

**ENHANCING THE TEACHING OF CLOTHING AND TEXTILE SCIENCE: A CASE  
STUDY OF MENGO SENIOR SECONDARY SCHOOL KAMPALA**

**BY**

**BAGABO ESEZA**

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UNIVERSITY.**

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**DECLARATION**

I hereby declare that this is my original piece of work and has never been presented to any institution of higher learning as an action research report for the award of any Degree

Sign ..... Date .....

**BAGABO ESEZA**

## APPROVAL

This is to acknowledge that this research report entitled “Enhancing the teaching of clothing and textile science”. Is submitted with approval of the research supervisors.

Prof. Aarron Wanyama

.....

Date.....

Dr. Obanda Peter

.....

Date.....

## **DEDICATION**

This work is dedicated to my father, Mr. A.K. Kalawo Bagabo (RIP), and Mother, Mrs. Florence W. Bagabo whose sacrifice was not in vain.

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## LIST OF ACRONYMS

A' Level	Advanced level
CD-ROM	Compact Disc Read-Only-Memory
C5	Credit Five
C4	Credit Four
C6	Credit Six
C3	Credit Three
D1	Distinction One
D2	Distinction Two
F9	Failure Nine
FGD	Focus Group Discussion
ICT	Information Communication Technology
MVP	Masters in Vocational Pedagogy
MSSS	Mengo Senior Secondary School
MOESST	Ministry of Education Sports Science and Technology
NCDC	National Curriculum Development Centre
O Level	Ordinary Level
P8	Pass Eight
P9	Pass Seven
3D	Three Dimensional
2D	Two Dimensional
UACE	Uganda Advanced Certificate
UCE	Uganda Certificate of Education

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## **ABSTRACT**

This study sought to investigate whether the teaching of clothing and textile science, could be enhanced using adequate learning resources at Mengo Senior Secondary School in Kampala Uganda. The study adopted a descriptive cross-sectional survey that included both qualitative and quantitative data. One hundred twenty-eight (128) respondents were sampled to participate in this study and these comprised of One Head teacher, Two Deputies, Four teachers, one laboratory attendant and One hundred twenty learners. Respondents were selected to avail the relevant information. Data was collected using Semi-structured questionnaires, Interviews and observation checklists were analyzed using descriptive statistics. These revealed that for five years 50% of the learners had failed to attain distinctions in UCE examination. This was due to inadequate learning resources, as a result during deliberations at the future workshop in the clothing and textile science, department of Mengo Senior Secondary School, it was decided that there should be an establishment of the following learning resources, namely; the talking laboratory which incorporated a student-centered method with visual aids addressing the four learning lifestyles, visual, auditory, kinesthetic and tactile. The use of the virtual library helped the teachers and learners to understand complex diagrams by turning the 2D objects which only observes height and width into an engaging 3D learning experience where the height, width and depth were observed and the Question bank instilled in the learners a spirit of owning their learning through individual research.

## **CHAPTER ONE: INTRODUCTION**

Clothing and textile science is a branch of Home economics that focuses on the production process of fibers, yarns, whole fabrics, dyes, finishes of both natural and synthetic to construction of garments and articles. The syllabus includes instruction in the chemical and physical properties of textile materials, end-use analysis, interior furnishing applications and industrial application.

The background to the study covers a brief explanation of vocational training and vocational pedagogy as a field, objectives, research questions, justification, significance, scope, limitations and delimitations. It also includes Operational definition of Terms and the Conceptual framework.

### **1.1 Background to the study**

#### **1.1.1. Vocational Training**

Vocational training is a branch of education which develops craftsmanship, practical experience and problem solving skills. Whereas vocational education builds analytical skills, knowledge and critical thinking which are needed by clothing and textile learners to be able to comprehend analyze, apply and evaluate skills during the process and outcomes of their products. Therefore, teachers of clothing and textile have to embrace vocational education training if they are to produce a holistic learner.

Globally, in the early 1990s there was a shift in the attention of the education reform movement in the United States. Due to the economic situation, the focus was directed towards vocational training and the connection between education and economic competitiveness.

Employers needed a skilled workforce for their restructuring processes. Instead of designing a



new job training programme, reform-oriented politicians, educators and employers demanded a new systemic approach to the whole complex of vocational education. So, vocational education was first established in private high schools in the second half of the 19th century. These schools offered vocational courses like accounting, stenography and machine typing. One could say that the first high schools were set up to prepare their students for a business life.

It was only later that the priority shifted to the preparation for college. Nonetheless many high schools retained their business programmes, for example high schools in Boston, Philadelphia, St. Louis, Washington DC and New Haven. After the introduction of compulsory school attendance for older students in many states, the percentage of high school graduates going to college was diminishing. Therefore, the curriculum had to change to take the new situation of a great number of non-college-bound graduates into account. In 1917 Congress passed the Smith Hughes Act which promoted vocational education in high schools. The federal government offered financial incentives for setting up vocational programmes. Most courses were related to agriculture and home economics. However, vocational education played only a minor role in high schools until the beginning of the 1960s. (Kreysing, 2001).

Nationally in Africa for a country like Nigeria the development of vocational and technical education could be traced in late 18<sup>th</sup> century when western education through missionaries' activities became predominant. Jimoh, Dawodu, Adegoke, and Komolafe (2005), noted that indigenous vocational education had a bad beginning and poor image due to the fact that it was first introduced to persons. Initially, the missionaries did not establish vocational schools; this was intentionally done to achieve their aims of preparing church evangelists, pastor, clerks and interpreters to aid in propagating the gospel. Okoro (1999) cited in Jimoh et al (2005) asserted that, the missionaries were reluctant to establish vocational schools and Nigerians

preferred the grammar, schools since education increasingly came to be regarded as a means of avoiding manual work. Not minding about the intention and motives behind avoiding manual work. Several commissions were later set up to see to the development of vocational and technical education in Nigeria. Among the commissions was the Phelps-Stroke Commission of 1920.

The Phelps-Stroke commission came into being in 1920; this was initiated by the American Baptist Foreign Missionary Society to make a comprehensive enquiry into the needs and resources of Africa with particular regard to the quantity and quality of education being provided. The commission was charged with the following tasks:

- To make inquiry into the educational work being done at present in each of the areas to be studied.
- To look into the educational needs of the people in the light of their religions, social, hygienic and economic condition.
- To ascertain what extent these needs are being met.
- To make available in full, the result of this study.

The work of the commission took them to Nigeria and neighboring African Countries. Their report which was titled, "Education in Africa" was published in 1992 with the following Observations and recommendations:

- It was observed that contrary to the opinion held in Europe, there was sufficient evidence of potential wealth to encourage capital investment in Africa. It was therefore recommended that education should be adapted to the needs of the individual and the community for the development of Africans.

- The commission condemned the situation where all groups responsible for education in the colonial Africa had differing goals for education. It therefore recommended clearly defined objectives of education which according to it should be development of character, promotion of health and healthy living, acquisition of agricultural and industrial skill and improvement of family life.
- The commission also identified lack of organization and supervision as the shortcoming of educational systems and therefore recommended that governments and religion missions in Africa should adopt and apply sound principles of administration, in the areas of supervision and inspection of their educational enterprises.

As a result, the colonial government came up with the first educational Policy of 1925. This policy was the first statement of the intentions of the colonial government on African education since 1842. It was an outcome of the Phelps-Stokes report which brought into light the apathy of colonial government to the education and the incompetence of the Christian mission in the field of education. The adoption of this report led to the establishment of Advisory boards of education at regional level to coordinate educational levels. Prominent among the report was the need for vocational and technical education which led to the establishment of trade center's and technical institutes. However, most technical education given was offered through Public Work Department (PWD), Post and Telegraph Development and the Nigeria Railway Corporation (NRC). Other companies in Nigeria also provided technical training for their workers. Furthermore, in 1934 Yaba Higher College was established. The college developed courses in Agriculture, Engineering and teacher training leading to the award of college diploma.

Osuala (1995) cited in Alade (2009) noted that the conscious planning of a system of technical education in Nigeria could be dated back to 1946 when it was given a major place in the ten-year plan for Development and Welfare. The ten-year development plan and welfare 1946-1956 recommended an expansion in technical education to meet the demand for technicians and craftsmen. This led to the establishment of Yaba Technical institute in 1947 and two other technical institutes in Enugu and Kaduna in 1952. Consequent upon this were further establishment of Nigeria College of Arts, Science and Technology in Zaria, Enugu and Ibadan in 1953.

The Federal Ministry of Education set up a commission in 1959 to conduct an investigation into Nigerian's needs in the area of post school certificate and higher education over the next two decades. This commission was headed by Sir Eric Ashby. The members of the commission were three Nigerian, and three British men whose experience and interest in higher education were widely recognized. The commission's three main objectives were to;

- Upgrade Nigerians who were already in employment but who needed further education.
- Design a system of post-secondary education which would produce by 1970 the flow of level manpower which Nigeria needed.
- Design education so that it could expand to meet the 1980 target re- planning

The commission met three times and submitted its report in September 1960, less than one month before independence and gave the report a title called **“INVESTMENT IN EDUCATION”**.

Some of the important recommendations of the commission that relates to vocational and technical education as pointed out by Jimoh et al (2005) were the basis of the present primary and secondary curricular towards literacy and academic (Olawale, 2014).

Locally in Uganda's situation by 1925, Government had established only one technical college at Makerere. This college was named Kampala Technical College in 1922. The Phelps-stoke commission's report on education system in Uganda awakened the colonial Government to reality. Government was prompted to wake up to erase the report by acting otherwise. In its bid to improve on the education of the state, government took over the direction of education in 1925. In the same year Government appointed Eric Hussey Director of Education to reorganize the education system in the country. The government came up with the education policies which favored the general development of education and technical education in particular. In 1927, the education ordinance was enacted to guide the development of education in the country. In the ordinance, the Director of Education was empowered to reorganize the education system. It spelt out Government's powers and procedures in education. After the reorganization of education system, technical education was to be taught to the Ugandan societies in four ways:

- Through primary schools where village craft would have to be taught;
- Through workshops on apprenticeship basis where learners would have a participatory learning guided by an experienced engineer or a technician.
- Through special instruction workshop on production basis.
- And through properly instituted technical schools. (Ssekamwa JC 1984.118)

These newly trained people would replace the imported labor from India. Government forthwith arranged technical education in such a way that some learners were to train through formal education. Meanwhile, government departments through workshops affiliated to them had

to participate in the training of the natives in technical skills. Department workshops were actually turned into technical schools. The workshops were affiliated to the departments of Lands and Surveys, Medical and Public Works. These kinds of training institutions were only stopped in 1953, mainly because of the controversy that arose on the roles of formal technical institutions and these workshops. There was duplication in their work and to avoid this, the workshop schools had to come to an end.

On behalf of Government, the director of education reorganized the missionary's "technical institutions and turned them into post primary institutions to train a technical class in Uganda. Government further strengthened its participation in technical education by building its second technical institution at the foot of Mt. Masaba (Elgon) in 1930 and named it Elgon Technical School. This school was to strengthen technical education offered in Kampala Technical School. In these schools, students offered trades such as shoe making, carpentry, tailoring and plumbing.

The colonial Government included technical skills in the curriculum of primary schools in order to widen the technical education base. By the curriculum, pupils learnt village crafts. For instance, they learnt skills of making mats, carpets, stools, baskets, embroidery, wooden spoons, pottery, brooms and other items used in their native homes. By 1930, technical education in Uganda started to gain velocity whose momentum ought to have remained on course by clear policies that could give it more ground to build more force to foster acceleration in the industrial development of the country. Government tried to maintain this impetus by building central schools to run practical subjects and imparting technical skills to Ugandan students. In these central schools, subjects like carpentry, brick making, pottery, agriculture and iron working elicited great emphasis.

The graduates of these central schools could then join a formal technical school to continue with their technical education. By 1933, these central schools became very popular and the products of their labor (materials) were being used in technical schools for training (Education Report 1933.14). A clear fact that technical education was on the right road in training Ugandan youths into useful industrial oriented citizens whose skills would soon see the industrial sector develop. But, fate was not in favor of technical education. The successes of these central schools were not long lasting. After 1936, Government abolished them (Okello, 2014). The abolition of the central schools and their total disintegration and disappearance in 1938, left Uganda with only two types of formal technical educational institutions, the two technical schools at Kampala and Elgon in the eastern region. Not until 1945 when Uganda saw anew phenomena in the history of technical education with the return of war veterans who needed rehabilitation through technical education to develop their capacity to be re-absorbed and integrated into civilian life.

This resulted into government coming up with make shift technical institutions in Gulu, Lira, Fortportal, Kabale, Soroti and Mbarara to accommodate and train them in life skills. However the period between 1945 and 1961 saw a rapid political development in Uganda that soon led to the attainment of her independence in 1962 which saw the appointment of the castle Education commission to study the education system in Uganda, and make recommendations to the Government of Uganda, in a bid to develop the education sector however it recommended that the training of technologists, technicians and artisans were completely different and that different institutions should train them, this statement made the committee responsible for the neglect of the advancement of technical education in independent Uganda.

Not until 1986 when technical education gained rapid expansion and enrollment, with 15 Government Technical schools and institutions, 36 in 1983, 47 in 1984 and 52 in 1990 which was due to the change of thought in vocationalisation, of education in Uganda. Since Education in Uganda had expanded the government needed to evaluate the system, so in 1987 a commission of inquiry was formulated which was documented in white paper in which the minister of education on July 29 1987 appointed the Education Policy Review Commission (EPRC) through general notice no 57 of 1987 under the chairmanship of Professor Senteza Kajubi to inquire into the policies governing education in Uganda. With various terms of specific reference among which was to equip its learners with productive and marketable skills to meet the development needs of the economy and promote employment opportunities for the learners and produce socially responsible citizens. Among the findings was lack of serious treatment of vocational subjects at secondary level and the facilities and equipment for teaching sciences and vocational subjects were seriously lacking. The situation therefore calls for Vocational pedagogy, a field that is relatively new in Uganda but addresses the art and craft of teaching.

## **1.2 Vocational pedagogy**

Vocational pedagogy ‘I mean the science, art and craft of teaching and learning vocational education? Or you could say more simply that vocational pedagogy is the sum total of the many decisions which vocational teachers take as they teach adjusting their approaches to meet the needs of learners and to match the context in which they find themselves (Lucas, 2014). Vocational pedagogy prepares people for certain kinds of working lives. It is critically shaped by the decisions which are taken by teachers-both high-level strategies, and day-to-day “in-the-moment” ones. The values of which inform all interactions with learners. Pedagogy is necessarily concerned with the particular practices and processes by which knowledge is



produced, skills are developed and habits of mind are cultivated. (Lucas et al, 2012). This reasoning can inform the enhancing of clothing and textile science.

In 2012, the Organization for Economic Co-operation and Development (OECD) cited in (Lucas et al 2012) published its skill strategy on the assumption that if vocational education is to serve the needs of the 21<sup>st</sup> century the following should be in place. Knowledge needs to be more relevant, and a better balance struck between the conceptual and practical. This call for a particular role for programmes incorporating on-the-job training like: apprenticeships, high order skills like creativity, critical thinking, communication and collaboration. These are essential for absorbing knowledge as well as character traits. In addition to performance related ones like adaptability, persistence, resilience and morals like integrity, justice, empathy and ethics. These need to be shaped both at school and in the work place to help individuals to be active and responsible citizens. They also suggest meta-layer skills such as learning to learn, building expertise, fostering creativity and making connections across disciplines. Which are becoming more important in a world of growing complexity, which are identified in the theories of pedagogy which identify the student as an agent, and the teacher as a facilitator. Yet Conventional western pedagogies, however, view the teacher as knowledge holder and student as the recipient of knowledge (described by Paulo Freire 1996 as 'banking methods'). (Freire, 1996). The pedagogy adopted by teachers shape their actions, judgments, and teaching strategies by taking into consideration the theories of learning understandings of learners and their needs, and the backgrounds and interests of individual learners. Pedagogical analysis offers enormous potential for improving the delivery of information in all form of education. It involves various logical steps to arrive at logical inference. It also helps the learners to understand concepts, principles or phenomena. Again, the learning environment created accordingly, enables the

learner to relate individual fragment of knowledge to real experience in life and work, develop skills and relate facts as a part of realization of specific goals, facilitated by a detailed planning resulting from effective teaching. This study seeks to establish how this approach to learning is implemented by instructors in Ugandan secondary schools in facilitating the clothing and textile science.

Since societies expect all individuals to be educated and to use what they acquire through education to earn a living as well as contribute to the national development. In Uganda the highest terminal point of education is the tertiary level. For this reason, lecturers and teachers teaching in the tertiary institutions, secondary and primary especially, technical and vocational career oriented education like fashion and textiles, are expected to equip learners with key skills and knowledge that will make their graduates employable. The researchers' willingness to contribute positively toward the improvement of the effectiveness of their teaching is what informed this study which seeks to evaluate the teaching of Fashion Design and Textiles Studies in the tertiary institutions of Uganda.

Teaching is the process of attending to people's needs, experiences, feelings and intervening so that they learn particular things, and go beyond the given (Mark, 2015), learning is a change that occurs in behavior that results from experience (Jan De, 2013).

### **1.2.1 History of clothing and textiles science**

Clothing is anything worn by human beings to cover and beautify the body (Moriam, 2012).

Textile means *textilis* “woven” which in turn comes from the Latin verb *texere* “to weave” in textile science however a textile is freely defined as any product made from fibers, woven fabrics, nonwoven fabrics, knitted fabrics and special fabric constructions.

Apparel is anything you wear to protect, wrap or beautify your body.

In today’s society there is no one who is completely isolated from textile fabrics. They cloth, protect, decorate and provide everyone with enjoyment. Fabrics cover the furniture and floors of homes; they drape or curtain the windows. Textiles serve in kitchens, bathrooms, bedrooms, and living rooms. Fabrics make public buildings attractive, sometimes soundproof; every mode of transportation utilizes textiles in some form. (Marjory, 1980).

Education is a key to the development of every individual, the society and the nation as a whole. Barrow and Wood (1997) describe education as a process that involves the transmission of worthwhile things to individuals in a morally accepted manner. Brown, Oke, and Brown (1985) state that the main objective of education is to bring positive change to learners and the society in general. Within the context of this study a definition of education as expressed by clothing as the study of garments worn on the body for example shirts trousers, coats, dresses and household furnishings like curtains, cushion covers, table linen and chair covers, constructed from fabrics. Whereas textile is the study of flexible materials consisting of a network of natural or artificial fibres which go through a process of spinning into woven, knitted, bonding, lacing and felting into fabrics for example cotton, linen, wool, and silk, polyester nylon, rayon, triacetate and acrylic. Clothing and textile science puts into consideration the core variables addressed of imparting fundamental processes involved in garment construction such as dressmaking, design and preparing learners for further training in tertiary institutions.

Which are vocational and technical based, therefore the learners are expected to be trained and equipped with employable skills, competencies and knowledge. This will enable them to fulfill the manpower needs of the nation in order to earn a meaningful living as well as contributing to the improvement of the socio-economic development of the nation. To achieve this, the government of Uganda is increasingly envisaging skills development of the citizens as an important factor contributing towards enhancing productivity, stimulating economic competitiveness as well as taking people out of poverty (MOES, 2007).

Specialized career and technology-oriented courses taught under the Fashion and Textiles programme include:

- Pattern Technology, Garment Technology and Fashion
- Drawing and Illustration, Textiles, Creative Design and Working Drawings, Millinery and Dress Accessories,
- Clothing Production Technology, History of Fashion, Beauty Care and Culture, Fashion Marketing and Merchandizing, Industrial Attachment, Business Law and Projects (Accredited syllabus for HND Fashion Design and Textiles Technology, 2007).

Currently, special emphasis is being put on the study of Technical and Vocational Education at tertiary level. With the hope that, relevant and key skills would be acquired to enable graduates from such institutions contribute to the socio economic development and progress of the nation (Amankwah, 2007; Ministry of Education, 2003).

Writing on the concept of teaching and learning Olaitan (1994) describes teaching as an attempt to bring about desirable changes in human abilities and behaviours. Similarly, Farrant (1990) affirms that teaching is a process that facilitates and enhances change in behaviour of

learners adding that it requires someone with a professional skill to transfer skills and knowledge to learners. These writers express a common view that, teaching brings a change in behaviour of the individual. Studio activities such as demonstration and practical works that involve development of psychomotor skills are important examples of strategies that bring about change in behavior of a student (Cock and Hughes, 1995). Brown et al (1985) attests that the principal stakeholders involved in the teaching and learning activities are the teacher and the learner. It is the teacher who imparts the knowledge, skills and competencies to learners, and it is the learners' duty to acquire these and make meaningful use of them. Hence, the teacher's ultimate task is to influence and facilitate effective learning in learners.

Farrant (1990) asserts that the behavior of teachers in the classroom finally determines the achievement of the goals of education with contention that an effective teacher is the one who adopts and uses techniques that facilitate and enhance learning in learners therefore acting like a catalyst actively stimulating learning. The effectiveness of the teacher as seen by Cock and Hughes (1995) depends on the application and transfer of technical and professional skills, knowledge and competencies to the learner and the management of the learning environment.

Entwistle (1996) contends that the demand for teaching in higher education involves deep-learning processes which require lecturers to set clear and precise aims and objectives with better understanding of the knowledge and skills they transfer. The lecturers should be conversant with how to transfer them to satisfy learners' needs. Blankenship and Moercher (1979) establish that, instructional strategies and materials that lecturers use to account for their success. They emphasize that, lecturers who use greater variety of instructional techniques and support their teaching with instructional materials are more likely to promote greater learning among learners. This suggests that lecturers' variability and clarity are what characterize higher

degree of learners' learning. It is noted that learners are expected to have learnt when they have experienced permanent change in their understanding, attitudes, knowledge, abilities and skills. Thus, in every learning situation, the learner should consciously or unconsciously exhibit competence and capabilities which he did not possess prior to the learning experience (Chavhan, 1991; Wright, 1991; Blege, 1986),

It is evident from the foregoing discussion that, lecturers must be knowledgeable, have greater understanding of what learners should learn, set clear and achievable aims and objectives. They can choose and use varieties of appropriate and suitable teaching techniques and materials to achieve effective teaching and learning. This should be clear in the schemes of work and lesson plans, since each lesson plan is evaluated at the end using questions as one of the techniques discover if it was well taught. This is supported by Socrates, in the 5<sup>th</sup> century B.C who asserted that the importance of questioning in the classroom is that "No one can teach," if by teaching we mean the transmission of knowledge, in any mechanical fashion, from one person to another. The best that can be done is that one who is more knowledgeable than another can by asking a series of questions, stimulate the other to think, and so cause him to learn for himself.

In Uganda clothing and textiles science was formalized in schools after the findings and recommendations of the Phelps stroke commission of 1924/25. It was first taught under crafts and later under Domestic Science after the establishment of the East African Community. It became one of the major subjects on the school time table examined at both UCE and UACE. It covers topics in all the teaching content for four years to provide basic knowledge and skills to learners in the science of textiles and garment construction. It prepares the candidates for further professional training in the field of work equipping them with fundamental processes involved in garment construction such as design and dress making.

The teaching of the subject is in line with the Government White Paper recommendations of 1992, in which practical skills, values critical to self-sufficiency and sustainability are emphasized. Being a practical subject, clothing and textile science aims at developing production skills, preparing the learners for the world of work, which prepares candidates to become self-reliant and productive in society. It also enables them to meet the demands of the competitive market. Teachers are encouraged to ensure that skills are stressed during the teaching process ensuring that each class carries out at least 6 practical lessons in a term. The learners are to be encouraged to practice the taught skills outside the teaching time. At the same time teachers are encouraged to be more creative in thinking of other strategies suitable for the particular topics in the syllabus. However, during the instruction of the subject at Mengo Senior Secondary School, the primary method used is teacher centered which only addresses the auditory sense. This explains why there is need to enhance the teaching and learning of clothing and textile science using adequate learning resources which will cater for the auditory, visual, kinesthetic and tactile senses. This will help more than 50% of the learners attain distinctions in clothing and textile science. It will also increase the number of learners offering the subject at “A” level. As well preparing the candidates for further professional training in the field of work, equipping them with fundamental processes involved in garment construction, such as design and dress making, production skills, which will aim at developing the learners for the world work and becoming self-reliant and productive in society, as well as enabling them to meet the demands of the competitive market, which is one of the major objectives of clothing and textile science as a subject.

### **1.2.2 History of Clothing and Textile at Mengo Senior Secondary School**

Mengo Senior School was founded in 1895 by the Church Missionary Societies (CMS) as a junior school. Later, it was renamed Mengo Old boys, but when the girls joined the school the name was changed to Mengo Senior Secondary School. The school has a total population of 4750 learners. It offers vocational education alongside general education and clothing and textile science being among the vocational subjects taught. Which is in line” with the school mission that states “To provide quality education through practical skills, team work, self-reliance and produce GOD fearing persons.

Clothing and textiles in Mengo Senior Secondary School was started with the training of Senior One and senior two in basic stitching in 2002. The school started offering it as a subject for learners in O’ level. Two years later, “A” level classes were started and it is now offered as a national examinable subject at both Uganda Certificate of Education and Uganda Advanced Certificate of Education.

### **1.2.3 Theoretical Background**

This study was guided by the constructivist’s theory which is best, understood in terms of how individuals use information, resources, and help from others to build and improve their mental models and their problem solving strategies (Woolfolk, 2007). The constructivist model of teaching enables learners to construct knowledge, whether this construction reflects objective realities, or the construction is perceived to sharpen one’s cognitive development for acquiring higher-level intellectual development, or the construction of knowledge should happen in a social interactive setting with the mediation of individuals.



### **1.3 Motivation statement**

I have been teaching clothing and textile since 2006 at both O level and A-level. I was transferred to Mengo Senior School in 2009, to teach clothing and textile science both at O' and A' level, in the clothing and textile department. I found a Lecture Method, which is also referred as the traditional education, or "teacher-centered learning" being used as the primary method. Yet it is the same instruction method I went through in my secondary school and University. So, I thought I was practicing what my teachers and lecturers taught me thinking it was right. But, my experience at master's level proved there was a gap in the teaching and learning. This was identified in the future workshop, stemming from using the teacher centered method which situates the teacher in the primary "active" role while learners take a more "passive", receptive role. In a teacher-centered classroom, teachers choose what the learners will learn, how the learners will learn, and how the learners will be assessed on their learning. Yet it has the following disadvantages, if it is used as a primary method. It does not equip the instructor with ways to provide learners with individual feedback. It is difficult to adapt to individual learning differences. It may also fail to promote active learning unless other teaching strategies, such as questioning and problem-solving activities, are incorporated into the lecture. It does not promote independent learning. Despite some of its advantages, such as being economical, and an efficient method of delivery. However, if it is to be effective it requires extensive research and preparation for effective delivery in order to maintain the learners' attention and motivation.

### **1.4 Situation analysis**

During situation analysis the researcher and participants analysed UCE results for five years. Which they later graded, tabulated according to performance as shown in the table 1.1. The findings indicated that for the five years, the modal grade was C3 and C5 which is an

indicator that teaching is taking place. However, this is not to the expected standards which implied there is a gap which needed to be bridged. These findings were used in the future workshop when brainstorming on the possible short term strategies to use in order to bridge the gap.

**Table 1. 1: UCE Performance in Clothing and Textile Science from 2013 up to 2017**

YEAR	D1	D2	C3	C4	C5	C6	P7	P8	F9	TOTAL
2017	00	11	22	08	01	01	00	00	00	43
2016	01	11	13	10	04	01	01	00	00	41
2015	00	00	03	07	13	06	00	01	00	30
2014	00	06	15	13	04	06	00	01	00	45
2013	01	09	18	09	00	00	01	00	00	38

**Source: Secondary Data (2013-2017)**

The researcher and participants continued and tabulated the above results in to percentages.

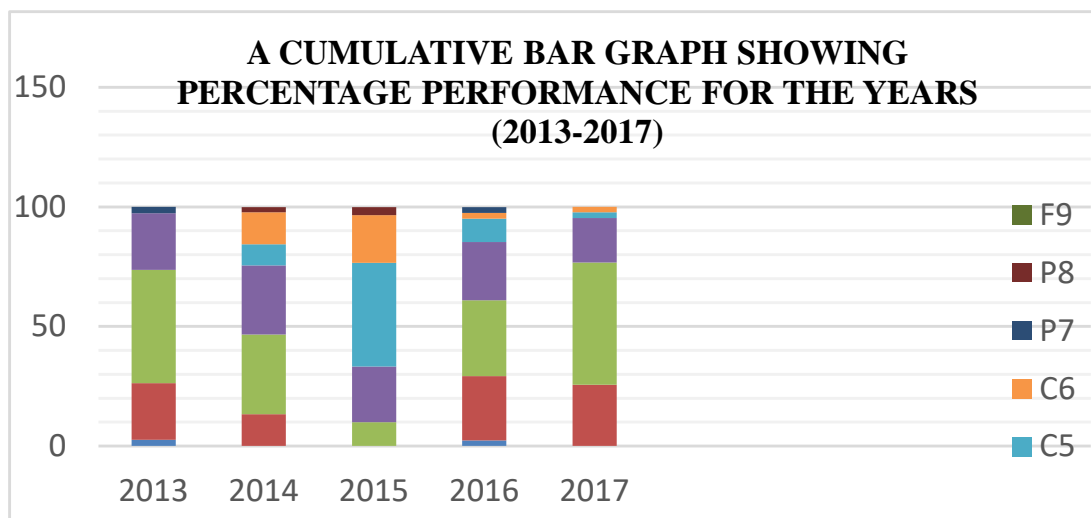
Findings revealed that for the five years still 50% of the learners failed to attain distinctions as shown in table 1.2. This still indicated there is a gap in the teaching of clothing and textile science, which necessitated brainstorming in the future workshop together with the stake holders in order to find the short term possible strategies.

**Table1. 2:U.C.E Percentage performance in clothing and textile science from 2013 up to 2017**

YEAR	D1	D2	C3	C4	C5	C6	P7	P8	P9	TOTAL
2017	0%	25.6%	51.2%	18.6%	2.3%	2.3%	0%	0%	0%	100
2016	2.4%	26.8%	31.7%	24.4%	9.8%	2.4%	2.4%	0%	0%	100
2015	0%	0%	10%	23.3%	43.3%	20%	0%	3.3%	0%	100
2014	0%	13.3%	33.3%	28.9%	8.9%	13.3%	0%	2.2%	0%	100
2013	2.6%	23.7%	47.4%	23.7%	0%	0%	2.6%	0%	0%	100

Source: Secondary Data (2013-2017)

The bar graph below has also been used to analyze UCE clothing and textile science performance from 2013 to 2017. It also verifies the performance using graphs in colours as follows; sky blue D1, Orange D2, Grey C3, Blue C4, Green C6, Dark Blue P7 Brown P.8 Dark Grey F9. And still affirms model grade between C3 –and C5 summarizing that the performance is average and needs to be improved using adequate learning resources.



Source: Secondary Data (2013-2017)

**Figure 1: A cumulative bar graph showing percentage performance for the 2013-years (2017)**

## 1.5 Future workshop

The findings from the table in the situation analysis were used in the future workshop to identify the gaps in the teaching of Clothing and Textile Science. The future workshop technique enabled the researcher stakeholders and participants to develop new ideas or solutions to the problems, pertaining to the poor performance of the learners using creative decision making, with the support of the mentor (Jungk, Mueller 1987). The procedure comprised of key phases, Phase one, the critique phase: where the problem was investigated critically and thoroughly. Phase two utopian phase: where an exaggerated picture of future possibilities was drawn. Phase three, reality Phase: where the solutions were checked and evaluated in regard to their applicability.

In the critique phase, brainstorming was used as a means of obtaining views from the participants, who included the stakeholders, teachers and learners. The views obtained were discussed and the gaps in the teaching were concretized. The findings were as follows; (i) learners find the practical materials expensive, (ii) learners are given less time during practical, (iii) poor relation of theory to practical by teachers, (iv) syllabus not completed by teachers, (iv) Inadequate learning resources by teachers and administration. (v) Poor coordination of teachers across the streams,

In the utopian phase the following solutions to the challenges were identified; (i) learners to buy second hand materials for work from local markets, (ii) adequate time for practical (iii) teachers should relate the theory to practical during lessons, (iv) teachers to complete syllabus in time, (v) provision of adequate learning resources by teachers and administrator.

Further analysis of the short term most possible interventions was done in the reality phase and was identified as (i) expensive practical materials (ii) less time for practical (iii) poor relation of theory to practice by teachers, (iv) poor syllabus coverage, (v) inadequate learning resources.

Ranking of the possible intervention measures was identified by stakeholders, teachers and participants using Pair-wise matrix in which each item on the list was compared in a systematic way with each other (Walter,1989). In this process the participants were able to identify the most possible short term intervention, as the inadequate learning resources which ranked high.

**Table 1. 3: PAIR WISE MATRIX**

	A	B	C	D	E	TALLY	RANK
A		B	C	D	E	0	5
B			B	B	B	4	1
C				D	E	1	4
D					D	3	2
E						2	3

NO OF PARTICIPANTS =80

**Source: primary Data March 2018**

**KEY**

A: Improving syllabus coverage

B: Providing adequate learning resources

C: Seeking out inexpensive practical materials

D: Relating theory to practice

E: Allowing learners more time for practical

Therefore, the study was carried with the view of implementing and evaluating the priority strategy, of providing adequate learning resources of which is supported by the school's mission that states: To provide quality education through practical Skills, teamwork, self-reliance and produce GOD fearing persons.



**Source: Primary Data March 2018**

### **Plate 1: Future workshop with stakeholders, teachers and learners**

#### **1.6 Statement of the Problem**

At Mengo Senior Secondary School clothing and textile science is offered as one of the vocational subjects in the school at both O level and A 'level' However, the primary method used in the teaching of clothing and textile science is teacher centered (chalk and talk). The teachers employ a teacher-centered approach as a primary method thinking it is how they are supposed to instruct. In this method the teacher is at the center of the knowledge and the learners take on a passive receptive role. The teachers choose what the learners will learn, how the

learners will learn, and how the learners will be assessed on their learning using the schemes of work, lesson plan and objectives without considering the learner active participation. This statement is supported by Armstrong (2012) who stated that "traditional education ignores or suppresses learner responsibility". Which was identified in the future workshop through brainstorming as the cause of poor performance at UCE resulting in distinctions below 50% percent, indicating that teachers were not varying their teaching methods using adequate learning resources. The researcher intends to implement teaching of clothing and textile science using a learner centered method, with the learner at the center and the teacher acting as a facilitator, integrating more than one method of instruction involving use of adequate learning resources such as a talking laboratory, virtual library and question bank comprising of revision questions. This method will enable the learners to attain distinctions above 50%, in UCE, and develop their cognitive, affective and psychomotor domains, through utilization of the four senses namely: hearing, seeing, touching and doing in order to acquire practical skills and values critical to self-sufficiency and sustainability as emphasized by the curriculum? These production skills will be able to develop learners for the world of work as well as preparing them to become self-reliant, productive in society and enabling them to meet the demands of the competitive market.

### **1.7 Objective of the study**

The main objective of the study is to investigate the enhancement of the teaching of clothing and textile science using adequate learning resources at Mengo Senior Secondary School, Kampala.

### **1.7.1 Specific Objectives**

In order to undertake the analysis of how clothing and textile science studies can be enhanced using adequate learning resources in Mengo Senior Secondary School, it identified four specific objectives

- i. To determine the extent to which inadequate learning resources affect the teaching of clothing and textiles science at Mengo Senior Secondary School.
- ii. To determine the extent to which adequate learning resources enhance the teaching of clothing and textile science at Mengo Senior Secondary School.
- iii. To implement the teaching of clothing and textile science using adequate learning resources at Mengo Senior Secondary School.
- iv. To evaluate the teaching of clothing and textile science using adequate learning resources at Mengo Senior Secondary School.

### **1.8 Research Questions**

- i. How is the Teaching of clothing and textile science affected by inadequate learning resources?
- ii. To what extent will the enhancement of adequate learning resources improve the teaching of clothing and textile science at Mengo Senior Secondary School?
- iii. Which adequate learning resources will be implemented during the teaching of clothing and textile science at Mengo Senior Secondary School?
- iv. How has the innovation of learning resources enhanced the teaching of clothing and textile science for development of skills at Mengo Senior Secondary School?



## **1.9 Scope of the Study**

This included geographical, content and time scope

### **1.9.1 Geographical Scope**

The study was carried out at Mengo Senior Secondary School in Kampala District. The school is located on Hoima Road Plot 422 Block 10 in Rubaga Division. Mengo SSS is one of the oldest schools in Uganda founded by the Church Missionary Society.

### **Content scope**

This report was about an Action Research that was carried out at Mengo Senior Secondary School in the department of clothing and textile science. The content scope of the research is based on four objectives given in 1: 7:1. The research and its findings are limited to Mengo Senior Secondary School, in the clothing and textile science department most especially among the senior four clothing and textile learners of 2018.

### **Time Scope**

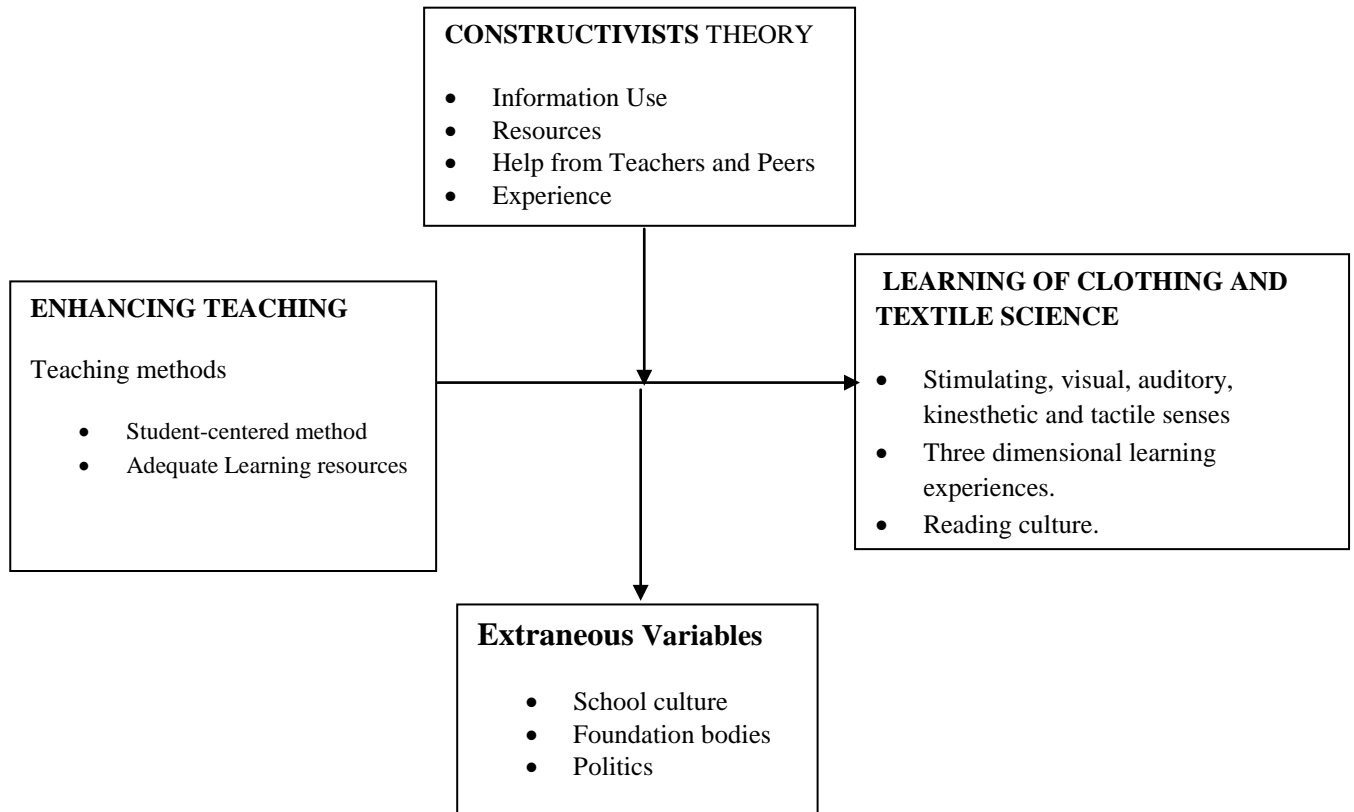
The research was conducted from April to July 2018, and it considered UCE examination results for a period of five years from 2013 up to 2017. This period was observed and it is realized that poor performance was at the peak during this time.

### **Significance of the Study**

The study enabled the teachers to enhance the teaching of clothing and textile science, using three learning resources a talking laboratory, virtual library and a question bank comprising of revision questions from 2013 up to 2017. In the talking library the teachers were able to incorporate a student- centered approach using visual aids. Which were able to stimulate the four learning lifestyles of the learners through visual literacy namely visual, auditory,

kinesthetic and tactile. Whereas the virtual library helped the teachers and learners to visually understand the complex diagrams by turning the two dimensional (2D) objects which only observe height and width into an engaging three dimensional (3D) learning experience where height, width, were observed. These learning resources enabled the learners to acquire the ability of interpreting, negotiating making meaning from information presented in form of images. The Question bank comprising of revision questions, helped the teachers to carry out formative assessment during the teaching in order to be able to evaluate if the lesson has been successful and to the learners it enabled them develop a spirit of owning their learning through individual research by borrowing textbooks from the Library. Which is brought about when teachers design quality, scaffolded questions for instruction, students are more inclined to engage in metacognition, i.e., to think about their own thinking. Since questions that are effective promote inquiry, student self-assessment, and creativity even as they stimulate critical thinking (Gose , 2009). Effective questions can be a means to engage students in the learning process and enable them to take charge of their own learning. Caram and Davis (2005) found that effective questions increased student interest and student motivation (Lorrent Deegan, 2010). And according to Walsh and Sattes (2010), when a culture of inquiry is developed through questioning, student engagement and achievement will be stimulated as cited in (Nappi J. , 2017).

## 1.10 CONCEPTUAL FRAMEWORK



Source: Primary source (July 2018)

Figure 2: Constructed Conceptual Framework

In the conceptual framework above, the Independent variable includes the following constructs: Teaching methods, Student-Centered method and Adequate Learning Resources. Which are informed by the constructivism theory which if present or absent has an impact on the dependent variable. Which is indicated by stimulating the visual, auditory, kinesthetic, tactile senses, three dimensional learning experiences and reading culture? The Extraneous Variable includes School culture, Foundation bodies and Politics however these are not part of my study but they have been put so that I control their impact on my study (AMIN, 2005).

## 1.11 Definition of terms

### Clothing

Is anything worn by human beings to cover and modify their body (Moriam, 2012).

### **Enhancing teaching**

Is the process of increasing, intensifying or improving the quality of instruction using adequate learning resources in order to attend effectively to learners need, experiences and feelings? This results into specific interventions to help them learn particular clothing and textile skills.

### **Learning**

This is a relatively lasting change in behavior that is a result of experience.

### **Psychomotor skill**

This is the ability to do something practically, expertly and correctly. It is the ability of someone to perform a task to an acceptable standard.

### **Questioning**

According to the Cambridge English Dictionary (2016), a question is a word or words used to find out information. Questioning is an important component of the teaching and learning as well as to assess student understanding, and thus questions play a critical role in the overall success of a classroom. Observe any classroom, and one will most likely see continuous discourse between students and the classroom teacher, with much of the dialogue being composed of questions and answers. Questioning is an element of efficacious teaching (Hannel , 2009). As cited in (Nappi J. , 2016).

### **Skill**

This is anything that the individual has learned to do with ease and precision. This may be by either physical or mental performance involving manipulative proficiency in hand, finger and eye coordination (Okorie, 2010). According to Njoku (2002), to- possess skill is to demonstrate the habit of practical acting, thinking and behaving in a specific activity. This is in

such way that the process becomes natural to the individual through repetition or practice. The development of skill is an important function of educational institutions, since skill acquisition helps in developing intrinsic potentials in individuals

### **Teaching**

Teaching is a systematic activity deliberately engaged in by someone to facilitate the learning of intended worthwhile knowledge, skills and values by another person. It involves planned action designed to make for efficient and effective learning. It is also a deliberate effort to provide directions, guidance, activities and materials so that learning can be enhanced.

### **Textile science**

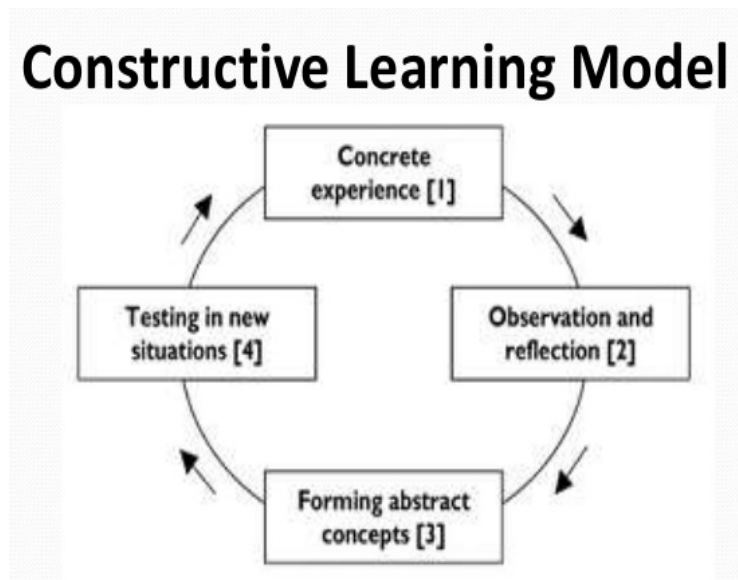
This is the study of flexible raw materials consisting of natural and artificial fibres which go through spinning using different methods of fabric construction for example weaving, knitting, braiding, bonding, felting and lacing resulting into natural (cotton, silk, wool, linen) and artificial (nylon, polyester, rayon, triacetate acrylic) fabrics.

## CHAPTER TWO: LITERATURE REVIEW

### 2.0 Introduction

Several scholars have undertaken research of teaching clothing and textile science. The purpose of this chapter therefore is to identify relevant data that best suits the study. The review was obtained from relevant journals, magazines, seminars, presentations, newspapers, textbooks, internet and acts. This section discussed the theory of constructivism used and reviews literature on study objectives.

### 2.1 Constructivists Theory



Source: Secondary Data

**Figure 3 Adopted from Sharma 2015.**

Constructivism is a learning theory found in psychology which explains how people acquire knowledge and learn. It therefore has direct application to education, and significant impact on this research since it suggests that humans construct knowledge and meaning from their experiences. Since clothing and textile science is a practical subject dealing with garments and articles, which learners have been in contact with at home and some of them come from

families active in cotton growing, while others have parents with a background of garment construction and designing as well as incorporating in the diversity of their rich cultures at Mengo SSS ,being a comprehensive school with learners coming from various countries namely , Sudan, India, Eritrea all this rich experience stimulates the teaching and learning of clothing and textile science. During the garment construction they only learn the basic principles after which they incorporate in their ideas, reflecting on inspirations from their backgrounds, with guidance from the facilitator.

Constructivism is best understood in terms of how individuals use information, resources, and help from others to build and improve their mental models and their problem solving strategies (Woolfolk, 2007). The constructivist model of teaching enables learners to construct knowledge, whether this construction reflects objective realities, or the construction is perceived to sharpen one's cognitive development for acquiring higher-level intellectual development, or the construction of knowledge should happen in a social interactive setting with the mediation of individuals.

The role of the teacher in the social constructivist classroom is to help learners to build their knowledge and to control the existence of learners during the learning process in the classroom. Moreover, the Association for Constructivist Teaching (ACT, 2007) states that the social constructivist teacher is one who values learner reflection and cognitive conflict and encourages peer interaction. According to Kompf (1996, p. 173), "constructivist teachers allow student responses to drive lessons, shift instructional strategies, and alter content". The idea of the limited role of the teacher is that this encourages learners to engage in collaborative learning. In contrast, the teacher in collaborative learning classroom is a facilitator provides opportunities for collaborative work and problem solving. According to Ndon (2011, p. 253) "a teacher as a

facilitator, should provide rich environments, experiences, and activities for learning by incorporating opportunities for collaborative work, problem solving, authentic tasks". Finally, the teacher concentrates on learners' learning rather than on teacher performance. The teacher facilitates the learning process in which learners are encouraged to be responsible and self-governing (Gray, 1997). The philosophy behind constructivist pedagogies is that humans can understand only what they have themselves constructed

In the constructivist classroom: Knowledge is constructed either individually based on what students bring through prior experience or collaboratively by what participants contribute. Environment is student centered where the focus is on learners' learning rather than teachers' teaching as in traditional approach. Environment is democratic in nature as far as sharing of responsibility and decision making is concerned. Involves; curriculum negotiation which means deliberately planning to invite learners to contribute, and to modify, the educational program, so that they will have a real investment both in the learning journey and the outcomes. Role of teacher is that of the facilitator or guide not of a director; stimulates learner's exploration of various ideas Student is an active thinker, active co-constructor of knowledge with others rather than a passive listener.

With the development of a constructivist philosophy, a teacher of any discipline is able to create a classroom environment within which learners are able to become autonomous learners. Constructivist approaches recommend the teachers: To provide complex learning situations related to real life, like learning resources such as; talking library, virtual library and question bank where multiple solutions are possible. For example, in teaching of sciences, the emphasis should be on discovery learning by providing appropriate feedback and guidance as learners' construct interpretations of various phenomenon. To develop learners' abilities to work



collaboratively, to use multiple representations of subject matter using analogies and examples. Develop ownership of learning among learners by jointly constructing the knowledge. (kalpana, 2014). There are many ways to integrate and address multimedia in the classroom to make it educational. Drawing upon Seymour Papert's (1980) research, researchers such as Resnick (1996) and Kafai (1996) have promoted the constructivist notion of learning by design where students learn by working on "real world" constructions. Educators create a project where they are allowed to create their own messages like the professionals they are imitating. This learning environment, based on the Constructivists learning philosophy that evolved during the 1970s and 1980s, has its foundations in cognitive psychology. The learning model is based on the concept that knowledge is constructed rather than processed from information received from an external source. In this process the learner assumes the role of the producer rather than the consumer of information. Through classroom construction of a multimedia project, an in-depth understanding of visual communication, or visual literacy, is learned along the way, (Riesland, 2005)

## **2.2 Charts**

Visual aids are those instructional aids which are used in the classroom to encourage teaching and learning process. As Singh (2005) defines: "Any device which by sight and sound increase the individuals' practice, outside that attained through read labeled as an audio visual aids. "These are effective tools that" invest the past with an air of reality." Which provide the learners with realistic experience, which capture their attention and help learners to understand the historical phenomena. This enables the learners to use visual aids to appeal to their mind through the visual auditory senses. (Jain, 2004). Which is supported by the famous Chinese proverb "one seeing is worth, a hundred words" Which translates into that" if we hear, we forget, if we see we remember, if we do something we know it" has multifarious values (Mohanty,

2001). So, it means that use of adequate visual aids in the teaching of clothing and textile science makes it more effective. As Kishore (2003) notes “Visual aids stimulated thinking and understanding.” The use of visual aids in teaching process, gives chance to speakers to make a more professional and consistent presentation. The teaching profession is filled with countless opportunities to enrich the academic lives of learners, while some concepts and educational objectives will be easy for learners to grasp, others will require an individual to think creatively to ensure that important learning objectives are met. As supported by Mark Smicklas Who says that pictures are “easy on the mind” That because the brain processes visual data all at once” While it processes text in a linear way. Although virtually perceptible, it takes greater mental effort to process words. (Burmark, 2006) Using visual aids in teaching is one way to enhance lesson plans and give learners additional ways to process subject information (Kunari, 2006). Visual aids are devices that present unit of knowledge through auditory of visual stimuli both with a view to help learning. They concretize the knowledge to be presented and help in making learning experience apple real, living and vital. They supplement the work of the teacher and help in the study of the text books. The great educationist Comenius has well said: The foundation of all learning consists in representing clearly to the senses and sensible objects so they can be appreciated easily (Singh, 2005) (Rasul, 2011). (Vengadasamy, 2010) also supports use of graphics illustrations, pictures audio and video as a useful tool in assisting learners understanding of literary concepts in the text.

### **2.3 Question Banks**

According to Cambridge English Dictionary (2016), a question is a word or words used to find out information. A question bank consists of revision questions which have been compiled into a booklet to be used by teachers in the teaching process during formative

assessment whereas it enables the learners to use it to learn from one another and “stimulate student interaction, thinking, and learning” (Wilén, Ishler, Hutchison, and Kindsvatter, 2000 as cited from Wood; Carol, 2000), (Arslan M. , 2006), during revision. This is also supported by the following writers who state that. A question- bank system is used to enhance E-Learning in school education. (Hosam Farouk EL-Sofany, Samir A. EL-Seoud, F.F.M Ghaleb, Shaima, Ibrahim, Nor Al-Jaidah 2007) and they assert that use of question banks during the teaching and learning. Stating that use of questions during an “assessment process in an educational system is an important and essential part of its success. This is used to assure the correct way of knowledge transmission and ensure that learners are working correctly and succeed to acquire the needed knowledge.

The Assessment Reform Group (ARG) (2002) defines formative assessment as the student and their teacher using evidence of student learning to decide where the learner is, where they need to go and how they will get there. Clarke (2008) provides a similar definition by stating it as any practice which helps the learner understand how to improve. Both of these definitions acknowledge that, ultimately, the learner plays a significant role in improving their own learning. Black and Wiliam (1998) argue that the implementation of formative assessment is not given sufficient focus in the classroom. Although teaching practices may have changed since their study took place, this criticism of the teaching profession is still put forward (Popham, 2008; Earl, 2003; 4 Guskey, 2003). It has been found that standardized assessment tasks (in particular high-stakes external testing) still play a dominant role in some schools and classrooms. Learners lack a clear picture of what they are supposed to be learning and teachers use ineffective questioning to illicit responses (Earl, 2003). All of these findings in the literature supported my view that there is a need for more research in this field, particularly offering a

practical application to the use of formative assessment in the classroom using well designed questions Clarke (2008, 2005, & 2001) and Glasson (2009) have developed Black and Williams' (1998) research into practical strategies that teachers can develop in the classroom. Clarke identified six key formative assessment strategies that can improve student learning. These include: Stating the learning intention; developing the success criteria; Effective questioning to further understanding; explicit teacher feedback; Self-assessment and; Peer-assessment. (Kean, 2014). Therefore, this statement supports importance of revision questions in the enhancing of clothing and textile science.

#### **2.4 Digital library**

According to new world Encyclopedia (2017), a digital library is a library in which collections are stored in digital formats (as opposed to print, microm, or other media) and accessible by computers. However, it could be defined as a collection of documents- such as magazine articles, book, papers, images, sound files and videos organized and stored in an electronic form and available on the internet or on digital support. For example, a CD-ROM. These serve as a practical role in sharing expensive resources including physical and digital resources, equipment, human resources who serve to allow instructors and students to share expensive materials and expertise.

Digital libraries and e-learning linkage and institutional concerns, suggest that effective and efficient linkage of e-learning environments and digital libraries needs to be recognized by senior management in the long-term strategic planning of the individual institutional mission. Therefore, identifying their own specific cultural social and educational requirements. Kovel-Jarboe (2001) concentrates on the potential for the linkage of e-learning environments and digital libraries to produce additional and innovative ways to enhance the teaching and learning

experience. The role of digital libraries in e-learning was introduced into the education process to make easier distance education, which has developed over the years. With the internet and the worldwide web, distance education programs can mount sets of materials on web servers to support online courses. One of the basic is to join learning materials on various topics, written by many educators, in ideas a digital library of courseware. Digital libraries have the potential to significantly change fundamental aspects of the classroom in ways that could have an enormous impact on teaching and learning. New pedagogical methods should accompany digital libraries as an emerging technology for education to reach the compelling vision of education.

## **2.5 Technology integration**

This is the use of technology tools in general content areas in education in order to allow learners to apply computer and technology skills to learning and problem -solving

Educational technology is a fundamental construct of 21st century education. Creativity is becoming increasingly important, as one of the most important and noted skills for success in the 21st century. We offer a definition of creativity; and draw upon a systems model of creativity, to suggest creativity emerges and exists within a system, rather than only at the level of individual processes. We suggest that effective infusion of creativity and technology in education must be considered in a three-fold systemic manner: at the levels of teacher education, assessment and educational policy (Tshuma, 2016).

The selection of the learning technology has been driven by a particular learning challenge, with student engagement and enhancement of learning as the main goals. The lecturers have utilized technology as one of several tools in the learning process. One scholar emphasizes that even with learners' technological abilities and the masses of information readily

available online, the teacher is still indispensable (Laurillard, 2013) for planning, facilitating, guiding and scaffolding learning with technology. Technology and transformation Technology has ubiquitously invaded the academic, business, government and private spheres. It has transformed – some would say revolutionized – the way we do business, communicate, work and manage our personal lives. It is now easier and faster to purchase airline tickets online, find research literature, communicate instantly with people across the globe and manage our daily schedules. Unfortunately, this transformation through the use of technology tools has not had the same far-reaching and sustainable effect on higher education. Instead, there have been isolated pockets of success and good practice, low-level and often administrative usage, as well as the lack of an educational rationale in most educational technology integrations (Conole and Culver, 2010; Kirkwood and Price, 2014; Selwyn, 2014).

The range of names used to refer to the field – teaching with technology, digital learning, technology-enhanced learning, computer-mediated learning, e-learning, and many others – are evidence of the complex and contested nature of the field. Despite the range of new technologies released every year, Dexter points out that: “Educational technology does not possess inherent instructional value: a teacher designs into the instruction any value that technology adds to the teaching and learning processes” (Dexter, 2002). Hence, for technology integration to be valuable, useful and effective there should be a planned curriculum that takes into account the context, the disciplinary knowledge and pedagogy, as well as the assumed knowledge and experiences of the learners in the course. This method of integrating technology is contrary to the norm, where teachers “...begin with technologies’ affordances and constraints and the skills needed to operate them, then later attempt to discern how they can be integrated successfully into content-based learning...” (Harris et al, 2009, p. 395). Rather, there should be a need, a problem,

an educational rationale that prompts the selection of the technology – allowing it to be used as a tool or resource that is fully integrated into the planned course curriculum.

## **2.6 Talking laboratory**

According to the poet Simonides. “Words are the images of things “similarly Aristotle stated that “without image of things, thinking is impossible characters in alphabet began as pictures with meaning (West, 1997) the use of visual literacy ideas and strategies to enhance verbal learning is important (Flattely, 1998; Sinatra, 1986). Because visual literacy precedes verbal literacy in human development, it is the basic literacy in the thought processes that are the foundations for reading and writing. Berger (1972) explains, seeing comes before words. The child looks and recognizes before it can speak”.

## **2.7 Factors affecting use of learning resources**

Presently, secondary school learners’ interest and enrolment in Clothing and Textiles science as a subject is low. Lemchi (2001) noted that some learners have no interest in the subject.

Attitudes associated with Home Economics appear to affect learners’ enrolment in Clothing and Textiles Science as a subject and impact performance in the subject. Also, many Home Economics teachers teach Clothing and Textiles without instructional materials or workshop facilities (Mberengwa, 2004). The quality of teachers, facilities and laboratories are grossly inadequate and obsolete (Owalabi, 1991) also indicated that a serious disconnection exists between Clothing and Textiles training in secondary schools and the needs of the labour market, as learners that do not proceed to higher education have been found to be incompetent in the field of work. Her report showed that, in many cases, employers of labour compensate for insufficient academic preparation by organizing remedial courses for new employees at great

expenses. Where learners consistently perform poorly, the implication is that adequate teaching and learning has not taken place in schools. Therefore, the problem of this study is to examine the challenges of teaching of Clothing and Textile Science in secondary schools in Uganda.

## **2.8 Assessing the Availability and Adequacy of the Equipment in the Clothing and Textile Department**

Despite the learner's failure to attain above 50% distinctions between 2013 up to 2017, results from the assessment from the stock taking list of 2017 in the clothing and textile department showed, it had the basic equipments as shown below.



**Table 2. 1: Showing the available equipments and materials in the clothing and textile department**

<b>ITEM</b>	<b>OLD STOCK 2017</b>	<b>NEW STOCK 2018</b>
Tables	22	
Stools	74	
Treadle machines	29	
Electric sewing machine	8	1
Knitting machines	4	
Branding machine	3	
Dry flat irons	10	
Steam irons	2	
Cutting shears	55	
Tracing wheel	32	
Seam rippers	25	
Step downs	3	
Storage cupboards	11	
Mannequins	4	
Dressing mirror	1	
Industrial over lock	1	
Fire extinguisher	2	
Meter rulers	6	
French curves	6	
Extension cables	2	
Ironing board	1	
Ironing blankets	8	
Electric fans	3	
Wall clock	2	
Clothing and textile textbooks	132	37
Manual over lock		2
Computer	0	

**Source Field Data (July 2018)**

## **2.9 Measures that can be employed to enhance the teaching of clothing and textile science.**

Education is a profitable investment that develops the abilities, skills and imparts knowledge to individuals to meet the challenges of living (Okorie, 2010). Home economics is taught as an integrated subject at the secondary school level. At this level, it is divided into three areas; Home Management, Food and Nutrition, and Clothing and Textiles Science (Okeke, 2006). According to Okeke (2006) the study of clothing and textiles at this level, mainly consists of textiles fibres and fabrics, sewing equipment, garment construction, basic and advanced techniques, pattern drafting, designing, care, maintenance of clothes and wardrobe planning, creative use of resources, consumer education and career opportunities in clothing and textiles. Anyakoha (Anyakoha, 1991).

Clothing and textile as an aspect of Home economics prepares individuals for employment opportunities in occupations relating to clothing selection, clothing construction, costume designing, clothing care, craft work as well as clothing economics. Educational institutions are central and must-assume a strategic position in the transmission of effective psychomotor clothing and textiles skills in learners through regular practice. These institutions are expected to bring out the desirable skills in learners that will sustain them in life. This is because; the ultimate aim of education is to provide the necessary population orientation and man-power for scientific and technological development of a nation (Nwangwu , 2009). To realize this objective, it is required that clothing and textile teachers acquire professional competencies that adequately equip the student with knowledge and skills to perform well in cognitive, affective and psychomotor domains. However, it is discovered that most graduates of Home economics lack 'the skills knowledge in clothing and textile education (Okeke, 2006). It is still one of the neglected areas of Home economics. It is against this background that this paper

focuses on the importance of clothing and textile practical teaching as a prerequisite' to, psychomotor skill development. Appropriate skills needed in various area of clothing and textiles are explored. Problems and strategies for improved professional competencies are equally highlighted (Komalaye, 2016).

## **CHAPTER THREE: METHODOLOGY**

### **3.0 Introduction**

This chapter presents a detailed description of the methodology that was used in the study. The focus was on the research design, the population, sampling strategies, data collection methods, data quality control, data analysis and ethical considerations.

### **3.1 Research Design**

The researcher employed a case study design using a participatory action research approach. According to Amin (2005), case studies is one of the most commonly used research methods in social sciences and is used to gather data from a sample population for some specific period of particular time. Opedun (2013) says that this design helps to define better and understand respondents' opinions and attitudes when gathering information from a sample population for a long time. This enabled the researcher to gather information about causes of poor performance in the clothing and textile science department, after analyzing UCE results for five years from 2013 up to 2017 which reflected that learners had failed to attain above 50% distinctions. Due to use of inadequate learning resources, this prompted the stakeholders and teachers to implement the following learning resources: a talking library, a virtual library and a question bank to enhance the teaching of clothing and textile science.

In this study, both quantitative and qualitative techniques were employed in data collection process, analysis, presentation and discussion of findings. Quantitative method was used in order to establish the extent and rate of the problem and qualitative method was used when collecting information that which naturally using interviews, focus groups observation and analyzing documents. The participatory approach using Action research enabled the researcher to

involve participation of stakeholders, teachers, and participants to bridge the gap of poor performance in UCE exams using adequate learning resources.

### **3.2 Population**

The target population of the study included One Head teacher, Two Deputy head teachers, Teachers, One Laboratory attendant, Four Teachers and One Hundred Twenty Learners. The head teacher and deputies were chosen because they are technical people in the education system were as the teachers and laboratory attendant are involved in the teaching, while the learners are involved in the learning of clothing and textile science at Mengo SSS.

### **3.3 Sample size determination and sampling techniques**

The researcher used Krejcie and Morgan (1970) table to determine the sample size of the respondents. Stratified sampling was applied to ensure equal representation of the classes at Mengo SSS and this helped to eliminate bias in the selection process. Simple random sampling was as well employed among the learners offering clothing and textile science as a subject, whereas Purposive sampling was used on the Head teacher, Deputy head teachers, because they are technical people in the education system. The researcher still used purposive sampling on the teachers and laboratory attendant because they are involved in the facilitating of the subject.

This was because of the positions they hold; the researcher believes they have information on the study topic. The Learners were selected using simple random sampling because everybody stood a chance to be chosen for the study (Amin, 2005).

**Table 3. 1: Population, Sample size, Percentage Sample and Sampling Techniques of the Study**

Number	Category of Respondents	Target Population	Sample size	Sampling techniques	Tool
1	Head teacher	1	1	Purposive sampling	Interview
3	Deputy head teacher	2	2	Purposive sampling	Interview
4	Teachers	4	4	purposive Random.	Interview
	Laboratory attendant	1	1	Purposive sampling	Interview
	Learners	511	120	Simple random sampling	Questionnaires
	Total		128		

**Guided by Krejcie and Morgan (1970) method of sample selection**

### **3.4 Data Collection Methods and Tools**

The study employed three instruments; questionnaires, interviews and observation checklists.

#### **3.4.1 Questionnaires**

Questionnaires consisted of a set of questions to which the participants responded in writing. It is a “form consisting of interrelated questions prepared by the researcher about variables for the study,” (Amin, 2005). It enabled the researcher to gather information about variables of the study. Questionnaires were used because information could be collected easily from large sample and diverse groups. Closed questions were administered to enable respondents give their views easily. Already established semi structured questionnaires were used for data collection from 120 learners and they were the researcher’s main respondents. The

questionnaires captured quantitative data based on the study objectives. The responses were measured with a modified five-point Likert-type rating scale as observed below. The questionnaire can be observed in appendix A

The questionnaire was measured according to this score: 1 strongly Disagree 2. Moderately Disagree 3. Disagree 4. Moderately Agree 5. Strongly Agree.

### **3.4.2 Interviews**

An interview is an interchange of views between two or more people on a topic of mutual interest Morrison, (2000). “Interviews allow participants to discuss situations from their point of view” Cohen (2006). An interview guide was used to gather qualitative data on study topic. There were 8 interview respondents who included head teacher, Deputy head teacher, Teachers and lab attendant. These were the views from the head teacher, that presence of the swipe machine has improved teacher attendance in school, though the teachers lacked effective lesson planning. On the side of teachers’ laboratory attendant and learners they were affected by inadequate learning materials.

### **3.4.3 Checklist observation**

The researcher used an observational checklist to assess the availability and adequacy of the equipment in the clothing and textile science department (Creswell, 2008).

### **3.4.4 Documentary analysis**

The researcher used documents from the director of studies office to analyse UCE performance for five years and past papers from the archives of the department to type, print revision questions which were compiled and binded into a question bank.

### **3.5 Tools of data collection**

#### **Log Book**

The researcher used a log book in the process of data collection, taking note of every activity, and the specific experiences created through the activities. The log book helped the researcher to keep track of events and dates of appointments with participants and stakeholders as well as reminding them of agreed action plans

#### **Photography**

The Photographs were used by the researcher to introduce the visual into a semantically oriented research world that is much occupied with words. These helped in the process of capturing and presenting very complex situations which helped during the evaluation process when the researcher was analyzing the process using observation.

### **3.6 Data Quality Control**

This included Validity and reliability

#### **3.6.1 Validity**

Data was in two forms, qualitative and quantitative, therefore validity was based on processing data into manageable proportions through editing, coding, and tabulation methods. Data collected was checked while still in the field to ensure that all questions are answered. Contradictory information that was found useless was removed. By coding, answers to each item on the questionnaire were classified into meaningful categories. Tallying and tabulation was used to obtain frequencies and percentages of each item.



The instruments were developed under close supervision and guidance of my supervisors. The researcher first discussed the content and format of instruments with some colleagues and then later with the supervisors who commented on each item in relation to its measurement of a specific objective. Hard and ambiguous question to some respondents were clarified. Some responses in the questionnaire also depended on the response already presented in another statement.

The inter-judge coefficient of Content Validity Index (CVI) was calculated using this formula adopted from Amin (2005). The test of content validity was established through independent judgment with two research consultants. The formula was

$$CVI = \frac{\text{no. of relevant items}}{\text{Total number of items}}$$

Where N is = number of items rated as relevant and T= total number of items in the instrument.

The CVI for the interview guide and questionnaire to be regarded as valid was accepted at above 0.7. This is because Amin (2005) suggests that in a survey, the least CVI recommended in a survey study should be 0.70 or 70%. Some adjustments were made to make the questions more valid. The results were presented in table 3.

### **3.6.2 Reliability**

Reliability is the extent to which any measuring procedure yields the same results on repeated trials (Cresswell, 2019). The reliability of the instrument was improved through piloting and pre-testing. Furthermore, the reliability of the results was obtained through my supervisor who helped to indicate whether the findings appear to match the authenticity. This was done in

order to limit the distorting effects of random errors on the findings. Statistical Package for Social Science reliability analysis was used.

With prolonged engagement, the researcher spent sufficient time in the field to learn and understand the social setting while audit trials involved a thorough collection of information regarding all aspects of the research. Data was systematically checked, focus maintained and there was identification and correcting errors (Amin, 2014). This helped to ensure establishment of accuracy of data collected. Reliability for quantitative data was obtained by carrying out a test of reliability analysis (Alpha-coefficient). This was done to ensure accuracy of the instruments to enable the researcher send properly designed tools in the research field. Using Statistical Package for Social Science, the instruments were found valid at a (alpha) above 0.8.

**Table 3. 2: Reliability and Content Validity Index**

<b>Items</b>	<b>Content validity index</b>	<b>Cronbach alpha (a) value</b>
Instruction	0.81	0.792
Materials	0.80	0.755
Teaching	0.83	0.782
Learning	0.79	0.751
Equipment	0.80	0.791

**Source: Primary Data (July 2018)**

### **3.7 Research Procedure**

The researcher asked for an introductory letter from the Coordinator of the MVP programme which introduced her to Mengo SSS, seeking to carry out research. After getting permission she was given an appointment indicating the time and days on when to meet the

respondents. On the appointment day she was introduced to the respondents by management and started collecting data which took one month.

### **3.8 Data collection plan**

The data was collected starting with situation analysis of analyzing UCE results for a period of five years which indicated that learners had failed to attain above 50% distinctions, using the future workshop. In the critique phase of the future workshop, factors to determine the critical causes of poor performance in UCE clothing and textiles were concretized using brainstorming. In the utopian phase, the most possible short term interventions for improvement in UCE performance in clothing and textile science were identified. Whereas in the reality phase enhancing of the teaching of clothing and textile science using adequate learning resources at Mengo Senior Secondary School ranked high.

### **3.9 Data Presentation and analysis**

The study used both quantitative and qualitative data analysis techniques. Quantitative data was checked for completeness and entered into the Statistical Package for Social Sciences (SPSS version 16.0) program. The data was then analyzed using descriptive statistics (mean, percentages, frequencies and standard deviation). The variables were co-related using the Pearson correlation Co-efficient in order to establish the relationship between the study concepts.

Qualitative data was transcribed and analyzed using qualitative content analysis, which is a powerful method of analyzing large amounts of qualitative data collected through interviews or focus groups (Dhillon, 2016). The emerging themes were presented with a few quotes to illustrate the findings from the research questions. The responses to the close-ended items in the data collection instruments were assigned codes and labels. Frequency counts of the responses were obtained to generate descriptive information about the respondents who participated in the

study and to illustrate the general trend of findings on the various variables that were under investigation. This involved the use of percentages, mean, variance, standard deviation and this was presented in form of tables and graphs. They helped to summarize large quantities of data whilst making the report reader friendly. Some of the responses to open ended items in questionnaires were presented as quotes while others were tabulated after obtaining frequency counts. Microsoft excel was used to generate tables.

Each interview schedule was closely scrutinized before leaving each respondent; it was cross checked for uniformity, accuracy, completeness and consistency of information. Some data was coded and tabulated using frequency tables. While analyzing content of the findings, some of the responses from interviews were quoted directly in the descriptive narrative of the findings.

### **3.10 Limitations of the study**

A number of limitations were experienced during the study. Since the study was conducted in a school setting with a total population of 4750 learners involving many programmes. The researcher faced difficulties of incorporating her research timetable with the school programmes.

### **3.11 Ethical consideration**

The researcher sought permission from the school administration of Mengo senior secondary school, in order to conform to Action Research. The practice is supported by McNiff and Whitehead who emphasize the need to get permission in written form to carry out an Action Research, when improving their practice, if the learning of others is going to be influenced by the research. The participants were promised confidentiality of their stories, experiences and photographs as well as any data generated during the research, such assurance helped the

researcher to build trust for the smooth success of the research. In support, Denscombe (2007, pp.129,183) asserts that there is need of a reasonable degree of trust among the members of a group and the research must remain visible and open to suggestions, from others which the researcher abided with because the participants kept bringing good ideas and suggestions which encouraged smooth flow of the research.

## **CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF THE FINDINGS**

### **4.0 Introduction**

This chapter presents the findings of the study. The study was about enhancing the teaching of clothing and textile science at Mengo Senior Secondary School in Kampala. It was centered on the four research objectives. The findings were presented in tables. Therefore, this chapter was divided into two sections; response rate and research questions that the study sought to answer.

### **4.1 Findings of the study**

The background information of the respondents was important because it influenced the opinion of the respondent on the relationship between study variables. The data gathered was mainly on the social background of the respondents respectively. Interviews were conducted with eight (8) respondents and these included One (1) head teacher, Two (2) deputy head teachers, Four (4) teachers and One (1) laboratory attendant. The questionnaires were assigned to 120 learners. A total of 128 sample size was all met for the study as shown in the table below:

**Table 4. 1: Gender of the respondents**

<b>Gender</b>	<b>Frequency</b>	<b>%</b>
<b>Female</b>	<b>72</b>	<b>56</b>
Male	56	44
<b>Total</b>	<b>128</b>	<b>100</b>

**Source: Primary data, (July 2018)**

Table 4.1 shows that of the 128 respondents in the study, 56% were females while 44% were males. The implication of this finding is that the existence of a slight difference between the male and female population indicated an equal distribution of sex across the study. This created a uniform platform for both male and female to give their understanding of the study topic. The study was therefore not biased by sex.

**Table 4. 2: Distribution of Respondents by Age**

<b>Age Group</b>	<b>Frequency</b>	<b>%</b>
10-20	98	76.5
21-30	13	10
31-40	11	8.5
50 above	4	3
<b>Total</b>	<b>128</b>	<b>100.0</b>

**Source: Primary data, (July 2018)**

In Table 4.2 above, 76.5% of the respondents were between 10-20 years, 10% between 21-30 years, 8.5% of the study respondents between 31-40 and 3% between 50 years and above. This implies that they were able to give well thought information pertaining the study variables. From the interviews it was discovered that three of the teachers were between 40-49 while the other three were between 50- 59.

**Table 4. 3: Distribution of Respondents by Educational Level**

<b>Education Level</b>	<b>Frequency</b>	<b>%</b>
O level	80	62.5
A level	40	31
Diploma	2	15.6
Degree	6	4.6
<b>Total</b>	<b>128</b>	<b>100.0</b>

**Source: Primary Data, (July 2018)**

The findings in table 4.3 showed that 62.5 of the respondents were in O level, 31% were in A level, 15.6 were diploma holders while 4.6% were degree holders and these were mostly the teachers and head teacher.

**Table 4. 4: Religious affiliation of respondents**

<b>Religion</b>	<b>Frequency</b>	<b>%</b>
Catholic	45	35
Protestant	32	25
Muslim	20	15.6
Born-again Christians,	27	21
Others	4	3

**Source: Primary Data (July, 2018)**

The results on religious affiliation of respondents as shown in the table 4.4 above indicated that 35% were Catholics, 25% were protestants, 15.6were Muslim, 21% were Born-Again(Balokole) and 3% belonged to others/ elsewhere. Religion is an important factor to study because it is one of the most universal and influential social institution that has significant



influence on peoples’ attitudes, values and behaviours at both the individual and societal levels (Mokhlis, 2009).

#### 4.2 Results about teaching of clothing and textile science at Mengo SSS.

This objective number one set out to examine, how teaching of clothing and textile science is conducted at Mengo SSS. It was tested using research question one which stated ‘How is the teaching and learning of clothing and textile science conducted at Mengo SSS in Kampala?’ The responses to this question are summarized in the Table below.

**Table 4. 5: Results of responses to how teaching and learning is conducted at Mengo SS**

	Items	Strongly Agree (%)	Agree (%)	Strongly Disagree (%)	Disagree (%)
A	Our teachers attend all their lessons	30	35	13	22
B	Our teachers are always on time for lessons	40	30	10	20
C	Teachers mark our notes	29	18	20	33
D	The teachers spend almost all the class time on the lessons with no time for practical work.	20	10	40	30
E	I always attend my class lessons daily	43	28	10	19
F	The Clothing and Textiles teachers are not innovative and resourceful	08	29	42	21
G	We have enough teachers for clothing and textile science	35	27	18	20
H	Our teachers administer tests and exams	14	30	27	29
I	The school offers Seminars and field trips	15	28	33	24
J	The teachers mostly do mere dictation of notes	32	28	24	16
K	The teachers’ scolding makes learning difficult for us in the class	46	21	12	21
L	Inability to school authorities to provide materials needed for learning	30	40	20	10
M	Lack of sufficient time to use instructional materials	10	05	30	50
O	The teachers have schemes of work	12	35	23	30
P	The teachers use their lesson plans for teaching	10	20	40	30

**Source: Field data (July 2018)**

The study set out to establish how the teaching and of clothing and textile science at Mengo SSS is conducted. The study findings from 65% of the Learners revealed that their teachers attended all their lessons while 35% disagreed. This implies the teachers tried to teach their lessons though some lessons were dodged and not taught.

The study showed from 70% of the Learners that their teachers were always on time for clothing and textile lessons while 30% disagreed. This means that teachers were always present for their lessons. From the interviews with the teachers they revealed that, they were always present at school.

*‘There is a swipe machine where you have to touch to register your attendance at school and it’s at the gate, it even shows you the time of arrival and departure, this has improved on teachers’ presence at school.’* said the Head teacher.

The learners were sampled on whether teachers marked their books, 47% agreed while 53% disagreed meaning that the teachers did not give much priority to marking learners' books. In the open questionnaire it was indicated that teachers are very much involved in marking tests and examinations. In the interviews with the teachers they reported that they do mark learners’ books though it is done once a term. This was in agreement with the head teachers’ response of teachers giving priority of marking students’ tests to books.

The study established from 71% of the Learners that learners always attended clothing and textile science lessons daily while 29% disagreed, meaning that though majority attended lessons there were those who dodged attending lessons. This affected their performance as reported by the teachers; some learners had very little interest in the subject.

The study further established from 70% of the Learners that the teachers spent almost all the class time on theory lessons with no time left for practical work while 40% disagreed. This means that the teachers spent little time teaching practical lessons.

In the interviews the teachers showed that they attended more to theory lessons and less to practical lessons which was in line with the head teacher who reported that,

*“I have always emphasized and financed the clothing and textile department but sometimes they don't scheme their practical lessons which makes it hard to understand whether lessons were taught or not”.*

It was reported that the teachers' scolding makes learning difficult for learners in the class according to the Learners.

The findings from 33% of the Learners revealed that, Teachers were not concerned that as many learners as possible understand during the lessons while 67% disagreed, meaning that the teachers were not concerned about their learners understanding during the lesson.

**‘One of the teachers had this to say,** *what would I be doing here if I was not concerned about my learners? It's because of learners that am here, therefore my primary role is to guide and look after my learners’*, said a male teacher

The findings from 56% of the Learners indicated that the teachers were not conducting formative assessment during the teaching process while 44% opposed. Meaning that teachers did not conduct formative assessment during the teaching process as far as clothing and textile science was concerned. The learners revealed that the teachers considered summative assessment which they marked to fill their reports. From the interviews the teachers said they didn't give

priority to formative assessment because some were not interested in marking the big numbers of learners. However, the teachers said they did prepare schemes of work for teaching.

The results from 30% of the Learners showed that teachers used their lesson plans for teaching while 70% disagreed. This means that majority of the teachers don't make lesson plans. The interviews however reported that they prepared schemes of work and lesson plans though at times they couldn't go with them to class. In the interviews with the teachers they revealed that sometimes they are challenged with learners not listening attentively during Clothing and Textiles lessons.

The findings from 43% of the Learners indicated that the school offers Seminars and field trips 57% disagreed. The learners showed that it is once annually that they move out to Nytil factory in Njeru, this was not far from teachers who agreed that they take the learners for seminars and workshops once annually. The head teacher on this revealed that they are sometimes let down by inadequate finances. The head teacher reported that sometimes there is inability of teachers to improvise instructional materials and this is affecting the performance of clothing and textile science at both 'O' level and 'A' level.

The results from 62% of the Learners showed that the school has adequate Clothing and Textiles teachers while 38% disagreed. Many of the interviews revealed that though they had only two professional teachers who trained to teach this subject, the rest qualified in arts and design. This somehow creates a gap since there are over 1000 learners who offer this subject.

The learners were sampled on how they felt while studying Clothing and Textiles lessons, and 48% indicated that they felt bored at some lessons while 52% disagreed. This meant that the majority of the learners have positive attitude towards the subject. The teachers, however,

reported that some learners at times do not complete their Clothing and Textiles assignments and projects as they lack the required materials for use.

Majority of the Learners revealed that Learners do not feel confident that they will do well in the subject since at times the teachers mostly do mere dictation of notes in most of the lessons

This at times makes the learners consider money spent on doing Clothing and Textiles projects as a waste as revealed in the open questionnaire.

The results from the interviews with the teachers revealed that,

*‘Majority of the Learners do consider the study of Clothing and Textiles important however some of the learners do not listen attentively to Clothing and Textiles lessons which affects the learners’ performance as far as clothing and textile science is concerned,’* said a male teacher.

The teachers reported that most of the Learners do regularly attend Clothing and Textiles classes and they complete their Clothing and Textiles assignments and projects, however, some of the learners do not feel confident that they will do well in the subject.

#### **4.2.1 To what extent is the clothing and textile science department at Mengo Senior Secondary School equipped?**

The objective of the study sought to determine the availability and adequacy of the equipments in the clothing and textile science department at Mengo Senior Secondary School. The question stated ‘To what extent do you agree with the following statements on the

availability and adequacy of equipments in the clothing and textile science department at Mengo SSS. The results were presented in table 4.6 below.

**Table 4. 6: Responses to the level of availability and adequacy of teaching Learning resources at Mengo Senior Secondary School.**

	Item	Strongly Agree (%)	Agree (%)	Strongly Disagree (%)	Disagree (%)
1	We have a well-equipped laboratory for clothing and textile	20	26	33	21
2	Too much notes to read do not allow room for the use of other materials	18	16	28	38
3	Inability of parents to buy needed materials for learners	04	41	22	33
4	Inability of teachers to improvise learning resources	45	30	15	10
5	We access our computer laboratory for learning	05	10	40	45
6	Irregular power supply for using electronic materials	45	35	10	10
7	We have adequate desks for studying	51	30	10	09

**Source: Field Data (July, 2018)**

The results from 46% of the Learners revealed that they had enough personal tools to undertake the clothing and textile science at school while 54% denied, meaning that the learners didn't have adequate personal basic tools to undertake the course.

The finding on the availability and adequacy of the equipments in the clothing and textile science department at Mengo Senior Secondary School revealed that sometimes the learners were let down by Inadequate Learning resources towards effective and efficient teaching of clothing and textile science as indicated from the interviews held with teachers and the Head teacher.

*'We have inadequate equipments for use at school i.e. Tracing will, tracing carbon paper, sewing machines, pressing equipments, the administration allocates a supplement budget/ funds for our department and this so because government grants given to the school are released late, however inadequate funds from the administration affect provision of instructional materials to the department, said the teachers.*

The results from 34% of the Learners indicated that Learners were given many notes to read while 66% disagreed, meaning that the library lacks text books for use by the school. The teachers showed that they even lacked revision questions, text books and modern equipment to support them in instruction of learning.

The study discovered from 25% of the learners that the teachers lacked sufficient time to use Learning resources, since the subject was allocated only two hours and twenty minutes weekly 75% disagreed. The teachers in the interviews reported that the two hours and twenty minutes allocated for the practical lesson were insufficient to complete the assigned project work.

The findings from 46% of the Learners established that the school provided adequate stationary and equipment for use at the department while 54% disagreed. Meaning that there is insufficient availability of equipment for use in the clothing and textile science subject and cost sharing is done to enable teachers conduct practical.

*'We are made to contribute 50% of the equipments needed for use at the department, we pay money and sometimes buy materials for use'* said the learners. The interviews with the head teacher and teachers confirmed the above statement. The head teacher reported that the school

has insufficient budget, and the stakeholders agreed with parents that the parents and school both contribute towards clothing and textile subject since materials needed are very expensive.

The findings from 70% of the Learners established that their parents were unable to buy required materials for learners whereas 30 % disagreed meaning the parents are willing to buy materials for the learners despite having financial constraints.

On whether there was irregular power supply for using electronic equipments 45% agreed while 55% disagreed, implying that the school depended on mostly hydroelectricity for use. The teachers reported that their school had one source of power supply so in case it was off, this would interrupt the practical, *“yet the school had acquired electric sewing machines which were used for practical and the department has no generator.”*

In the interviews with the teachers they were asked on the level of availability and adequacy of equipment, most of them revealed that

*‘We are at times affected by inadequate instructional materials, some of the materials and equipments are old and out fashioned, which do not address the challenges of modern technology,’* said the teachers. The teachers reported they were facing challenges using old fashioned textbooks because in the 21<sup>st</sup> century technology is changing very fast and the department lacks computers.

The results from 77% of the learners indicated that teaching was mostly teacher centered as the primary method of teaching while 23% opposed. Teachers reported that they employed other methods of teaching when learners failed to understand content.



The study discovered from 25% of learners' who agreed that the teachers had the ability to motivate learners using learning resources while 75% rejected, the same meaning that teachers need to improve on their ability to motivate learners using adequate learning resources.

In the observation checklist the Types and Quantities of Tools, and Equipment available at the department were listed as old stock and new stock respectively.

**Table 4. 7: Showing the available equipments and materials in the clothing and textile department**

ITEM	OLD STOCK 2017	NEW STOCK 2018
Tables	22	
Stools	74	
Treadle machines	29	
Electric sewing machine	8	1
Knitting machines	4	
Branding machine	3	
Dry flat irons	10	
Steam irons	2	
Cutting shears	55	
Tracing wheel	32	
Seam rippers	25	
Step downs	3	
Storage cupboards	11	
Mannequins	4	
Dressing mirror	1	
Industrial over lock	1	
Fire extinguisher	2	
Meter rulers	6	
French curves	6	
Extension cables	2	
Ironing board	1	
Ironing blankets	8	
Electric fans	3	
Wall clock	2	
Clothing and textile textbooks	132	37
Manual over lock		3
Computer	0	

**Source: Field Data (July, 2018)**

Table 4.7 above shows the equipment the school has to enable enhancement of the teaching process. The majority of the learners are of the opinion that the laboratory is well equipped, since it has most of the basic equipment. Some of the equipment however is insufficient for each student to have one to herself for a meaningful practical lesson and they also lack modern equipment like computers.

In the observation checklist, learners could do the following as far as skill component of clothing is concerned. Seventy-two (72) work on seams. Learners who can work on facing, edge finishes and disposal of fullness are thirty (30). Learners who can work on opening and fastening were ten (10) Pattern drafting, usage of commercial pattern and cutting out skills had the lowest number eight (08). This shows that more attention should be paid to those areas where the skill component was lacking.

#### **4.2.2 To implement the measures that can be taken to enhance the teaching of clothing and textile science at Mengo Senior Secondary School.**

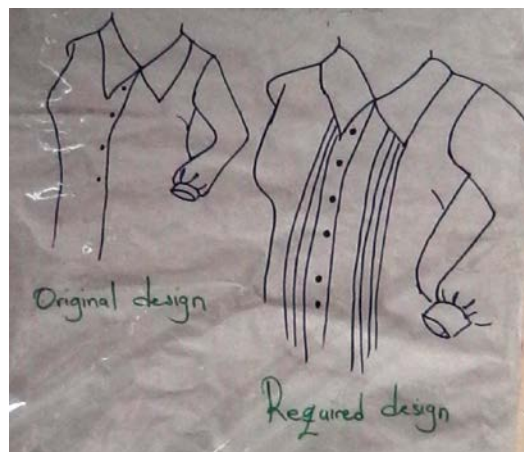
The objective sought to explore measures that can be taken to enhance the teaching of clothing and textile science at Mengo Senior Secondary School. It was guided by a research question which stated 'How has the innovation of learning resources enhanced the teaching of clothing and textile science at Mengo Senior Secondary School? The results were analyzed according to the possible short term solutions the participants' researcher and stakeholders used to enhance the teaching of clothing and textile science at Mengo Senior Secondary School. The measures used were identified as follows;

**(a) Talking laboratory**

**(i) Developing charts**

During the implementation stage, the learners were divided into fifteen groups, following the topics of the syllabus. Each group was tasked to develop charts drawing diagrams extracted from clothing and textile books, which they have not been using before. This encouraged them to carry out research on their allocated diagrams after which they were tasked to laminate them for durability.

The learners developed charts beginning with equipment and tools up to the last topic, fabric blend and mixtures. As motivation each group was awarded marks as part of their end of term marks. This instilled in them a spirit of cooperation, team work and hard work during break time, lunch time and after classes in order to complete their tasks in time. These charts enabled the learners to visually see the process of garment production from yarn, fabric, up to garment production. Which clearly appealed to their visual sense, a method which had not been catered for in the teacher centered method before this intervention. Each group was excited to have their charts hanged up on the walls of the laboratory. As illustrated in Plate 2.



**Source: Primary data (March 2018)**

**Plate 2: A laminated chart illustrating how to adapt pattern styles using tucks in the front a blouse.**

**(b) Introduction of designs in fabrics**

**(i) Stencil printing.**

As part of the talking laboratory each learner was tasked to apply colour onto a fabric using stencils with very delicate designs, using improvised pieces of sponge as illustrated in plate 3 below.



**Source: Primary data (March 2018)**

**Plate 3: Showing learners displaying their stencil printed pieces of fabrics.**

**(ii) Dyeing**

Each learner was tasked to apply colour to a cotton piece of fabric using the tie and dye method. Since it was a learner centered method each learner used her experience to tie his or her piece of fabric which resulted into producing a variety of decorative designs as illustrated in plate 4 below.



Source: Primary data (March 2018)

**Plate 4: A learner displaying her tie and dyed piece of fabric**

**(c) Construction of garments**

During garment construction each candidate was given a commercial pattern, in which they were required to interpret the pattern markings and transfer them accurately onto the fabric using carbon paper and a tracing wheel. To construct their project work for UNEB they as well applied the skills of enhancing on their articles as illustrated in plate 5.



Source: Primary data (March 2018)

**Plate 5: Showing Samples of finished senior four articles to be handed in as project work for (UNEB 2018)**

**(d) History of clothing**

Under this topic the learners were divided into groups. The teacher distributed two magazines, three Manilla papers and glue to each group. Using guided discovery method, they cut out interesting pieces of pictures and pasted them onto manilla paper, after which they laminated them and hang them on the walls of the laboratory.



**Source: Primary data (March 2018)**

**Plate 6: A Chart showing cut out pictures from a magazine.**

**(e) Question banks**

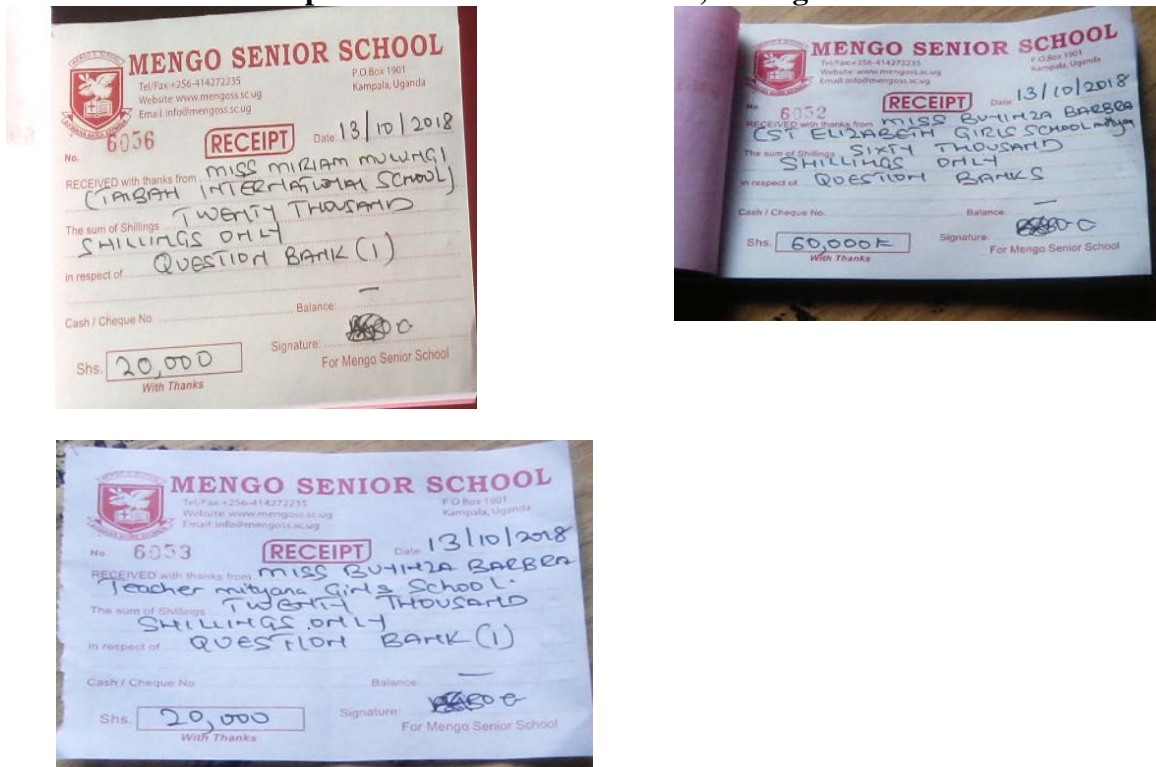
Since one of the concerns of the learners was lack of revision questions the researcher was tasked to compile past papers from the archives of the library from 1970 up to 2017, type, edit using Microsoft word. The next step was to convert the edited copy to a portable document format (PDF) referred to as the master copy. After which the researcher had to come up with an innovation of interesting creative designs which were printed on it and laminated for durability.

The last step involved production of two hundred copies which were trimmed and binded with the cover. After which the researcher organized a seminar for senior four candidates, sixty-

nine questions were extracted from the question bank, and each candidate was allocated a question for discussion in the seminar. This exercise stimulated them to borrow books from the library and research on their individual topics as well as consulting the subject teachers and fellow learners. As illustrated in the plate 7.



**Plate 7: (a) The cover of the compiled question bank and (b) A learner illustrating an explanation on the white board, during the seminar**



**Source: Primary data (October 2018)**

**Plate 8: Receipts of question banks textbooks bought by ST Elizabeth girls Mityana, Mityana High School and Taibah international Kampala.**

Regardless of using Mengo Senior Secondary School as a case study, the researcher went beyond to test it out within schools around namely Taibah International School, ST Elizabeth Girls School, Mityana High School. These schools carried out formal assessments using revision questions extracted from the question banks during the lessons which created a great impact, being the first of its kind, for teachers to conduct an effective assessment using well designed questions during the lesson. Enabling them to assess the level of the learners effectively and know where exactly they have to improve. Clothing and Textile Science is a branch of Home economics which did not have revision questions compiled into a question bank, yet the other two branches namely; home management and foods and nutrition have existed with question banks for over ten years. So the teachers and learners of clothing and textiles felt they had been left out, and when these revision questions were compiled it was a turning point for clothing and textile science as a subject. This enabled the learners to articulate their current understanding of the topics in the subject, make connections with other ideas and also to become aware of what they knew and did not know. This motivated the school administration to buy copies for their departments. In this regard, student –generated questions are also an important aspect of both self-and-peer assessment (Black, Harrison, Lee, & Marshall, 2002, p.14). As cited in (Chin, 2007).

#### **(e) Digital library**

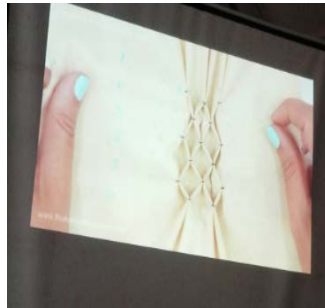
In order to vary the learning styles the subject teachers incorporated use of a digital library in the teaching and learning of the subject,





Source: Primary data (July 2018)

Plate 9: Showing learners attending a clothing and textile ICT seminar in the school library.

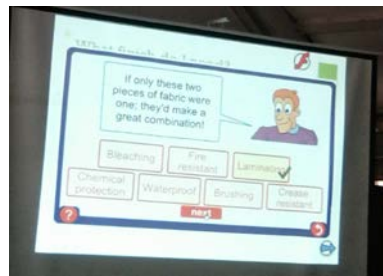


Source: Primary data (July 2018)

Plate 10: Showing projected methods of controlling fullness as part of the clothing and textile ICT seminar.



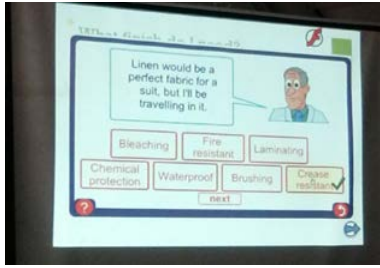
A



B



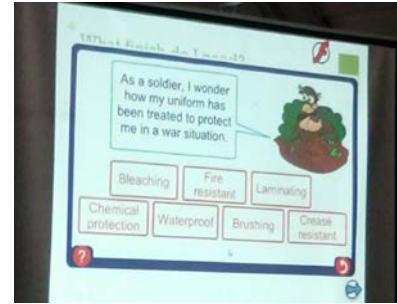
C



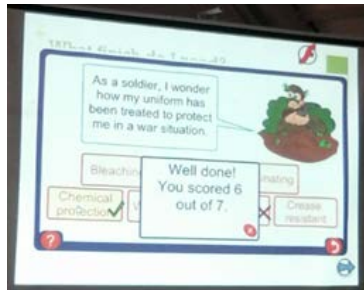
D



E

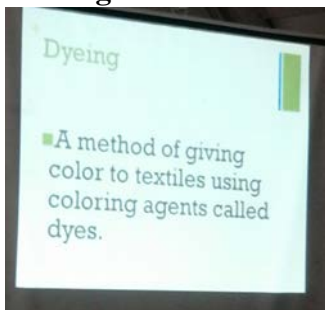


F



G Source: Primary data (July 2018)

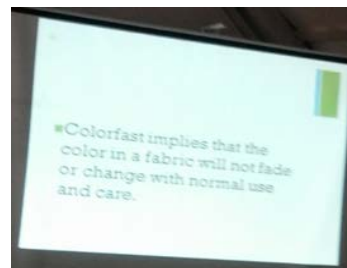
Plate 11 : a, b, c, d, e, f, and g showing projected methods on fabric finishes as part of the clothing and textile science ICT seminar.



A



B



C

Source: Primary data (July 2018)

Plate 12: (a) and (b) showing projected methods of dyeing, (c) showing projected method of colour fastness during the ICT seminar.

## **CHAPTER FIVE: DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.**

### **5.0 Introduction**

In this chapter, the findings of the study were discussed after which the conclusions and recommendations were drawn. For clarity and chronology, it was arranged by these contents and then by the three research objectives that the study sought to find out. Thus the chapter was divided into subsections namely, discussion which is related to the theoretical frame work and the literature review.

### **5.1 Discussion of study findings**

The discussion was arranged according to the three objectives of the study. The discussed findings were empirically got from the field using a self-administered questionnaire a, interview guide and checklist observation guide

The section was subdivided into the following subsections; establishing how the teaching of clothing and textile science is conducted, availability and adequacy of equipments in the clothing and textile department and extent to which adequate learning resources enhance the teaching of clothing and textile science at Mengo SSS in Kampala.

#### **5.1.1 How is the teaching of clothing and textile science conducted at Mengo Senior Secondary School in Kampala?**

The objective of the study set out to investigate, how the teaching of clothing and textile is conducted. The study established that teachers did not give attention to marking daily books of learners, as well as conducting formative assessment. it was indicated that teachers are very much involved in summative assessment which involves only marking tests and examinations.

Yet in formative assessment the teachers would be able to use a wide variety of methods to conduct an in process evaluation of student comprehension, learning needs and academic progress during the lesson. This would enable them identify the concepts learners are struggling to understand, skills they are having difficulty to acquire so that adjustments can be made to lessons, instructional techniques and academic support.

It will also help learners develop a stronger understanding of their own academic strength and weaknesses enabling the learners to know what they do well and what they need to work harder on, and take greater responsibility over their own learning and academic progress. This is supported by the social-cultural theories of learning which help in explaining how learners develop their cognitive and language functions.

While learning is the property of students, since no one else can learn for them, others can engage with them through social and interactive processes that support learning (Reveles, Kelly, & Durban, 2007; Tharp & Gallimore, 1998). With respect to these processes, vygostsky's theory of the zone of proximal development has particular relevance (Vygotsky 1988). He distinguished between two levels of development: 1) the level of actual development that the learner has already reached, the level at which the learner is capable of solving problems independently and 2) the level of potential development (the "zone of proximal development") the level the learner is capable of reaching under guidance of teachers or in collaboration with peers.

Vygotsky scaffolding is part of the education concept "zone of proximal development" or ZPD, which is a set of skills or knowledge a student can't do on her own but can do with the help or guidance of someone else. Hence the skill level where the student is. The zone of proximal

development is where learning takes place through a process of “scaffolding” (Rogoff & Gardener, 1984; Wertsch, 1979; Wood, Bruner, and Ross, 1976).

Scaffolding occurs when the more expert, provides support through a process of interaction. For example, a teacher asking leading or probing questions to elaborate the knowledge the learner already possesses, or providing feedback that assists the learner to take steps to move forward through the ZPD. As the learner’s competence grows, the scaffolding is gradually reduced until the learner is able to function independently (Tharp and Gallimore.1988).

Heritage also supports formative assessment merges with cognitive and sociocultural theories of learning in a number of ways. First, from a cognitive perspective, formative assessment enables teachers and learners to consistently work in the zpd, the area where learning takes place. In formative assessment, the teacher is involved in continuous process of evidence gathering and interpretation so as to structure learning that builds on “maturing functions” (Vygotsky, 1978).

Teachers lead learning, not retrospectively react to it. Only by keeping a very close eye on emerging learning through formative assessment can teachers be prospective determining what is within the students’ reach, and providing them experiences to support and extend learning. Through these experiences learners will incorporate new learning into their developing schemata. These theoretical perspectives go a long way to accounting for why formative assessment as a practice works. (Heritage, 2010).

The study revealed that teachers mostly taught theoretical lessons and the practical work was allocated two hours and twenty minutes weekly on the school timetable which was not enough for a practical lesson. The practical was later taught when the teachers decided although

there was a clothing and textile laboratory. However, it was found out that Teachers were concerned that as many learners as possible understand the content of the subject. Yet practical work involves tasks in which students observe or manipulate real objects or materials or witness a teacher demonstrate, which include experiments in laboratories, study tours projects and assignments.

It was also observed that though the teachers prepared schemes of work and lesson plans they did not stick to them while teaching. This was partly because of inadequate learning resources but also, in the researchers' view, it was due to lack of willingness and the complexity of the technical knowledge and skills involved.

The study did find out that the school rarely organized workshops and field trips to enhance teaching of clothing and textile science. This was done only once especially visiting Nytil factory in Jinja and it was mainly the learners who contributed their money. According to the head teacher this was because of inadequate finances. The head teacher reported that sometimes there is inability of teachers to improvise instructional materials and this hinders effective learning of clothing and textile science. However, this can be enhanced through study tours, since they help learners to learn through visual experience and can be an interesting way to explore new things for both the learner and teacher. This is supported by K. Sampath (2006) who describes that during field trips the learner acquires concrete learning experiences in a real situation which has been undertaken with a specific purpose. J.C Aggarwal (2008) also states that "educational field trips aim at enriching, vitalizing and complementing content areas of the curriculum by means of first hand observation and direct experience outside the classroom. And according to Lord Chester Field "The knowledge of the world can only be acquired in the world and not in a closet. Books will never teach you but they will suggest many things to your

observation.” Similarly field trips are supported as cited in (Olusegun, 2015) who states that if we accept that constructive theory is the best way to define learning , then it follows that in order to promote student learning is necessary to create learning environments that directly expose the learners to the material studied. For only by experiencing the world directly can the learner derive meaning from them. This gives rise to the view that Constructivists learning must take place within a suitable Constructivists learning environment. One of the central tenants of all Constructivists learning is that it has to be an active process (Tam, 2000). Therefore, any constructivists learning environment must provide the opportunity of active learning.

Randy Wilhelm also states that “Field trip is a substantive way to expand students’ horizons and allow them to learn experientially.” (Shakil, 2011)

Responses to research question one continued to reveal that learners’ attitude was a problem to the teaching of Clothing and Textiles. The learners had a negative attitude in the sense that they did not consider studying Clothing and Textiles Science as a career but as a job for illiterates, and they considered money spent on doing Clothing and Textiles projects as a waste. In addition, learners did not complete their Clothing and Textiles assignments and projects. They were bored in classes and they did not feel confident that they would perform well in the final examinations.

This finding agrees with (Anene, 2002) who noted that many learners hate Home Economics as a subject in the school; some have little interest in the subject that they do offer it half way and drop it. A reason for the finding might be because of general societal attitudes that see vocational subjects as subjects for the under achievers and girls (Owolabi et al. 1991). It might also be as result of lack of appreciation and awareness of learners on the important role of

Clothing and Textiles to socio-economic advancement of the individual and the nation. Whatever the reasons, the negative attitudes of the learners are likely to hinder effective learning of the subject (Okeke, 2006). Studies looking into the attitudinal patterns of school learners have established that in schools' classroom instruction, attitudes determine to a great extent, the degree of success to be achieved (Okeke, 2006).

The researcher found out that teacher quantity and quality also presented great problems to the teaching of Clothing and Textiles. According to responses regarding teachers and learners indicated that there were inadequate Clothing and Textiles teachers in the school, 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 theory lessons with no time left for practical work, they mostly dictated notes, and were not concerned about attracting the attention of the learners.

This finding collaborates with the observation of the Mberengwa (2004) that, insufficient quantity of teachers has the tendency to influence teaching negatively with its implications on performance. Azih (2001) also found that the quality of teachers in Ugandan secondary schools is so low. The learners' responses suggest that many of the Clothing and Textiles teachers are deficient in attainments, unknowledgeable in skill and accepted teaching practice.

The learners also 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 in service 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 learners 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 learners' 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 which is vital for effective learning, then the limits of achievements of learners will equally be weak.

### **5.1.2 Availability and adequacy of equipment in the clothing and textile department**

The objective of the study sought to examine the availability and adequacy of teaching of clothing and textile science at Mengo Senior Secondary School. It was found out that learners did not have enough personal tools to undertake the clothing and textile science practical at school.

The study on the availability and adequacy of the equipments in the clothing and textile science department, revealed that sometimes the teachers were let down by Inadequate learning resources, towards effective and efficient teaching of clothing and textile science as revealed by the interviews held with teachers and head teacher. The department only had tools that included tracing will, tracing carbon paper, sewing machines and pressing equipments.

The availability and adequacy of equipments and tools enable learners undertake the subject. Majority of the respondents agreed that they have adequate equipments and are of the opinion that the learners have equipment but some of the equipment is insufficient for each learner to have one to herself for a meaningful practical lesson though they also lack modern equipment like computers.

The study found out that the school administration did not allocate an adequate budget or funds for the department as far as purchasing equipments and tools was concerned. This affected the provision of instructional materials for use. This result is in line with (Mberengwa, 2014) who established that provision of inadequate instructional materials had constrained school's performance.

The study went on to establish that there were very few textbooks and pamphlets, latest modern computers that would accelerate literature for learning at Mengo senior secondary school. The teachers showed that they even lacked question banks, text books and latest technology to support them in instruction of learning. As if that was not enough, they lacked sufficient time to use instructional materials since the subject was not allocated enough time on the school timetable, meaning that there is insufficient equipment for use in the clothing and textile science subject.

The Head teacher reported that the school has insufficient budget, which prompted the administration and parents to agree on a 50% contribution towards clothing and textile materials.

The study further revealed that inadequate instructional materials, lack of improvisation and utilization of teaching aids, as well as inadequate laboratory constituted problems to the teaching of clothing and Textile science. (Ogwo, 2006) in line with (UNICEF, 2014) also found that inadequate instructional materials and unwillingness of teachers to improvise is a great impediment to Home Economics 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 (1994) observes 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 use in the classroom. The teachers 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. The 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.

Similarly, Simon (2010) 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. Additionally, Shulman (1987) observes 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 observes that Clothing and Textiles curriculum is wide and demanding, but she urged teachers to use appropriate instructional methods in teaching. Given the learners' responses in this study, it appears that Clothing and Textiles teachers' combination of subject matter; understanding and pedagogical skills are unimpressive.

Inadequate time for practical lessons, the subject lacks revision questions why Looks like Teachers are reluctant to perform their tasks, Teaching aids and materials.

According to concerned teachers they recommended for more practical teaching hours allocated for skill content of pattern drafting and garment construction. The teachers agreed that the theoretical aspect should be more learner centered. From the above findings, teachers are recommended to cooperate with the stakeholders using the constructive theory to enable them address problems of skills acquisition in Clothing and Textiles, in order for the departments to be allocated more practical teaching hours allocated for skill content of pattern drafting and garment construction.

### **5.1.3 How has the Innovation of learning resources enhanced the teaching of clothing and textile science for the development of skills at Mengo Senior School?**

This objective sought to evaluate the impact of the following learning resources in the teaching and of clothing and textiles science.

#### **5.1.3.1 Creation of a talking laboratory**

Developing of charts with the learners enabled the researcher to introduce a project based learning method using group work in classroom. The researcher used formative assessment when allocating marks in groups which were part of their end of term examination. This motivated the learners who used their free time to complete the tasks neatly and accurately using the following principles, simple, cheap, realistic, informative, up to date and large enough to be seen by the learners in the laboratory,

The diagrams were extracted from clothing and textile books, so the learners had to borrow books from the library which stimulated them to research using their visual senses. Drawing with their hands introduced use of the kinesthetic sense thus increasing high knowledge

retention, since they demand **to** the mind through the visual senses, this as well increased participation of learners in the lesson as supported by, Dr. Lynell Burmark, education consultant who writes and speaks about visual literacy. That “..... unless our words, concepts, ideas are hooked onto an image, they will go out in one ear, sail through the brain, and go out the other ear. She continues to stress that words are processed by our short term memory where we can only retain about seven bits of information. (Plus or minus2) (....) images, on the other hand, go directly where they indelibly etched”. A system that was not available in the teacher centered method, these charts were hanged up in the laboratory in order from equipment up to fabric blends and mixtures this motivated the learners since they were the authors of their individual charts and enabled them to visualize the process of yarn production up to garment enhancement.

*During evaluation a female Learner commented about her feeling of the talking laboratory that “I see reality in the talking laboratory”*

*After assessing UACE practical (2018) a female student confessed “I had forgotten how to construct and neaten a plain seam because it is covered in senior one, but she was able to remember the procedure of constructing the plain seam and neaten it appropriately during the practical exam because the procedure had been displayed on the walls (talking laboratory).*

Use of charts as visual aids in the laboratory enabled the researcher to supplement the verbal instructions, making learning permanent, providing variety, attracting the students attention and saving time and energy, encouraging a healthy classroom interaction, create situations for teaching the beginners, creating a positive environment for discipline, meeting individual differences, vividness to the learning situation., abstract ideas concrete and thus help in making learning more effective, provide good substitutes for the real objects as they make learning equally meaningful.

### **5.1.3.2 Innovation of a Question bank**

The researcher accessed clothing and textile UCE question papers ranging from 1970 up to 2017 kept in the archives of the school library. These were arranged and typed using Microsoft word following a chronological order from the current year 2017 up to 1970, whereas the diagrams in the book were drawn using the coral draw software. The next step required converting the finished document in a portable document format (PDF) using the micro software, however, page maker or coral draw also performs the same function. The micro software converted it into a booklet form arranging the pages in order to create a master copy which was used to photocopy 200 copies.

After which the photocopied copies were trimmed to the required size. Now the researcher was tasked to design an attractive cover using adobe suite which was laminated for durability. On completion 200 covers were produced and attached onto the book. Since it was action research, the researcher extracted sixty-nine questions and allocated each learner a question to be discussed in the senior four seminars. Questions according to the Cambridge English Dictionary (2016), defines a question as a word or words used to find out information.

(Nappi,2017) supports questioning as an important component of the teaching and learning process and is embedded in quality instruction and strategic thinking. She asserts that questions are used to teach as well as to assess student understanding and thus questioning plays a critical role in the overall success of a classroom.

(Arslan, 2006) Also supports Questions as the strongest tool at a teachers' disposal as it teaches students how to think. Reviews of research findings on questioning reveal that, it is an

effective skill “to stimulate student interaction, thinking and learning” (Willen, Ishler, Hutchison, and Kindsvatter; 2001)

### 5.1.3.3 The process of typing, editing, printing

Binding and designing the cover exposed the researcher to new computer skills and technology which she did not know before, whereas the learners were tasked to research on their individual questions, which stimulated them to borrow books from the library and make use of them ,they also consulted teachers where they felt needed help and discussed with their fellow learners introducing a peer learning method, as well bringing back a reading culture in the subject which encouraged them to own their learning, After the seminar the learners confessed the impact it had created on them and how they were motivated and understood the concepts more better from their fellow learners. This is supported by the constructivism theory as cited in (Harr, 2007) which states that, constructivism is best understood in terms of how individuals use information, resources, and help from others to build and improve their mental models and their problems solving strategies (Woolfolk, 2007). During evaluation these were there statements,

*A female student commented “I cannot forget what she discussed, because when you discuss it, it sticks to your brain*

*A male student stated “The concepts were understood because the discussants diagrammatically illustrated them clearly on the white board”*

Another female student commented “such questions given to us in the seminar help us to learn better because everybody does necessary research”

*Student D commented “I gained confidence in the question and answer approach method.” Student E “I learnt to do research using textbooks, internet and consulting teachers instead of depending on classroom notes.”*

*Student F “I learn **topics** not covered in the classroom.”*

Regardless of having used Mengo SSS as case study to enhance teaching of clothing and textile science using the question bank. The researcher went beyond and tested to establish its impact on three schools namely St Elizabeth Mityana SS, Mityana High School and Taibah international school. After sampling some of the questions at ST Elizabeth SS the learners were stimulated and *A female learner from ST Elizabeth had this to say “Now I can use the questions in the question bank to guide me in my revision’* The learners comment stimulated the stake holders who bought three copies for their school library and their teacher also bought a copy. Mityana high school also purchased a copy as well as Taibah International these are evidenced with receipts. The buying of these books by other schools created an impact, since other subjects had question banks including home management, foods and nutrition which are branches of home economics yet clothing and textiles science which is also a branch of home economics was not catered for which contributed to poor in performance at UCE, since learners were depending entirely on the classroom notes.

#### **5.1.3.4 Creation of a digital library**

Blending of technology into the teaching process of clothing and textile science enabled the researcher to significantly change the fundamental aspects of the classroom in ways that could have an enormous impact on the instruction. Through use of three dimensional objects (3D) the researcher was able to bring objects of the real world into the classroom illustrating



them through length, width and height since learners have no basis for generating mental models of these phenomena from their everyday experience.

The researcher was able to provide the learners with a plethora of diagrams, model and pictures to assist the visualization. For example, the Learners were able to visualize the anatomy of the sewing machine, how it operates and the relationships of the different parts. Use of technology enabled the learners to obtain hands on experience with delicate or inaccessible material through use of 3d replicas. Mathew and Alidmat (2013) concluded that aids are often viewed to be an inspiration and provide motivation in classroom instruction and that effective use of audio-visual aids substitutes monotonous learning environments. Arora, (2013) further concluded that there is a great impact of audiovisual aids in the teaching-learning process, wherein students find the method of teaching very effective.

(Pitts A , 2013) insists that use of sound helps learners understand the world around them better and provides another layer of comprehension that sight alone cannot offer. She encourages teachers to make memorable lessons by engaging students with eye catching resources.

## **5.2 Conclusion**

The study concludes that; in line with research objective one there was lack of adequate administrative support and putting up adequate school facilities as regards the teaching of the clothing and textile science. For objective two, it was found out that there was inadequate availability of study equipments and instructional materials to foster the learning of clothing and textile science. The school was doing a commendable job in fostering teacher motivation and retention but could not do much because of inadequate finances allocated to the school, consequently many school activities were left unfunded, which de-motivated teachers.

Findings of the study have shown that the teaching of Clothing and Textiles is beset with a variety of problems. These problems are summarized as negative attitudes among the learners as to the feasibility and value of studying, Clothing and Textiles and consequently, lack of confidence, and instructional impediments ranging from inadequate teacher quality and quantity, lack of stimulating materials, difficult topics and tests, inappropriate methods, to lack of pedagogical skills among teachers, and lack of funds and failure of teachers to improvise and utilize instructional materials.

Under situations mentioned above, the desired goals of the teaching of Clothing and Textiles can hardly be attained. There is no doubt that Clothing and Textiles, just like other vocational subjects is an expensive program, especially the inevitable aspect of providing for quality resources (teachers, relevant classroom interactions, workshops and facilities). It becomes imperative that program on attitude change, high quality teachers, sufficient instructional time and materials, as well as appropriate methodology should be designed and implemented for effective teaching of the subject.

High quality stimulating materials such as computers should be provided and Clothing and Textiles teachers should regularly be sponsored to seminars and workshops. Since the program is practical oriented and emphasis is on skills acquisition. Therefore, the desired objectives cannot be achieved without making provision for these basic resources in the right proportion. This is in agreement with (Mupfumira, 2011), who points out “that the rightful learning environment gives students required exposure and skills” as was evidenced when the teaching of clothing and textile was enhanced with a talking laboratory, use of technology and innovation of a question bank. The availability and accessibility stimulated the learners to own their learning and brought back a reading culture which was nonexistence in the department.

### **5.3 Recommendations**

#### **The study recommends that;**

Teachers should embrace visual literacy during the teaching, this will enable the learners to study the technique used to create images, learning vocabulary of shapes and colors, identifying the characteristics of an image that gives it meaning, and developing the cognitive skills necessary to interpret or create the ideas that form an image be it a television show photograph, painting, chart, graph, advertisement, PowerPoint slide and animated GIF

Teachers should focus more on practical work and increased teaching hours as recommended by the syllabus to improve upon performance in the Clothing and Textiles program at all educational levels. As well as embracing well designed educational field trips which will enrich the learners with hands-on, real-world experiences, quality education, positive attitudes and motivation towards clothing and textile science. This improves on the socialization among students, which will impinge on the classroom and development of rapport, between teacher and learners, enabling teachers to utilize other learning strategies such as cooperative learning. This is supported by Myers and Jones (2009) who asserts that “educational field trips should be designed around specific educational objectives. If a field trip is not well planned in advance it will end up in confusion and will be a waste of time and money. So field trips should be planned as a cooperative activity involving full learner participation under teacher’s supervision.” (Lucas, 2014) (Shakil, 2011)

Teachers should engage more than one sense during teaching in order to enable learners process information, this will enable more cognitive connections and associations to be made

with concepts, as well as addressing learners with different learning styles since learning will be multi-sensory. (Pitts A , 2012)

Teachers should be creative and innovative by incorporating various teaching and learning styles which cater for the auditory, visual, kinesthetic and tactile senses since these have the capability of engaging the learner and create textile clubs which encourage production of articles and garments and through selling of the constructed products, learners acquire entrepreneurship skills and create its awareness by opening up a page on face book. This is supported by Lead beater (2008) when he says that “With the present realities of scarce materials and equipment, necessary for effective teaching there is need for teachers to be resourceful to overcome shortages of resources” Teachers should abide by the syllabus which stresses acquiring of skills. Six practical lessons in a term and be more creative in thinking of other strategies suitable for the particular topics in the syllabus. Teachers should avail learners with the syllabus as part of their orientation, since it stresses that they should practice the taught skills outside the teaching time. Clothing and textile teachers should embrace technology and write simplified clothing and textile books in order to revive the reading culture in Uganda, as well as creating happy classroom and successful students by ensuring that learning is multi-sensory and should include activities that stimulate all the senses into your lessons. Since various approaches in pedagogy derive from the constructive theory. They usually suggest that learning is accomplished best using a hands on approach and learners learn by experimentation, and are left to make their own inferences, discovery and conclusions therefore teachers should embrace the social constructivists approach which encourages them to adapt to the role of facilitators and not teachers. This theory describes the role of a facilitator which the teachers must follow, as a facilitator helps the learner to get to his or her own understanding of the content, the learner

should be an active participant and the facilitator should ask questions not give answers as well as creating an environment for the learner to arrive at his or her own conclusions and engage the learner in a continuous dialogue, in order to adapt the learning experience to where the learners want to create value.

#### **5.4 Areas for further research**

The study focused on enhancing teaching and of clothing and textile science at Mengo SSS, in Uganda. However, further studies should be carried out in enhancing the learning of Clothing and Textile Science.

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**APPENDICES**

**APPENDIX I: QUESTIONNAIRE**

**LEARNERS' Questionnaire**

Dear respondent, I am a University student carrying out research on .....topic.” You have been selected to participate in this study. Results will only be used for academic purposes.

Thank you.

*Instructions: Please tick against your most appropriate answer and fill in the spaces provided in each section.*

**SECTION A: Background information**

1. Gender: (a) Male  (a) Female

2. Age range:

21-30 = 1 ( )

31- 40 = 2 ( )

41-50 = 3 ( )

51-60 = ( )

60 and above ( )

3. What is your religion?.....

5. in what class are you?.....

5. How long have you been studying at this school? .....

**SECTION B**

To what extent do you agree with the level of teaching and learning of clothing and textile at your school?

	Items	Strongly Agree	Agree	Strongly Disagree	Disagree
A	Our teachers attend all their lessons				
B	Our teachers are always on time for lessons				
C	Teachers mark our exercises				
D	The teachers spend almost all the class time on the lessons with no time for practical work.				
E	I always attend my class lessons daily				
F	The Clothing and Textiles teachers are not innovative and resourceful				
G	We have enough teachers for clothing and textile science				
H	Our teachers administer tests and exams				
I	The school offers Seminars and field trips				
J	The teachers mostly do mere dictation of notes				
K	The teachers' scolding makes learning difficult for us in the class				
L	Inability to school authorities to provide materials needed for learning				
M	Lack of sufficient time to use instructional materials				
N	Inability of teachers to improvise instructional materials				

O	The teachers have schemes of work				
P	The teachers use their lesson plans for teaching				

SOURCE: Field data 2018

## SECTION C

What is the level of availability and adequacy of equipments in the clothing and textile science department at your school?

	Item	Strongly Agree	Agree	Strongly Disagree	Disagree
1	We have a well-equipped laboratory for clothing and textile				
2	Too many recommended texts to read do not allow room for the use of other materials				
3	Inability of parents to buy needed materials for learners				
4	Inability of teachers to improvise instructional materials				
5	We access our computer laboratory for learning				
6	Irregular power supply for using electronic materials				
7	We have adequate desks for studying				

Source: primary data

## SECTION D

To what extent do you agree with the following about the nature of curriculum issues posing as problems to the teaching and learning of clothing and textile science at your school?

	<b>on curriculum issues as a problem</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Strong Disagree</b>	<b>Disagree</b>
<b>A</b>	The syllabus is too wide				
<b>B</b>	The tests are always so difficult				
<b>C</b>	Clothing and Textiles demand too much of measurement and calculations				
<b>D</b>	Many of the topics are difficult				
<b>E</b>	There are no excursions or fieldtrips				
<b>F</b>	Lack of teachers' knowledge and skill to use the available materials				
<b>G</b>	Lack of sufficient time to use instructional materials				
<b>H</b>	Too many recommended texts to read do not allow room for the use of other				
<b>I</b>	The methods of teaching are not interesting				
<b>J</b>	The teachers attend to only those who know the subject				
<b>K</b>	Learners are not exposed to practical until the final certificate examination				
<b>L</b>	Lack of funds for the purchase of materials				
<b>M</b>	Inability to school authorities to provide materials needed for learning				
<b>N</b>	Inability of parents to buy needed materials for learners				
<b>O</b>	Inability of teachers to use instructional materials to make learning motivating				

P	The Clothing and Textiles teachers do not teach the subject very well				
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**APPENDIX II: INTERVIEW GUIDE FOR HEAD TEACHERS AND DEPUTIES**

1. For how long have you been working at this school?.....
2. How many teachers do you head in this school?.....
3. How is the Teaching and Learning of clothing and textile science conducted at Mengo Senior School?
4. To what extent is the availability and adequacy of equipments in the clothing and textile department of Mengo Senior School?
5. What are the curriculum issues that pose problems to the teaching and learning of clothing and textile Science at Mengo SS?

.....

Thank you very much and may God bless you.

**APPENDIX (VI)**

**TABLE 2: SHOWS THE TECHNIQUES FOR SAMPLE SELECTION OF THE  
RESPONDENTS**

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
<b>80</b>	<b>66</b>	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

*Source: Krejcie and Morgan (1970)* Note. -N - is population size, S- is sample

**APPENDIX (VI): INTRODUCTORY LETTER**



**KYAMBOGO UNIVERSITY**

P. O. Box 1 Kyambogo, Phone: 041-285001/2 Fax: 041-220464

www.kyambogo.ac.ug

FACULTY OF VOCATIONAL STUDIES

DEPARTMENT OF ART & INDUSTRIAL DESIGN

**MASTERS IN VOCATIONAL PEDAGOGY PROGRAMME**

28<sup>th</sup> September, 2017

TO THE HEADMASTER  
MENGO SENIOR SCHOOL



**RE: INTRODUCTION OF BAGABO ESEZA.**

This comes to introduce to you BAGABO Eseza a student of Masters in Vocational Pedagogy (MVP) Programme at Kyambogo University. This student bears registration no. 16/U/14003/GMVP/PE and in her final year. As a requirement for graduation, this student is expected to carry out Action Research through a collaborative process with World of Work.

Any support rendered to her is highly appreciated.

Looking forward to your usual support.

Yours Sincerely,

**Chris Serwaniko**  
Project Coordinator, NORHED MVP Program  
Masters in Vocational Pedagogy Program