ISSN: 0976-3031

Available Online at http://www.recentscientific.com

International Journal of Recent Scientific Research
Vol. 7, Issue, 7, pp. 12506-12510, July, 2016

International Journal of Recent Scientific Research

Research Article

ADVANCES IN APPAREL DESIGNING TECHNIQUES

Arya N., Jamal Z and Yadav N

Department of Textile & Apparel Designing, College of Home Science, CCSHAU, Hisar

ARTICLE INFO

Article History:

Received 18th April, 2016
Received in revised form 10th May, 2016
Accepted 06th June, 2016
Published online 28th July, 2016

Key Words:

Apparel, Designing, Techniques, Sketching, Sewing.

ABSTRACT

Apparel designing is an artistic and functional industry that helps to attire people while incorporating style. Fashion design goes beyond just a designer thinking of a garment, sketching it and then sewing it together. Apparel designing means to decide how a dress will look after construction and putting on by the wearer, by making plans, drawings or models of it. There are different phases that fall between the design concept phase (when the design sketch is made) and the construction or sewing of the garment particular apparel. The most important phase is use of technique for designing particular apparel. Here is a review about the basic techniques and advancements in apparel designing in the recent years.

INTRODUCTION

Apparel designing is an artistic and functional industry that helps to attire people while incorporating style. Fashion design goes beyond just a designer thinking of a garment, sketching it and then sewing it together. Apparel designing means to decide how a dress will look after construction and putting on by the wearer, by making plans, drawings or models of it. There are different phases that fall between the design concept phase (when the design sketch is made) and the construction or sewing of the garment particular apparel. The most important phase is use of technique for designing particular apparel.

Apparel Designing Techniques

There are two basic techniques that are used for apparel designing.

1. Flat pattern method
2. Draping

Flat Pattern Making

The most technical of all apparel designing techniques is flat pattern making. Most mass produced garments are cut from flat paper pattern, not from draped patterns. It is called flat pattern method of designing because all variations are done on the flat surface. A flat pattern is a paper or cloth set of garment sections. Each flat pattern section joins with another section of the flat pattern. When sewn together, the pieces make up a garment. Flat patterns are often created from slopers. Slopers are garment section templates consisting of seven standard sections: the front and back bodice (top), sleeve, front and back skirt, and the front and back pant. The pattern is made on paper by the individual himself or commercially by firms.
There are two flat pattern making techniques:

Drafting: The dictionary meaning of drafting is "to draw or sketch outline of something to be done". It is the ready size of any garment and does not include any allowances on the paper. It is a method of developing pattern from body measurements using standard drafting techniques. It is very reliable method to make master pattern that proves to fit exactly each part and all position. Success of drafting depends on the accuracy of the set of measurements and the appropriate drafting technique. The drafting is used to make variations as per the design.

Advantages: This is the most common and useful method when the garments are to be made as per the individual measurements.

a) Wide scope of designing as the basic drafting can be adapted to any design/style.
b) Individual fitting problems can be overcome by this method.
c) Inexpensive method when compared with draping

Limitations

a) The measurement needs to be taken very carefully for proper fitting.
b) It cannot be used on large scale as it is not made on standard measurements but on individual measurements.

**Corresponding author: Arya N*
Department of Textile & Apparel Designing, College of Home Science, CCSHAU, Hisar

c) It is a time consuming process as for each individual it is to be made separately.
d) It does not provide any information about the fabric, cutting for stitching as in case of paper pattern.
e) It is of no use for the illiterate people.

Standard/Commercial Paper patterns The standardized paper pattern is specially developed for a particular type of figure and has to be accurate as per the bust size of the population on the basic of anthropometric measurements. These paper patterns are adapted to various styles, changes and modifications but the basic fit of the garments conform to the master size. Therefore, standardization of paper patterns is done on the basis of the standardized anthropometric measurements and are made into stylized designs along with that instruction of cutting and specification of the fabric. The commercial pattern comes in many sizes and sold by different firms each using their own techniques to make these patterns, which are basically divided into two main kinds.

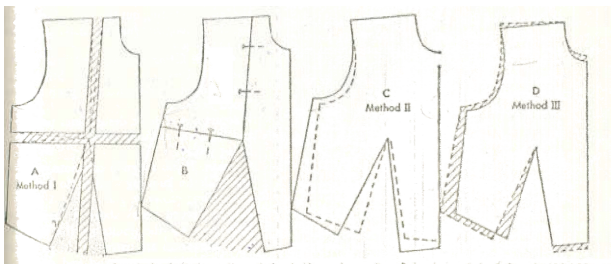
a) **Printed patterns:** This type has the cutting lines, fitting lines and all necessary instructions printed on the pattern.
b) **Perforated patterns:** Small holes are punched to mark all the important points of a ready cut pattern.
c) **Advantages:**
d) It provides the full information and it is less time consuming.
e) One can easily select the paper pattern of his own size.
f) People who don't know cutting or designing can also use it.

Limitations

1. The pattern cannot be tried on the figure to test size, fit and the total design effect.
2. These are feasible only where people are educated to read the instructions and the directions about the size, fit and total design effect are given on the pattern envelope
3. These are available according to standard measurements
4. There is little scope of designing as what so ever designs are available; we will have to choose among them only.

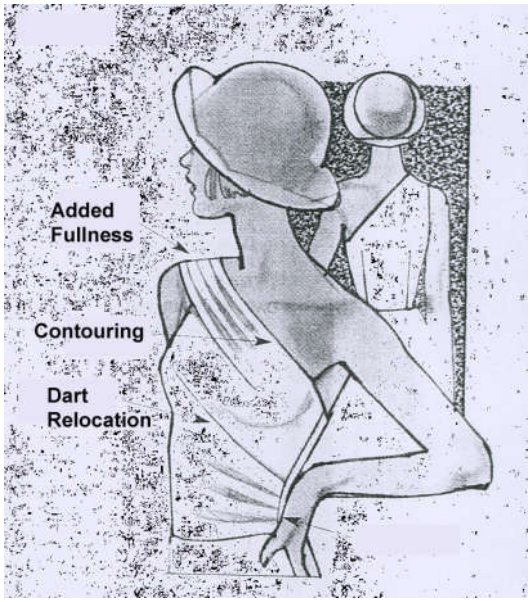
Pattern Alteration Techniques

Pattern can be manipulated and changed into other shapes in two ways – **through the slash-spread or pivotal-transfer techniques.** The slash-spread technique is easy to understand as it clearly illustrates the changes taking place. The pivotal-transfer method is equally reliable and less time-consuming, but it is more advanced.



Slashing & Spreading, Closing darts, Pivoting, Redrawing edges

Three Major Pattern Making Principles: Along with the manipulative skills needed in the flat patternmaking system, the pattern maker must also develop analytical skills. To do this the pattern-maker must be able to analyze the creative detailing of each design by studying the differences between the basic garments and the design. This involves knowledge of the three major pattern making principles: Dart Manipulation, Added Fullness and Contouring.



Draping: Draping is an artistic approach in which the person makes the pattern by fitting cloth to the curves of the dress form. Draping requires the use of a dress form and cheap fabric that closely resembles the fabric of the finished garment. Fashion designing using the draping technique is the smoothing, contouring and manipulation of fabric on a dress form to create a garment or pattern. Draping lets the designer see how her design concept will look on the body before it is sewn. Most designers who use the draping method will mark the seams and style seams on the cheap draping fabric, then cut the garment pieces from the fabric to create a cloth pattern for sewing the final garment. Some skilled drapers create the design on the dress form in the final fabric and construct it as they drape.

Advantages

1. The final outlook of the design can be seen on the dress form
2. Large scope of designing as designers can play with rough fabric on them and develop new designs according to their imagination.
3. Removes the inconvenience of constantly trying on the dress before sewing each seam.
4. The wastage of fabric can be avoided before stitching the final garment as through draping, the preview of the final product can be visualised.
5. This is the most suitable method for dress designer.
6. Fitting can be assessed easily.

Limitations

1. It is a time consuming process. It is an expensive method and not suitable for rural areas because It is not possible to carry dress form everywhere.
2. The commercial dress forms are available according to standard measurements which may not match with everyone.
3. Storage of dress form is a problem if there is less space.

CAD in the Design Process

Creating a flat pattern using CAD is the easiest and most advanced of all design techniques once one become familiar with the CAD system one is working with. There are different CAD software systems in the market; however the best come from Lectra Systems and Gerber Technologies. One of the easier ways to use CAD for flat pattern making is to take your slopers and plot or scan them into the CAD system. Once your slopers are loaded, the CAD software can then create practically any style of garment you wish. CAD can be used for many fashion design processes such as creating design sketches, technical drawings, garment specification sheets, story boards and prints for fabrics. Overall CAD saves the designer time during the design process; allows designers to develop even newer design ideas; shows the components in every design; shows prototype and makes it easier for the designer to make a change before producing the new design.

Use of CAD in Apparel designing: Pattern designing, making and grading, Garment Manufacturing, Draping, Virtual imaging

Clothing Pattern-Making Software

These pattern pieces can be digitally scanned into patternmaking software. Now with computer-aided design (CAD) software, patterns no longer need to be created by hand. Pattern-making software enables a designer or patternmaker to digitally draft the pattern pieces that make up a garment. Pattern-making software allows for quicker turnaround time for pattern correction or augmentation. In addition, pattern-making software simplifies the task of grading a pattern to fit different dress sizes. Less expensive pattern-making software applications are available for home sewers and small businesses; the software is designed to work on desktop or laptop computers. Some companies like Pattern Maker USA offer a downloadable free trial of their pattern-making software. Two widely used manufacturers of pattern-making software are Gerber Technology and Lectra Systems. Gerber produces the AccuMark pattern-making software and Lectra Systems produces the Modaris system.

Pattern Imaging Software: Pattern imaging software, also known as pattern making or pattern drafting software, is used to create one-of-a-kind patterns. One can create patterns on the computer with pattern imaging software. More specifically, users can input measurements and data, and the program will form an image or personalized pattern. Pattern imaging software can provide people who sew either at an intermediate or advanced level with a tool to create patterns specific to certain measurements for all genders, ages and sizes.

Brands: *Pattern Maker, OptiTex, Pattern Master, My Pattern Designer 2.0, Garment Designer, Dress Shop 7 Pro and Click and Sew all are brands of pattern imaging software. Prices are based upon skill level from beginner to professional.*

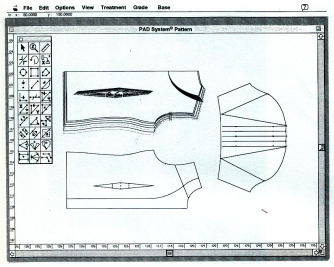
Garment manufacturing - (I) Specifications and Costing

This systems store style information including:

- Flat sketch
- Size spec
- Trim requirements
- Size grade charts

Garment Manufacturing (2) - Grading Systems

- The system automatically produce pattern shapes in all the pre-specified sizes



Garment Manufacturing (3) - Marker Making Systems

- Marker – arrangement of all pattern parts for max. fabric utilization
- The system indicates the percentage of waste
- Automatic matching of stripes and plaids is common to most systems

Texture Mapping (Digital draping): Developing 3D Models

- Texture mapping (digital draping) is a CAD tool that creates photorealistic 3D designs onto photographs to produce virtual products.

- It uses scanned in people, furniture or rooms and puts the product samples on them. Texture mapping involves selecting segments on the photo where a pattern will be applied.
- This creates a grid that maps the drape of the fabric.
- Texture mapping provides a library of product images cost effectively.
- Companies can react quickly to changing market demands.
- Can be used in place of sample development and photography of new products.
- Cost of materials, labour is eliminated.

Working with Virtual Products

- Designs can be created on virtual mannequins.
- The pattern can then be laid out in 2D.
- Construction details can be added – seam allowance, facings, darts.

CAD enables the 3D image to change automatically in real type as the pattern maker develops the pattern in 2D.The mannequin can be changed to customer's measurements.

Other Programs

- Dressing Sim is a CAD program that allows a virtual mannequin to move around on a virtual stage with wind and light effects.
- APDS 3D allows pattern makers to select patterns from a library of 3D styles and drape them on a form. The viewing and lighting angles can be changed.
- Other features of CAD systems include:

    1. Controlling the draping properties of fabric
    2. Developing 3D virtual catalogues

Virtual Cloth Simulation

The first accurate clothes simulation applications appeared in 1990s.Afterwards, numerous computer technologies were integrated that included clothes simulations and were focused mostly on modelling, Animation of human body motion, Interaction between body and clothes as well as its response.

Virtual Reality Clothing

Experts and researchers feel that new and more developed devices have to be developed in order to increase interaction for users. The few basic interactive devices like the keyboard and the mouse are really easy for any user to use. But they stop the user to completely enjoy sense of immersion. But for full proper virtual reality experience a user needs to fully forget the existence of this real world.

However there have been developments in such human-machine interfaces (HMI). The advanced HMI industry includes entertainment sector, academic field, and small VR field. These HMI devices use VR technology. These device are highly interesting when wore by users as because they even contains gloves and bodysuits. These gloves are termed by many as Data Gloves or Power Gloves. These are not general terms however to name these gloves. They are kind of weird and when the user interacts using these it makes weird gestures. These gloves don't work in the same manner.

Some of these gloves measure finger extensions through a series of cables made of fiber-optic. The light is passing through these cables from an emitter to a sensor. Depending on how the user moves his hands the amount of light changes. Thus it sends data to the CPU of the VR system unit. These gloves however need to be fully customized according to the individual using this. There are other gloves that use flexible material covered by a coat of an electrically conductive ink, which helps to measure the finger position of a user. The electrical resistance changes depending on the movement of the fingers of the user. The CPU shows the changes in data and hence these are far more accurate than fiber-optic gloves. These are also much less costly.

One can also use a dexterous hand master (DHM) glove if he is keen on accuracy and strong responsiveness. The DHM uses sensors that as tagged to each joint of your finger. They are joined with mechanical links and as a result these gloves work as exoskeleton. They are far more accurate than the fiber-gloves or those electrical materials.

Features

- Augmented reality visualization without glasses or other technical aids
- Combination of real and virtual parts in one world
- Visualization and customization of virtual products in real environments
- Visualize the look of new products without the need to actually put them on
- Possible applications of the system are the visualization of customized shoes, clothes, jewelry, glasses or hairstyles

Easy Methods for Designing Clothes

The fashion industry is a fast-paced, exciting and challenging business. With computer technology today, there are not only traditional methods available for clothes design, but a number of modern methods that can make designing your own line of clothes easier.

1. ***Sketch Book:*** Most fashion designers use a pencil and sketch book. This is still one of the simplest ways to take your design from idea to visual conception. Fashion designers keep a sketch book and pencils handy, ready to put their ideas on paper as soon as they get them.
2. ***Use Patterns for Inspiration:*** Beginning designers often use patterns purchased from a craft or hobby shop and make alterations to create something original. Using a pattern to create your own designs is ideal for someone just starting out in the business. Not only does this method give you a head start, it allows you to study the patterns as you re-work them into something original.
3. ***Fashion Design Software:*** Use a CAD (computer aided design) program or fashion design software for creating your fashion designs. These days, a lot of fashion designers do their initial ideas in a sketch book, then take the rough sketches into computer software to detail it. It's fun to see your designs come to fruition using computer software.
4. ***Design Online:*** This is a relatively new method of clothing design available for beginners and anyone who wants to create their own fashion. There are several online fashion design web sites that allow one to do complete designs online, save them and share them with other designers. Many of these websites will make your designs for you for a fee.

CONCLUSION

Designing clothes is a learned skill as much as it is an art. The difference between designing clothes and drawing clothes can be the deciding factor in your career. Designing clothes is conveying a lifestyle and creating silhouettes and colors and introducing fabrics that make up that lifestyle. Drawing clothes is simply drawing designs that come to mind. These Apparel designing techniques are critical to a fashion designer's concept being made into a garment. Each of these techniques serves the purpose of creating a style pattern that can be used to construct the designer's concept. It is important to remember that without using one of these techniques, it is almost impossible for a new fashion design concept to be made into a wearable garment.

References

Nosraty, H. 2008. Virtual Garment. *Textile Magzine.* 45-57.

Pascal, V. & Nadia, M. 2004. Thalman Virtual Clothing-Theory and Practice: 34(3). 34-56.

Pascal, V. & Fredric C, Nadia M, 2005. From early virtual garment simulation to interactive fashion design. Computer Aided Design: 37. 593608.

www.Fibre 2 Fashion.com (retrieved on 2 April 2016).

Amstrong H. J., Pattern Making for Fashion Design. 4th Edition. Pp 2-30.

****

How to cite this article:

Arya N., Jamal Z and Yadav N. 2016, Advances In Apparel Designing Techniques. *Int J Recent Sci Res.* 7(7), pp. 12506-12510.