manual for improving the teaching of quilting, patchwork and smocking

- The study discovered that the developed manual can identify and appreciate the guidelines in the teaching and learning of quilting, patching and smocking.

- The finding showed that the developed manual is important in improving teaching and learning of quilting, patching and smocking at Senior High school/Technical institute.

- It appeared from the study that developed manual could improve teachers understanding, and be useful for the purpose of improving effective teaching and learning of quilting, patching and smocking at the various schools and colleges.

5.4   Conclusions

Teachers play a key role in ensuring that every learner can participate in every learning process in the practical subjects like quilting, patching and smocking in schools. Teachers are required to use the same methods in other subjects in teaching quilting, patching and smocking technique since there are no manuals to guide the

teaching in enhancing student participation in the lessons. It appeared that teachers have a positive perception towards teaching and learning of quilting, patchwork and smocking. The teachers strongly agreed to quilting/patchwork offering students opportunity to acquire occupational skills, very important topic every student should study, and students are self-employed after completion.

It can expediently conclude that lack of sufficient time, too many recommended quilting/patchwork texts books, inability of school authorities to provide materials, and lack of well-equipped practical workshop are major instructional challenge to effective teaching and learning of quilting/patching and smocking. According to the study, too much of measurement and calculations is a major curriculum challenge to teachers teaching of quilting/patchwork and smocking. However, the developed manual can identify and appreciate the guidelines in the teaching and learning of quilting, patching and smocking. Also, the manual is important in improving teaching and learning of quilting, patching and smocking at Senior High school/Technical institute. Again, the developed manual could improve teachers understanding, and be useful for the purpose of improving effective teaching and learning of quilting, patching and smocking at the various schools and colleges.

5.5   Recommendations

Based on the findings of the study, the following recommendations were therefore made:

1. The Ministry of Education, Ghana Education Service, and headmasters should inspire teachers and students so that they continue develop positive perception of the quilting/patchwork and smocking.

2. In-service training courses on all aspects of quilting/patchwork and smocking should be organized for the teachers who are teaching textiles in school and colleges in particular. This will help them to upgrade their skills, knowledge and teaching techniques

3. Since lack of tools and materials and lack of well-equipped practical workshop adversely affect teaching, so far as the teaching of quilting/patchwork and smocking is concerned, the Ghana Education Service should see to it that the needed facilities are made available to the schools. This will motivate the teachers to readily and effectively teach quilting/patchwork and smocking to the students.

4. In addition, it is important that teachers be monitored and effectively supervised to teach whatever lesson they are assigned since effective teaching of quilting/patchwork and smocking in particular will help produce students with occupational skills and can be self-employed after completion

5.5 Areas for Further Research

The study developed manual on the teaching of quilting, patchwork and smocking in schools and colleges. The following areas are suggested for further research:

1. A replication of the current study on a nation-wide basis by the Ghana Education Service or any interested organisation or individual will be commendable. This, it is hoped, will provide a more in-depth study into issues relating to the teaching and learning of quilting, patchwork and smocking.

2. This present study adopted quantitative research approach. A replication of this study can employ qualitative or mixed method to ascertain the validity of the study

3. Further research should look at students' rating of quilting, patchwork and smocking teachers' effectiveness. This will help stakeholders know whether teachers employed to teach the subject are effective or not.

REFERENCES

Adu-Poku, A., Howard, K. E., Adu-Agyem, J. & Asinyo, K. B. (2020). Support Systems: Essential Pivots of Textiles Education in Senior High Schools in Ghana. *The International Journal of Humanities & Social Studies,* 8(7), 68-82.

Anderson*,* A. (2015). All Things Quilting with Alex Anderson. Concord, CA: C&T Publishing. p. 132

Aqiusha (2014). Quilting. Archived from the original. Retrieved from https://web.archive.org/web/20151118171229/https://www.43911.com/t/fushij ichu/fsjc/1333464552.shtml. Accessed: March, 12, 2021.

Aqiusha (2014). Quilting. Archived from the original. Retrieved from https://web.archive.org/web/20151118171229/https://www.43911.com/t/fushij ichu/fsjc/1333464552.shtml. Accessed: March, 12, 2021.

Arubayi, D. O. & Obunadike, C. J. (2011). Problems of Teaching and Learning Clothing and Textiles in Senior Secondary Schools in Anambra State, Nigeria. *Stud Home Com Sci,* 5(2): 113-119

Brackman, B. (2004). America's Printed Fabrics: 1770–1890. Concord: C&T Publishing. pp. 6–7. ISBN 1-57120-255-2.

Brackman, B. (2006). Facts & Fabrications: Unraveling the History of Quilts & Slavery. Concord: C&T Publishing. p. 15. ISBN 978-1-57120-364-9.

Brick, C. J. (2012). Patchwork. *Encyclopedia Britannica*. Retrieved from https://www.britannica.com/art/patchwork. Accessed 12 March 2021

Broni-Afful, A. & Ziggah, S. (2005). Introduction to Curriculum Development in Ghana. Published by Afful Broni and printed by Yamens. Press Ltd. Accra-Ghana.

Crane, C. (2020). Pleated embroidered (smocked). Retrieved from https://www.pinterest.com/pin/542472717585561183. Accessed: March, 14, 2021.

Curran, M. (2018). Opinion: The master quilters of Gee's Bend. New York Times, 2-8.

Desforges, C., and Abouchaar, A. (2003) *The Impact of Parental Involvement, Parental Support and Family Education on Pupils' Achievement and Adjustmen*t. Research Report RR433.

Ellis, C. (2014). World of Quilts. Concord, CA: C&T Publishing. pp. 10–150. ISBN 978-1-60705-953-0

Emily, S. (2006). *The Quilting Challenge: for every classroom*. Retrieved from https://nationalseedproject.org/Schools-and-Education/quilting-challenge. Accessed: March, 14, 2021.

Fiadzo, S. V. (2013). Weaving Techniques in Colleges of Education Using a Variety of Media. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.838.1226&rep=rep1&type=pdf. Accessed: January, 15, 2021.

Forster, P., Quarcoo, R., Ashong, E. L., &Ghanney, V. (2017). Views of Teacher-Trainees on Clothing and Textiles Education in Two Teacher Education Universities in Ghana. *World Journal of Education*, *7*(1), 1-13.

Gagne, J. (2007). History of Quilting an Introduction to Quilting for the Beginner. Retrieved from https://www.fibre2fashion.com/industry-article/1780/history-of-quilting-an-introduction-to-quilting-for-the-beginner. Accessed: January, 6, 2021.

Hargrave, C., Harriet, E. & Carrie, L. (2015). Quilter's Academy Vol. 5 – Masters Year. Concord: C&T Publishing. p. 6. ISBN 978-1-57120-792

Heffley, S. (2007). Bold Improvisation. Kansas City, MO: Kansas City Star Books. pp. 4–10. ISBN 978-1-933466-25-5.

Heffley, S. (2007). Bold Improvisation. Kansas City, MO: Kansas City Star Books. pp. 4–10. ISBN 978-1-933466-25-5.

Hilgard, E. R., Atkinson, R., & Atkinson, R. C. (2009). *Introduction to psychology* (7th ed.). New York: Harcourt Brace Jovanovich

Jessica, A. (2021). Differences Between Patchwork and Quilting. Retrieved from http://sewingmachinebuffs.com/differences-between-patchwork-and-quilting/. Accessed: March, 14, 2021.

Johnson, J. (2014). History of quilting. Center for Great Plain Studies. Emporia State University. Retrieved from http://www.emporia.edu/cgps/tales/quilte~1.html. Accessed: March, 12, 2021.

Johnson, S. J. (2017). Quilting Across the Curriculum. Retrieved from https://uh.edu/honors/Programs-Minors/honors-and-the-schools. Accessed: March, 14, 2021.

Kaindi, I. J., Mburugu, K., Nguku, E. & Obere, A. (2016). The Competencies of Fashion Design Teachers in Public Institutions of Higher Learning in Nairobi County, Kenya. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, *26*(1), 278- 291.

Kerr, N. (2007). An introduction to quilting and patchwork. Retrieved from https://www.vam.ac.uk/articles/an-introduction-to-quilting-andpatchwork. Accessed: January, 6, 2021.

Kerr, N. (2007). At the End of the Day. Britain. Museum no. T.43-2008.

Komolafe, F. (2016). Reinforcing psychomotor skill of clothing and textile teachers in Nigerian secondary school.

Lam, T. S. & Stylios, G. (2016). An overview of smart technologies for clothing design and engineering. *International Journal of Clothing Science and Technology,* 18(2), 108-128

Magagula, N. H., Mpofu, M. & Bhebhe, S. (2019). Teacher Competences in the Teaching of Fashion and Fabrics Practical Skills in Eswatini High Schools. *International Journal of Research and Innovation in Social Science*, 11(9), 435-444.

May, R. (2014). *Quilting with a Modern Slant*. North Adams, MA: Storey Publishing. pp. 7-51

Mberengwa, L. (2004). Curriculum change in Home Economics education at Gweru Teachers College, Zimbabwe, 1975-1995 *Journal of Family and Consumer Sciences Education*, 22(2): 17-23.

Muzenda, V. (2014). *The Delivery of the Clothing and Textiles Curriculum in Zimbabwean Universities: Towards an Intergrated Approach to Vertical and Horizontal Discourses* (Doctoral dissertation, University of Fort Hare).

Ncube, A., &Tshabalala, T. (2014). Teachers' perceptions on challenges faced by rural secondary schools in the implementation of the technical and vocational education and training policy in Nkayi district

Rastogi, S. (2012). Lattice Smocking: An Innovative Technique for Apparel Designing. Retrieved from https://www.fibre2fashion.com/industry-article/6696. Accessed: January, 6, 2021.

Reader's Digest Association (2014). *Complete Guide to Embroidery Stitches*, Pleasantville, New York: Marabout.

Sackey, J. (1995). Lesson Notes on Textiles for Ghanaian Schools and Colleges. Accra, Ghana.

Sharon, P. (2005). Sensational Sashiko, Japanese Applique and Quilting by Machine. p.5, Martingale & Co., Woodinville, WA.

Toth, K. C. (2014). *Good Housekeeping: The Illustrated Book of Needlecrafts*, New York: Hearst Books.

Victoria & Albert Meseum (2020). An introduction to quilting and patchwork. Retrieved from https://www.vam.ac.uk/articles/an-introduction-to-quilting-and-patchwork. Accessed: March, 2, 2021.

Wang, J. (2009). Problems and Countermeasures of Practice Teaching in Tourism Management Major. *Journal of Changchun Normal University*, 3(2), 2-11.

Wei, G. (2002). Reflections on Practical Teaching. *Journal of Qiongzhou University*, 4(6), 5-21.

Wei, Z. (2009). Issues of Practical Teaching in Vocational-Technical Schools in China and Their Countermeasures. *International education studies,* 2(4), 1-4.

Whittle, S. (2013). *The Needlecraft Style Directory*. North America: Barron's Educational Series, Inc. p. 79.

Wilson, S. & Berne, J. (2008). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. In Iran-Nejad & P. D. Parsons (Eds.), Review of Research in Education, 24, (pp. 173-209). Washington, DC: American Educational Research Association.

Xu, S. (2009). Problems and Countermeasures of Practice Education in High Vocational Schools. *Economy of Shangdong Textile*, (3).

Yu, Z. (2004). *On Higher Vocational Education Teaching Practice*. Tsinghua University Press.

Zhang, Z. (2009). Problems and Countermeasures of Practice Teaching in Electronic Technology Major. *Journal of Liaoning Educational Administration Institute*, (2), 1-8.

APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA

COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

Dear Respondent,

The researcher is undertaking a study on "a manual on the teaching of quilting, patchwork and smocking in Schools and Colleges in Hohoe Municipality, Ghana. This questionnaire is designed to assist the researcher to make an objective study of the subject matter. The exercise is purely an academic one and your responses will not be used for any other exercise. You are kindly requested to provide responses to the questions to enable the researcher contribute knowledge in the field of study. All information given shall be treated as confidential. Thank you for your co-operation.

SECTION A: Demographic information

Please tick [√] where applicable.

1.   What is your age (in years)?

        a. 20-25 [   ]   b. 26-30 [   ]   c. 31-35 [   ]

        d. 36-40 [   ]   e. 41 and above

2.   What is your gender?

        a. Male [   ]   b. Female [   ]

3.   What is your educational level?

        a. Diploma   [   ]   b. First degree [   ]   c. Masters [   ]

        d. Other [   ] specify:…………………………………………

4.   For how long have you been teaching in your school?

        a. 1 – 5 years [   ]   b. 6-10 years [   ]   c. 11-15 years [   ]

        d. 16+ years [   ]

Section B: Perception of teachers in teaching quilting, patchwork and smocking in school

5.   What is your perception in teaching quilting, patchwork and smocking in school? Please rate using a scale of 1 to 5: strongly disagree (1), disagree (2), Uncertain (3), agree (4), and strongly agree (5). *(Please tick the box which best reflect your view).*

S/No	Perception towards quilting, patchwork and smocking	Scale				
		1	2	3	4	5
	Positive perception					
1.	I enjoy teaching quilting, patchwork and smocking					
2.	Students are self-employed after completion					
3.	Quilting/patchwork is a very important topic every student should study					
4.	It helps improve one's colour selection					
5.	It improves students self esteem					
6.	Quilting/patchwork offers students opportunity to acquire occupational skills					
	Negative perception					
1.	It is very difficult to use varied methods in the teaching quilting, patchwork and smocking					
2.	The scope of the topic is too broad to be taught within the time frame.					
3.	Given the opportunity, I will teach another topic other than quilting, patchwork and smocking					
4.	It is a topic for females only					
5.	It is a topic for academically weak students					

6.   Do you think quilting, patchwork and smocking is very important in students' life?

Yes [   ]   No [   ]

7.   Would you encourage your child to study quilting, patchwork and smocking subject very hard?

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Yes [   ]   No [   ]

If no, why, and if yes, why?..

....

Section C: Challenges in teaching and learning of quilting, patchwork and smocking in schools.

8.   What challenges do you encounter in teaching and learning of quilting, patchwork and smocking in schools? Please rate using a scale of 1 to 5: strongly disagree (1), disagree (2), Uncertain (3), agree (4), and strongly agree (5). *(Please tick the box which best reflect your view).*

S/No	Challenges	SCALE				
		1	2	3	4	5
	Instructional challenges					
1.	Lack of teachers' knowledge and skill to use the available materials					
2.	Inability of parents to buy needed materials for students					
3.	Lack of sufficient time to use instructional materials during quilting/patchwork lesson					
4.	Too many recommended quilting/patchwork texts books					
5.	Inability to school authorities to provide materials needed for learning quilting/patchwork					
6.	Poor attitudes of students during quilting/patchwork lesson					
7.	Lack of well-equipped practical workshop					
	Curriculum Challenges					
1.	Quilting/patchwork content is too wide					
2.	Students are not exposed to practical until the final certificate examination					
3.	There are no excursions or fieldtrips					
4.	Quilting/patchwork and smocking demand too much of measurement and calculations					
5.	Quilting/patchwork and smocking is a difficult lesson					

Section D: Developed manual to improve the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students?

Please tick [√] appropriately

1.   What do you think about the developed manual for teaching and learning of quilting, patchwork and smocking?

       Very appropriate [1]   Appropriate [2]   Generally appropriate [3]

       Less appropriate [4]   Not appropriate [5]

2.   How generally satisfied are you with the developed manual for teaching and learning of quilting, patchwork and smocking?

       Very satisfied [1]   Satisfied [2] Reasonably satisfied [3]

       Dissatisfied [4]   Very dissatisfied [5]

3.   Do you find the developed manual important to improve the teaching and learning of quilting, patchwork and smocking to enhance the entrepreneurial abilities of students?

       Very useful [1]   Useful [2]   Somewhat useful [3]

       Neutral [4]   Not useful [5]

4.   To what extent does using the developed manual improve your understanding of quilting, patchwork and smocking?

       Very much [1]   Much [2]   Not much [3]

       Some [4]   Not at all [5]

5.   What do you think about the acceptability of the manual in the teaching and learning of quilting, patchwork and smocking?

       Very acceptable [5] Acceptable [2]   Reasonably acceptable [3]

       Unacceptable [4]   Very Unacceptable [5]

THANK YOU