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The use of Computer Program in Teaching and Learning Pattern Making: Drafting

EVA ONYINYE ONYEKA
Department of Computer Science, School of Secondary Education,
Federal College of Education, Zaria, Kaduna State
08035761796

ABSTRACT

Computers have led to the development of new technology for which fashion has not been left out. One of the expectations of graduates of Home Economics Education in the Federal College of Education, Zaria is to enter into gainful employment with the carrier and technical training they have acquired. Information and communication technology tools are not applied in the teaching and learning of clothing and textile in the area of study as a result of that they find it difficult to understand pattern technology, garment technology and Fashion illustration. In spite of the importance of Clothing to man as food and shelter, students still find it difficult to cope with Clothing and Textiles education in Federal College of Education, Zaria. The paper recommends that, the Management should be well focused and persists in the support on the uses of ICT in teaching and learning so that students will show positive attitudes towards using computer program on learning pattern drafting. And the practical teaching hours in pattern drafting, garment construction and cutting out be increased.

Keywords: *Teaching, learning, Computer, Pattern Drafting.*

Introduction

Computers have transformed the way people conduct business and perform their daily tasks. Now with computers one can draw, paint, make dress patterns and do a lot more. Computers have led to the development of new technology for which fashion has not been left out. Now, in the advanced countries most of the fashion and textiles illustration processes have been computerized which makes work fast, convenient, cost effective and increases productivity. Many software are available to fashion designers to perform various tasks namely fashion research, fashion design and illustration, pattern design, patternmaking, textile design, garment construction and production management, marketing and sales. Williams and Agbo (2013) indicated that there is scarcely a field of human activity today that has not been touched by the dramatic changes in information and communication technology (ICT) for the past 10-15 years. The fields of Clothing and Textiles are no exception.

Most developed countries like France, China, and United States of America, developed their economies through the fashion and textiles industry (Biney-Aidoo and Antiaye, 2013). The Fashion and Textile industry therefore can be a strong economic force in the country's development when given the needed attention right from the training institutions before students get into the world of work.

Teaching involves the setting up of activities using various method and tools to enable somebody learn something which can improve the person's way of life. Teaching therefore requires special training, instrument and tools arranged in a systematic manner for learning to take place and meet stated objectives (Akubue and Chukwu, 2016).

Learning according to Mayer (2006) is the act of acquiring new thing, knowledge, idea and modifying and reinforcing existing knowledge, behavior, skill and values. It involves synthesizing different types of information and good orientation. Learning may occur as part of personal development, training, school activities through various tool and technologies. Information and communication Technology (ICT) tools forms important channel of improving learning today.

Akubue and Chukwu (2016) opined that Information and Communication Technology (ICT) encompasses a diverse set of technological tools to identify and organize data and information. It involves a wide range of technologies which include telecommunication, technologies such as telephone, television, video

conferencing and computer-mediated conferencing (Kumer, 2011). He also noted that digital technologies such as computer information network such as internet and World Wide Web and software application are parts of information and communication technology tools which can be applied in teaching and learning of clothing and textiles. World Bank (2006) reported that ICT consists of hardware, software, network and media for the collection, storage, processing, transmission and presentation of information. Olayanju (2007) asserted that ICT is fast gaining prominence and becoming the most important element defining the basic skills of students. Information and communication technology tools are not applied in the teaching and learning of clothing and textile in the area of study. Teaching and learning of the course are skill based on analogy method and measure and cut with tapes, scissors, clippers, yard sticks among others. These traditional methods waste time, generate large quantity of fabric wastes and scraps are inaccurate sometime. The use of information and communication Technology fasten both practical and theoretical teaching and learning of clothing and textiles, for instance, 3D full body scanner takes full body measurement in twelve seconds, 1phons, 1pad, you-Tube and my fashion Review teach comprehensive sewing of clothes from novice to expert (Akubue and Chukwu, 2016).

Pattern Making is an art. It is the art of manipulating and shaping a flat piece of fabric to conform to one or more curves of the human figure. Pattern making is a bridge function between design and production. A sketch can be turned into a garment via a pattern which interprets the design in the form of the garment components (Cooklin1994).Pattern refers to the plan of a garment which shows the shape of garment's pieces and gives indication on how to stitch garment pieces together. In summary, pattern is a paper or cardboard template from which the parts of a garment are traced onto fabric before cutting out and assembling. Pattern is used as a guide when cutting fabric for garment making (Victor).

A patternmaker typically makes a pattern from a flat sketch with measurements or a two dimensional fashion illustration. The basic pattern is the very foundation upon which pattern making, fit and design are based. The basic pattern is the starting point for flat pattern designing. It is a simple pattern that fits the body with just enough ease for movement and comfort (Shoben and Ward1999).

Methods of Pattern Making

Pattern making involves three methods:

i. **Drafting:** It involves measurements derived from sizing systems or accurate measurements taken on a person, dress or body form. Measurements for chest, waist, hip and so on, and ease allowances are marked on paper and construction lines are drawn to complete the pattern. Drafting is used to create basic, foundation or design patterns.

ii. **Draping:** It involves the draping of a two-dimensional piece of fabric around a form, conforming to its shape, creating a three-dimensional fabric pattern. This muslin is transferred to paper to be used as a final pattern (Armstrong). Ease allowances for movement are added to make the garment comfortable to wear. Advantage of draping is that the designer can see the overall design effect of the finished garment on the body form before the garment piece is cut and sewn. However, it is more expensive and time consuming than flat pattern making.

iii. **Flat Pattern Making:** It involves the development of a fitted basic pattern with comfort ease to fit a person or body form. A sloper is the starting point for flat pattern designing. It is a simple pattern that fits the body with just enough ease for movement and comfort (Shoben and Ward1999). Five basic pattern pieces are used for women's clothing. They include a snug-fitting bodice front and bodice back with darts and a basic neckline, a sleeve and a fitted skirt front and back with darts. However, as fashion changes frequently women's styles fluctuate frequently. These basic sloppers are then manipulated to create fashions. A basic sloper has no seam allowances, which facilitates its manipulations to various styles. It has no design interest, only construction lines are marked on it. It is necessary that the basic structure of a sloper should be such that adjustments can be introduced easily. For a good pattern making, accurate measurements are of utmost importance.

Advantages of Using Pattern in Garment Making:

1. It saves time (especially if garment will be mass produced).
2. It reduces fabric waste.
3. It provides correct fit to the body.

4. With pattern it is not difficult to cut complicated styles of garment.
5. Pattern provides record of used styles which can be reproduced when needed.
6. Pattern can be graded into different sizes.
7. It is very helpful when garment is to be mass produced.

Some Fashion Design Software Packages by Joyce, Vivian and Eunice (2013)

The computer can make the design from the scratch, using a tablet and stylus, with colour and texture. Software packages or programme for fashion designers satisfy a particular need such as apparel designing, pattern making/grading, fashion illustration and accessories designing. Some software programmes are made especially for some particular computers such as the Mackintosh. Some examples of modern computer software for the fashion industry are; Gerber, Lectra polygon, Apparel Computer Aided-Design (CAD), Snap Fashun, CADTERNS, CAD Fashion, Fashion Computer Aided-Design (CAD), Design concept 3D, Assyst Bullmer, Investronica, and APS-ethos embroidery software.

Textile designing software greatly aids the work of the designers and improves their potential and inventiveness as well. These software packages help the designer in the testing with the number of textures, colours and patterns for producing the perfect designs along with the availability of sketch backgrounds in concept boards, tools for repeating patterns, texture mapping and product renderings. Designs can be made faster and more precisely, available for designer's quick access. A few simple design software packages are Adobe Illustrator, Corel Draw, Poser among and others. Technical textile designing software has different yarn, fabric (woven & knitted) and motif designing options inbuilt in them. The new designed fabric can beeasily viewed in a fraction of seconds. Now - a - days latest designing software are integrated with looms, dobby and Jacquards. Wonder weaves, Reach technologies, Summa graphics, and Pro style are a few companies dealing with this software.

Garment designing Software's: 3D Scanning

Patternmaking Software and Virtual Garment Styling ranges are the major developments under this advancement. 3D Scanning: New techniques are continuously developed for the digitization of the human body and new tools are introduced for a more proficient use of the resulting data.

Nowadays, 3D scanning technologies are applied to different parts of the human body and systems are commercially available for the measurement of practically any surface area of the human body. Laser Scanning, White light scanning, Image processing scanning, Millimeter-wave radar, Digital tape measurement are different tool for body scanning in 3D. Instead of minutes, now within a few seconds only, body measurement work can be completed. Lectra Modaris, Tuka Tech are few companies dealing with these softwares.

Patternmaking Software's: Pattern making is a process of arranging all pattern pieces of garment along the fabric widths so as to achieve utmost marker efficiency. Initial practice of hit and trial by experienced tailors used to be very time consuming. To avoid fabric wastage is also very important in narrow profit competition. Latest CAD techniques have facilitated this work. 3D Modaris software by Lectra uses traditional pattern design tools to make pattern generation faster. Either creation from scratch or from existing patterns, grading reproducing traditional or advanced methods, checking using state of the art techniques; Preproduction tasks performed early in the development process is consequent time saving. Furthermore, Modaris can also calculate fitting and grading and helps to significantly decrease following back and forth checking and adjustments. With Modaris, internal and external communication is simple and thanks to its wide conversion possibilities. Tukatech, Gerber, Jindex, Optitex are few software used for Pattern Making as well as Marker Planning.

CONCLUSION

The use of information and communication Technologies is one of the most essential parameters in the improvement of teaching and learning. Nilin and Fatih (2011) opined that information and communication Technologies are significant catalyst in the restoration and development of education. Computer programs are powerful tools with which students can learn Textile skills in a low anxiety setting and interesting, rich and comprehensive input. Previous research shed light on the deep impact of using computer programs on learning skills in general. Students show positive attitudes towards using computer programs on learning Textile skills. At present Information and Communication Technologies are not used in teaching and learning of pattern drafting in Federal College of Education, Zaria.

RECOMMENDATIONS

1. For the active interpretation of ICT with education in Federal College of Education, Zaria, purchasing of computer hardwires, software's and video projectors must be preferable and adopted.
2. There should be at least one computer and data projector in each classroom and the entire classroom equipped with smart boards.
3. Lecturers and students should be given laptop computers for individual uses.
4. The Management should be well focused and persist in the support on the uses of ICT in teaching and learning so that students will show positive attitudes towards using computer program on learning pattern drafting.
5. The practical teaching hours in pattern drafting, garment construction and cutting out be increased.

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