CHAPTER 15

Role of Computer in Garment Industry

Y2KZE3

LEARNING OBJECTIVES

- **To learn about the use of CAD and CAM in garment sector**
- **To gain knowledge about various textile and fashion softwares**

15.1 Introduction

Computers have influenced every sphere of human life. Life has become easier and comfortable with the use of computer. In the field of garment industry, computers help to design, analyse and manufacture the product within a short span of time. The first step of garment production is designing. The designers do hand sketches, or drape fabric in a dress form. CAD software has begun to make inroads into the world of fashion and textile industry, enable mass customization, develop more designs, and facilitate to make frequent changes in styles and production. Computer Aided designing software not only provides the possibility to speed up the process of putting a new model into production and improve the quality of the products, but also reduces material costs and labour intensity.

Definition

Computer Aided Design (CAD) in fashion industry helps to create sketches, prototypes and designs of garments. CAD is essentially an automated system for the design, drafting, display of graphically oriented information and also used in the manufacturing process for layouts. It makes the work easier through efficient use of softwares.

15.2 Types of Cad System

The apparel industry has started using size designation systems, garment style, design, and colour combination to produce and sell ready-to-wear clothing. There are different types of CAD systems available in the market for the use of garment industry are as follows;

Digitizing systems

- Grading systems
- Sketching sheet
- Simulation and texture

XII TDD_English version CHAPTER 15.indd 223 1/13/2020 4:55:33 PM

- Design modification
- Marker Making Systems(MMS)
- Pattern Design Software (PDS)
- Pattern Generation Software (PGS)
- Body Measurement Software (BMS)
- Texture Mapping
- Embroidery systems
- Specification and costing systems

15.3 Application of Cad in Textile And Garment Designing

The fashion business is growing rapidly and brings great opportunities and challenges to textile and clothing enterprises. Apparel industries follow the trend of the international market and latest technologies for industrial up gradation. Many textile and fashion designers use CAD systems for creating textile and garment designing. The designer may start by hand-drawing a few rough images. Then, the rough images are scanned into a computer and final designing is done using CAD.

A designer uses CAD to modify design drafts and make changes. Depending on the type of textile designing, a designer use different types of CAD software. There are systems for designing as well as creating knitted, printed fabrics, illustration and sketch pad applications that allow a person to draw freehand directly on the computer. There are CAD systems that show a designer how a fabric might drape for a particular style of garment. Some CAD programs even design embroidery patterns.

CAD finds its practical utility in textile, apparel and fashion industry right from design initiation and production stage through lay planning, spreading, pattern making, cutting and finally sewing. Two-dimensional pattern design software's based on flat patternmaking techniques have been successfully explored for patternmaking, grading, and creating pattern libraries within software for future retrieval.

However, a further progress made in the field is three-dimensional (3D) software. It works in virtual environment permitting 3D visualization of drape and fit on virtual model or avatar. This method eliminates exhaustive process of physical sample generation. 3D scanning, mapping, customized avatars in accordance with specific anthropometric and facial features, customized garments are some of the innovative and exciting avenues available with CAD software packages. Enhanced productivity, competitiveness, and shorter delivery schedules can be guaranteed by linking design, manufacturing operations along with other preproduction steps of patternmaking, grading, and marking.

DO YOU KNOW? Why Enterprise Resource Planning (ERP) Software in Textile and Apparel Industry?

It is software that collects information from all sections of the enterprise, assists in planning and implementation of various functions relating to all departments

XII TDD_English version CHAPTER 15.indd 224 1/13/2020 4:55:34 PM

15.4 Cad Hardware and Software

Computer hardware and software can be described as follows;

- **Hardware**

  Computer hardware includes types of equipment such as the monitor, hard-drive, keyboard and mouse. Peripherals are added to the hardware to perform specific functions. Examples; Plotters, digitizing tables or printers.

- **Operating Systems**

  An operating system is a vehicle through which the hardware can read the software programmes. These operating systems are used in an organization with software programmes. Certain software programmes can only work on specific operating systems. Examples; Windows, Linux or Mac.

- **Software**

  Software programmes are written to perform different tasks. For example, Microsoft Office is usually used, for writing documents. Other software programmes, such as Corel Draw, are used to create or modify graphics images. Generic software programmes can be used in lot of disciplines. Corel Draw can be applied for design in Graphic Design as well as Fashion Design. For example, Stork is a software programme written exclusively for use in design.

15.4.1 Uses of Computer Aided Design (CAD) in Different Sector

Computer aided design software or CAD software is vastly used in some major sectors of today's technological areas;

- Fashion design sector
- Apparel sector
- AEC i.e. Architecture Engineering and Construction sector
- ECAD i.e. Electronic and electrical sector
- MCAD i.e. Mechanical sector:
  - Aerospace
  - Automotive
  - Machinery
  - Consumer Goods
  - Ship Building

15.4.2 Different areas of Textiles where CAD systems are used

Textile designing is a technical process which includes different methods of textile production. It includes both surface design and structural design of a textile. The textile designer must have knowledge of yarn making, weaving, knitting, dyeing, finishing processes and also knowledge about different types of looms, knitting machines and printing processes.

Following are the types of software developed for various textiles weave design;

- Design Dobby
- Adobe Illustrator
- C-Design Fashion
- Vetigraph
- Corel DRAW

XII TDD_English version CHAPTER 15.indd 225 1/13/2020 4:55:34 PM

- Fashion CAD
- Inventor
- Weave It
- iWeave It
- Grid 'N Weave It

15.4.3 Types of Textile and Fashion CAD Software's

I. 2D CAD softwares available in the clothing industry are;

- GRAFIS from Software Dr. K. Fridrich
- Audaces Apparel Pattern from Audaces
- COAT from COAT-EDV System
- PAD Pattern design from PAD System Technologies Inc.
- TUKACAD from Tukatech
- CAD Assyst from Assyst
- Fashion CAD from CAD CAM Solutions
- Modaris from Lectra
- Accumark from Gerber Technology.

II 3D CAD software for the clothing industry are

- Modaris 3D Fit from Lectra
- Virtual fashion from Reyes Infografica
- Vidya from Assyst-Bullmer
- AccumarkVstitcher from Gerber
- 3D Runway from Optitex
- Haute Covture 3D from PAD System
- Design concept from Lectra
- Vstitcher from Browzwear
- EFit Simulator from Tukatech.

III Classification of 3D CAD System Used in Apparel Industry

- Combined Techniques
- 3D modelling and 2D pattern unwrapping
- Digital draping
- 3D simulation of 2D patterns
- 2D sketch-based 3D simulation
- Reactive 2D/3D design technique.

The textile and apparel industry comprises a complex network of interrelated sectors that produce fibres and yarns, fabricate cloth, finishing, dyeing, printing and apparel manufacturing. Computer technology is one of the most important tools contributing to the significant advancement of this industry.

15.5 Types of Cad Systems

- Textile design systems
- Knitted fabrics
- Printed fabrics
- Illustrations/ Sketch Pad Systems
- Texture Mapping: 3D Draping Software
- Embroidery systems
- Textile Design Systems

YWDTF3

Textile design is the process of developing designs for woven, knitted or printed fabrics or surface ornamented

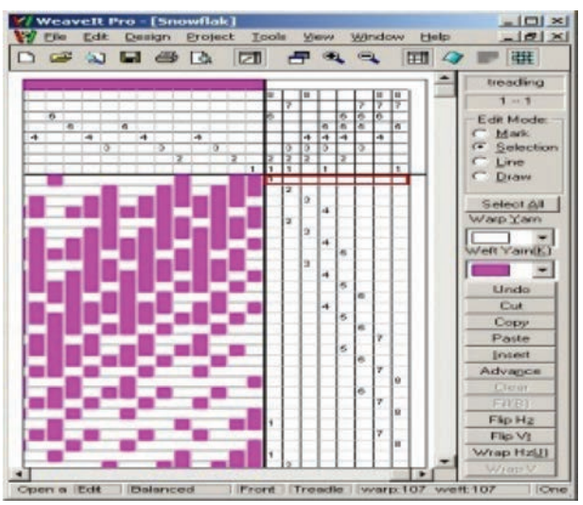


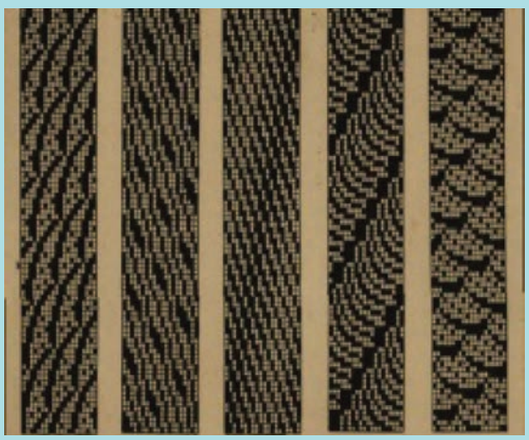
Figure 15.1 Textile Design System

XII TDD_English version CHAPTER 15.indd 226 1/13/2020 4:55:34 PM

fabrics. Textile designers are involved with the production of these designs. The designs developed are then used on Textiles and clothing materials.

What is weave Library?

Weave library create any weave structure virtually. Predetermined weave designs are stored in weave library. New weave patterns can be created and stored. One or more number of weave structures can be combined in one inch fabric



- **Knitted Fabrics**

The specialized CAD software is also available for knitwear design. Indication of all knit stitch formation can be viewed on the screen. CAD program produces a pullover graph and it specifies the information on amount of yarn needed by colour for each piece.

The other example of the new technology in the industries is using a yarn scanner. It is attached to the computer and it scans a thousand meters of yarn and then simulates a knitted fabric on-screen. This simulation shows how the fabric will look when knitted using the selected yarn.

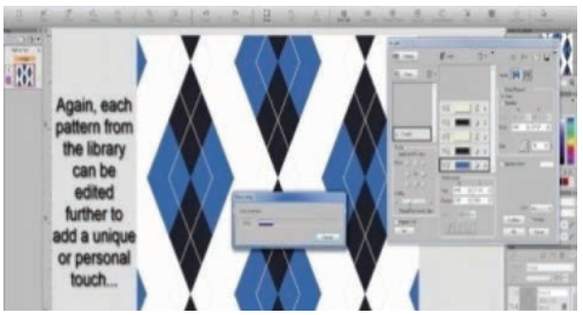


Figure 15.2 Knit Fabric Pattern

- **Illustrations/ Sketch Pad Systems**

Sketchpad is an innovative computer program. It has graphic programmes that allow the designer to use pen or stylus on electronic pad or tablet. Freehand images can be created and then stored in the computer. Using this sketchpad, a lot of different knit and weave simulations can also be created and stored in a library. Later the stored designs can be selected and pasted over the sketches to show texture and dimensions.

- **Texture Mapping : 3D Draping Software**

Texture mapping is a graphic design process which shows the visual effects of fabric on the body. In this system, the fabric can be draped over a form in a realistic way. The designer starts with an image of a model wearing a garment. Each section of the garment is outlined from seam line to seam line. The swatch of a new fabric is created in the textile design system and laid over the area. The computer automatically fills in the area with new colour.

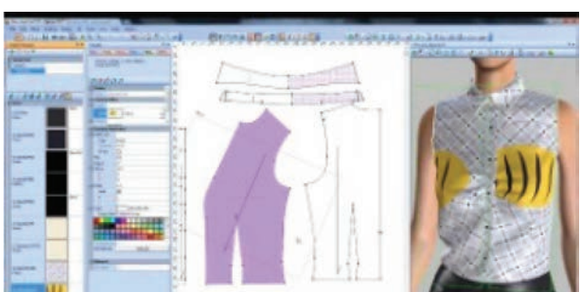


Figure 15.3 Texture Mapping Software

XII TDD_English version CHAPTER 15.indd 227 1/13/2020 4:55:34 PM

Embroidery Systems

The embroidery design software is used for mass producing the home and commercial embroidered textiles. The designs used for embroidery can be incorporated on the fabric for making garment. Designers can create embroidery designs or motifs straight on the computer. Colour of the design and embroidery stitches is defined. Several combinations of colour and stitches are possible in this system.

Figure 15.4 Embroidery System

Digitizing Systems

Digitizing is a process of adding details to an original pattern or sloper in the computer. The pattern can be prepared by marking the notches, by defining the series of selected points around the pattern. These basic patterns can be manipulated with the help of specific tools in the computer. For example in case of trousers, darts can be moved and pleats can be created, also new designs can be created on screen from pre-existing pattern.

Figure 15.5 Digitizing Software

Grading Systems

Pattern grading is the process of turning base size or sample size patterns into additional sizes using a size specification sheet or grading. It is simply increasing or decreasing the size of patterns. Production sample meant for approval is normally medium size but if the buyer requires different size then the patterns are graded to Small(S), Large (L), Extra Large (XL), Double Extra Large (XXL).

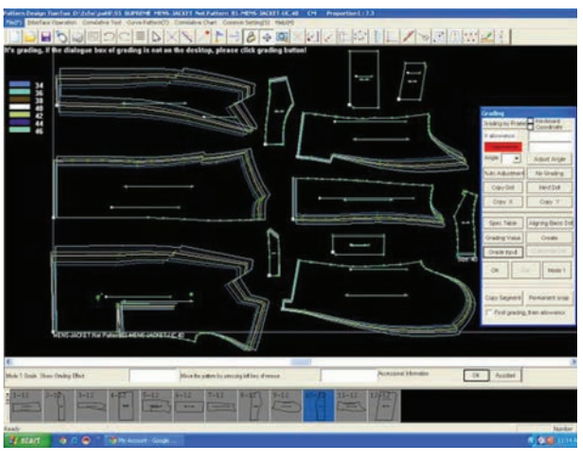


Figure 15.6 Grading System

Marker Making Systems

A marker is commonly done on large thin paper. It holds all the size of pattern pieces for a specific style of garments. Computerized method is the best and

Figure 15.7 Marker Making System

XII TDD_English version CHAPTER 15.indd 228 1/13/2020 4:55:34 PM

most popular method of marker making which makes the efficient marker. This method ensures minimum wastage of fabric. On plain fabric marker making is relatively simple but on striped fabric, matching of fabric requires utmost care. The Computer Aided marker making system is considered to be an easier way for preparing markers.

15.6 Advantages of Cad

Increasingly, CAD and CAM are considered as standard system used in the textile industry. These systems provide many advantages to textile designers and textile manufacturers. They are as follows;

- CAD allows the designer to be more creative
- Using CAD software, designers can create new sketches more quickly and precisely
- More accurate patterns with less chance of mistakes can be created
- Design can be digitally transferred directly into a CAM system
- It allows designers to graphically test ideas in real time without creating real prototypes
- Redrawing and Resizing of a garment can be done quickly
- CAD systems consumes less time
- CAD and CAM software's are being operated efficiently with expansion of the graphic memory allocation
- Every sector of the fashion industry from haute couture to the mass market has felt the impact of CAD
- CAD has become increasingly important that it has helped to secure a job in fashion design
- Designers can easily adapt a single design to varying materials and patterns, and build upon and also can alter existing designs to create new pieces
- CAD cuts down the cost by letting designers view virtual versions of finished products without the need of purchasing materials
- Designers can view the designs in both 2D and 3D using CAD and can make alterations immediately
- The designers can view the entire design history of their product
- CAD allows fashion designers to work smarter, and shortens the time taken between the initial concepts to the finished product.

15.7 Recent Development in Cad Industry

Modern computer-aided designing software provides the possibility to avoid small operations and manual work, to raise precision, productivity and organize information flow. Computer Aided garment designing system excludes the time consuming manual preparation of patterns, creation of layouts and also relocation of written information. The computer systems execute every single process and the integration of all processes into one joint flow, for the organization of logistics and the mobility of work tasks. The computerization of different processes in the garment industry is necessary to reduce the costs of a product and to raise the competitiveness.

XII TDD_English version CHAPTER 15.indd 229 1/13/2020 4:55:34 PM

Computerized designing systems use software specifically designed for the development of industry specific objects, input and output of graphics, scanners and other remote devices. Computer systems allow making two-dimensional and three-dimensional product illustrations and visualizations. It is possible to create computer-aided garment patterns, gradations, and a virtual pattern. Such computer-aided operations significantly save time and costs necessary to design a product. The cost of a product can be calculated with the help of the product management systems of the company stored in a database.

Recently, a variety of CAD systems have been widely used in the field of fashion. The software system like Lectra gives a comparative concentration on the integration of CAD software. The system has adopted new strategies to expand its technology and provide a system of simulation for the entire textile industry from yarn and textile design; manufacture of virtual goods and to the ready-to-wear since 1998. It represents the direction of development of a new generation of textile and clothing in computer aided design.

Assyst Bullmer system can simulate three-dimensional effect which can give the design structure and fabric. It also has more than 400 different kinds of databases for optional format-making, picturizing and modifying. It can make a format automatically and according to the actual size, it can change the size freely. The system also has intelligent database, which can make styles quick and efficient. Spanish Investronica system has made more effective efforts in the application of artificial intelligence and other technologies.

15.8 SUMMARY

Computers play a major role in the Apparel Industry. Right from designing to manufacture of garments, specialised CAD and CAM systems are utilised. Newer designs can be created and stored for future use also. Mass production of textile and apparel goods require CAD and CAM systems to reduce the lead time for delivery of goods. In the era of globalisation, there is a great competition for the apparel manufactures to deliver goods in international standards. Use of advanced CAD and CAM systems is the smartest way and the industries could cater to the huge demand of textiles and apparel goods.

POINTS TO REMEMBER

- In the field of garment industry, computers help to design, analyse and manufacture the product within a short span of time.
- CAD software has begun to make inroads into the world of fashion and textile industry, enable mass customization, develop more designs, and facilitate to make frequent changes in style and production.
- The apparel industry has started using size designation systems, garment style, design, and colour combination to produce and sell ready-to-wear clothing.

XII TDD_English version CHAPTER 15.indd 230 1/13/2020 4:55:34 PM

- The fashion industry is growing rapidly and brings great opportunities and challenges to textile and clothing enterprises.
- CAD finds its practical utility in textile, apparel and fashion industry right from design initiation and production stage through lay planning, spreading, pattern making, cutting and finally sewing.
- Computer hardware includes types of equipment such as the monitor, hard-drive, keyboard and mouse.
- An operating system is a vehicle through which the hardware can read the software programmes.
- Textile designing is a technical process including different methods for production of textile.
- The textile and apparel industry comprises a complex network of interrelated sectors that produce fibres, spin yarns, fabricate cloth, and dye/finish/print and manufacture apparel.
- Sketch Pad has graphic programmes that allow the designer to use pen or stylus on electronic pad or tablet.
- The embroidery design software is used for mass producing the home and commercial embroidered textiles.
- CAD and CAM are considered as standard system used in the textile industry.

ACTIVITIES FOR TEACHER

- Can show how the CAD Software is been used.
- Can show how the different types of CAD systems work

ACTIVITIES FOR STUDENTS

- Can learn how the CAD software is used in the Textile Industry.
- Can do embroidery using the Embroidery Design Software

INTERNET RESOURCES

https://www.youtube.com/watch?v=-2ygIZak6BE	CAD software for Students: Learn assembly modeling techniques with Solid Edge
https://www.youtube.com/watch?v=MaRkMhazpUI	Choosing 3d printing CAD software

XII TDD_English version CHAPTER 15.indd 231 1/13/2020 4:55:34 PM

GLOSSARY

Computer Aided Design	Helps to create sketches, prototypes and designs of garments.
operating system	It is a vehicle through which the hardware can read the software programmes.
Textile design	The process of developing designs for woven, knitted or printed fabrics or surface ornamented fabrics
Sketchpad	Graphic programmes that allow the designer to use pen or stylus on electronic pad or tablet.
Texture mapping	A graphic design process which shows the visual effects of the fabric on the body. In this system, the fabric can be draped over a form in a realistic way
Pattern grading	The process of turning base size or sample size patterns into additional sizes using a size specification sheet or grading.

QUESTIONS AND ANSWERS

PART – I
Objective Questions

1. CAD is a _____tool that enables you to make quick and accurate drawings with the use of a computer.
   a) Electronic
   b) Current
   c) Software
   d. Hardware

ZBWNGE

2. This can be used for design in graphic design as well as fashion design.
   a) Photoshop
   b) CAD
   c) Corel draw
   d) None of the above
3. The points at which the pattern has to be increased are_____
   a) Growth points
   b) Edges
   c) Side points
   d) Bottom line
4. Pattern designing software is wide spread in_____
   a) Germany
   b) Italy
   c) India
   d) Both A and B
5. The data can be easily stored, transmitted and transported through
   a) Hardware files
   b) Software files
   c) Computer files
   d) Both A and B
6. This can be done by defining the X, Y co-ordinates of series of selected prints around the pattern.
   a) Digitizing Systems
   b) Embroidery Systems
   c) Sketch Pad Systems
   d) None of the above

XII TDD_English version CHAPTER 15.indd 232 1/13/2020 4:55:34 PM

PART – II
Answer in Three (Or) Four Points

1. Define CAD.
2. Explain Grading System.
3. List the areas of Textiles where the CAD systems are mostly used.
4. Mention the application of Corel draw.

PART – III
Answer in a Paragraph

1. What are CAD Hardware and Software?
2. Explain the use of Pattern Making Software.
3. Write short note on Corel draw.
4. State the types of fashion CAD.
5. Discuss on the Hardware and Software used in Apparel Industry.

PART – IV
Answer in One Page

1. Account for the CAD system used in different areas of textiles and Fashion sector.
2. Enumerate the application of designing software.
3. Present the recent developments in Textile and Fashion CAD.

Answers for Objective Questions

1. (c) 2.(c) 3.(a) 4. (d) 5.(c) 6.(a)

XII TDD_English version CHAPTER 15.indd 233 1/13/2020 4:55:34 PM

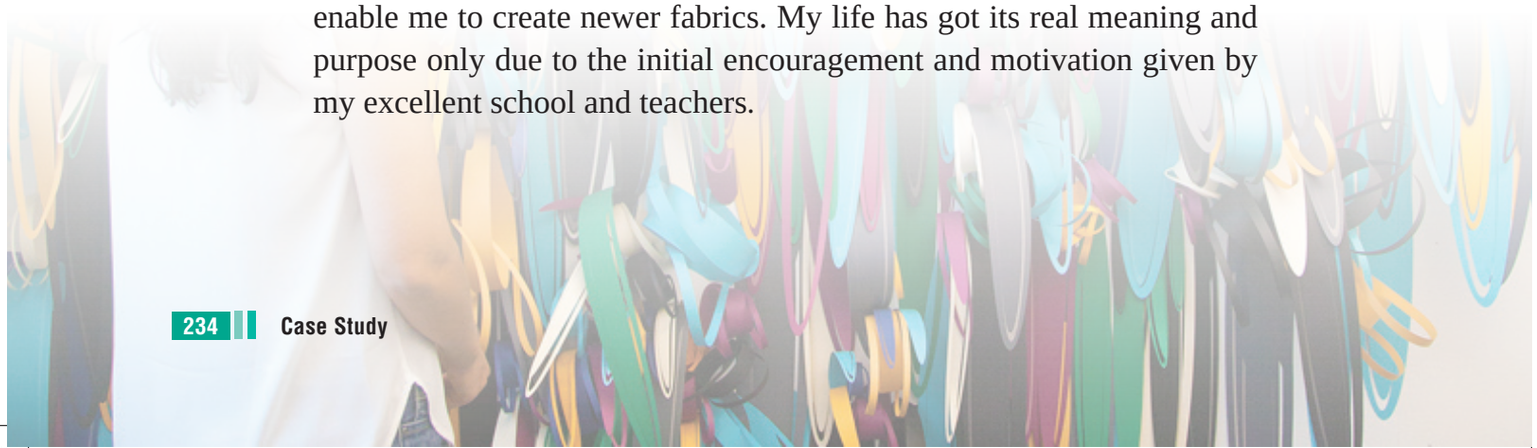
CASE STUDY 1

P. Dhanapriya
Research Scholar

Annai Sivagami Government
Girls Higher Secondary School,
Puducherry.

I joined Textiles and Dress Designing course under vocational group in my 11th& 12th std during the year 2009-2011 at **Annai Sivagami Government Girls Higher Secondary School**. In my plus two education I learned about different types of stitching, embroidery, pattern making and designing dress. The course increased my interest towards creating new varieties of fabrics to cater to different draping styles.

I joined B.Sc. Costumes Design and Fashion Technology course after completing 12th standard during the year 2011-2014. The UG program helped me to know more about costume designing and fabric formation, which enabled me to design my own dress, my relatives and friends in a very fashionable way. However to create unique costumes the regular fabrics in the market did not serve the purpose. Therefore I pursed my higher studies in M.Sc. Bio Textiles at Avinashilingam Institute for Home Science and Higher Education for women (Deemed to be University). This course facilitated me to create eco friendly fabrics which could be used for medical textiles apart from dress designing. The knowledge gained motivated me to continue my higher studies. Presently I am doing my Ph.D to gain more knowledge about the natural dyes and their application to create ayurvedic fabrics. Now I am able to pursue my passion which gives me self-satisfaction. I am sure my research will enable me to create newer fabrics. My life has got its real meaning and purpose only due to the initial encouragement and motivation given by my excellent school and teachers.



XII TDD_English version CHAPTER 15.indd 234 1/13/2020 4:55:34 PM

CASE STUDY 2

Pratiksha. N Parhar

Merchandiser

CSI Bain Matriculation Higher Secondary School, Kilpauk

It was in my 5th grade I realized a spark in me for fashion designing, trust me I was too young for that! Then when it was time for me to choose my further course after 10th boards, what better can I choose apart from Textiles and Dress Designing course in 11 & 12 grade! Being in Chennai I selected **CSI Bain Matriculation Higher Secondary School, Kilpauk** for my +2 education. It was my first step towards my dreams. Those two years helped me to lay a strong foundation in theoretical or practical knowledge for textile as well as fashion. It was a great learning! And also how can I forget the values taught by my teachers!

After which I joined International Institute of Fashion Designing (INIFD) and completed B.Sc in Fashion designing. Those three years were extremely amazing in terms of knowledge, as well as in terms of opportunities! I was part of many workshops and fashion shows. It gave me an opportunity to work with skilled people and designers. One such event was the Lakmé Fashion Week, in the year 2015, wherein my garment was selected for display. During the final year I also got an opportunity to do six months intership with designer Sonal Daga which helped me to gain practical knowledge, communication and management skills. In the final year I was awarded the best out going student! Well this was just the start of my career. After my higher education I choose the area of retailing to work with. I was selected as an intern in Zara through INIFD. I even got an opportunity to work in H&M as a visual merchandiser. I was able to learn about trend, outfits, styling and also the commercial aspect of a branding.

I further have plans to start my own Brand by keeping one thing in my mind that “Every day is a new learning and opportunity”.

XII TDD_English version CHAPTER 15.indd 235 1/13/2020 4:55:34 PM

CASE STUDY 3

K. Revathi
Entrepreneur
CGHSS, MH Road,
Chennai.

I joined Textile and Dress Designing, vocational course in my higher secondary education from 2002 to 2004 at **CGHSS, Chennai**. I found the course to be very interesting therefore I wanted to improve my skills in the same area. Therefore I joined an industrial school certificate course on needle work, dress making and embroidery. Later I started a tailoring shop and employed two persons to assist me. The secret behind running this shop successfully was my vocational training at school.

My dream is to become a tailoring teacher as I was inspired by my teacher at school. Due to family circumstances I was unable to pursue my goal. However my dream made me to join Technical teacher certificate course after ten years in 2015-2016. Now I have registered my certificate in Social Welfare Board. Through it I got orders to stitch school uniforms in bulk orders. This has given me ultimate joy and job satisfaction. I am able to pursue my passion and take care of my family simultaneously. My life has got its real meaning and purpose only due to the initial encouragement and motivation given by my wonderful school and excellent teachers.

XII TDD_English version CHAPTER 15.indd 236 1/13/2020 4:55:34 PM

CASE STUDY 4

M.Mareeswari

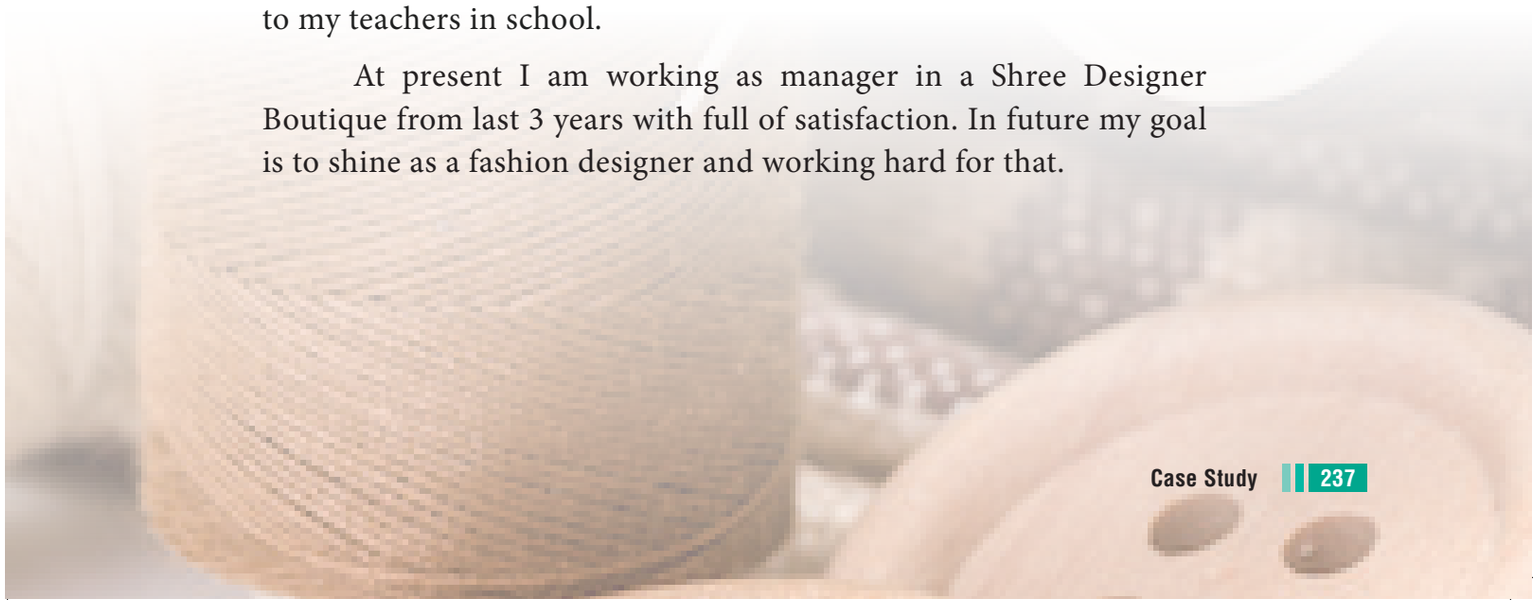
Designer

Nirmala Girl's Higher Secondary School,
Madurai

Being interested in garment designing I selected Textile and Dress Designing, vocational course as the subject to be learnt in my higher secondary course in 2013 in **Nirmala Girl's Higher Secondary School**, **Madurai**. This course helped me to acquire skills in designing and sewing on one hand and also gave me clear cut knowledge about different type of fabrics and their applications in the dress making. The course also added the concept of looking upon the irregularities of figures and means of giving a face lift to their looks through designing suitable dresses.

After my 11th and 12th, I took up B.Sc Costume Design and Fashion in Standard Fireworks Rajaratnam *College* for Women, Sivakasi. I noticed my fellow mates struggling to get the work done whereas I could go about doing it without much hassle due to the strong foundation laid during my higher secondary education. It is very important in designing that the foundation is set right and strong to know step by step procedures to go about making a garment. All practical and theoretical knowledge gain from my higher secondary course helped me to come across all battles in college and all thanks to my teachers in school.

At present I am working as manager in a Shree Designer Boutique from last 3 years with full of satisfaction. In future my goal is to shine as a fashion designer and working hard for that.



XII TDD_English version CHAPTER 15.indd 237 1/13/2020 4:55:34 PM

CASE STUDY 5

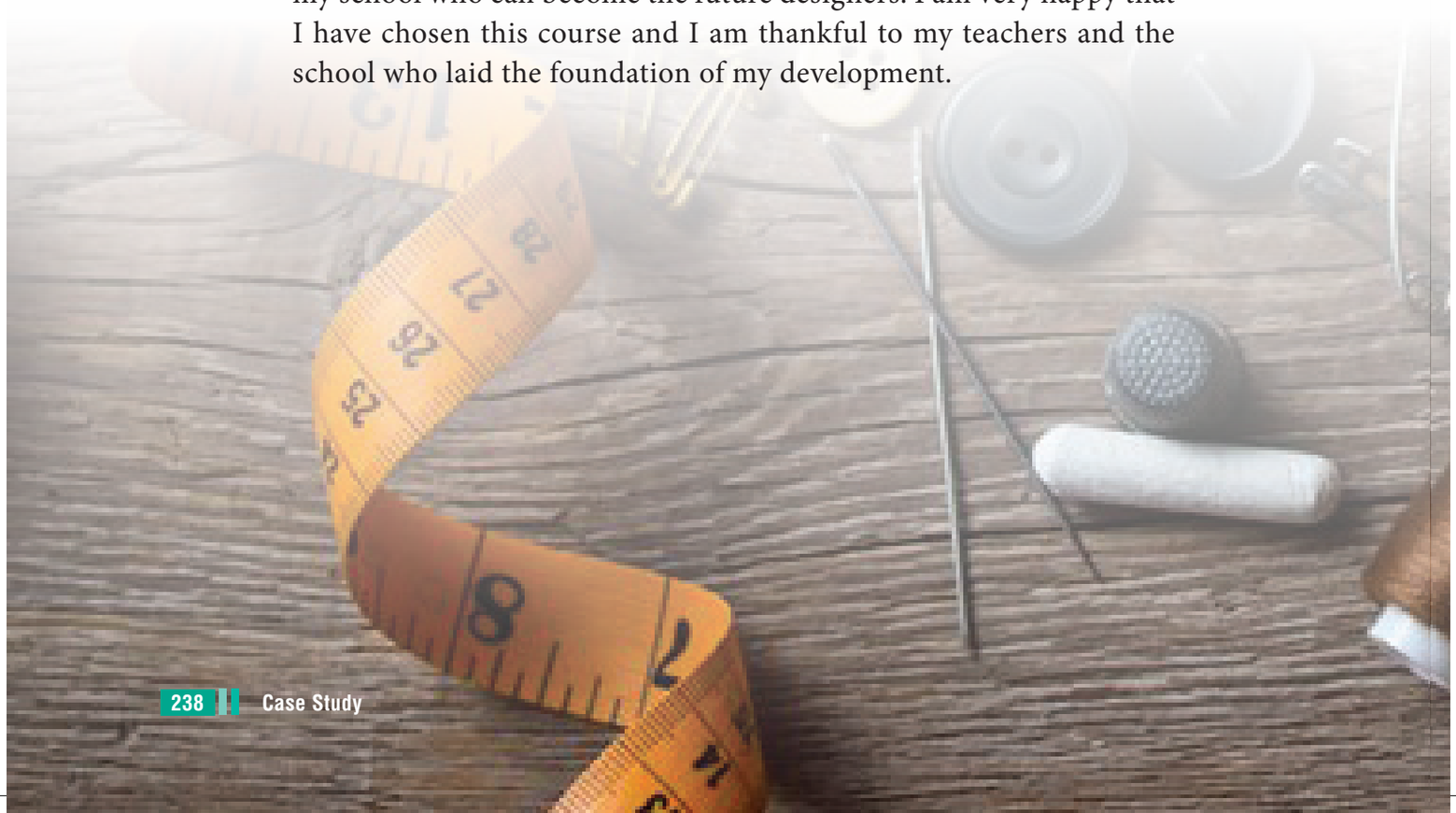
S. Manjula

Craft Teacher

Nirmala Girls Higher
secondary school, Madurai.

I studied the Vocational program Textiles and Dress Designing in my higher secondary at **Nirmala Girl's Higher Secondary School, Madurai,** during the year 1986-1988. Due to financial crises and family back ground I was unable to continue my higher studies. My curiosity in designing increased and my school teachers encouraged me in doing embroidery works during my school days. My interest in embroidery gave a turning point in my life.

With the support of my family and by the Gods grace, I have joined in Maharishi Vidhyala school as craft teacher. My strong foundation in dress designing and embroidery has enhanced my skills in imparting this knowledge especially to the young minds of my school who can become the future designers. I am very happy that I have chosen this course and I am thankful to my teachers and the school who laid the foundation of my development.



XII TDD_English version CHAPTER 15.indd 238 1/13/2020 4:55:34 PM

CASE STUDY 6

M. Maheswari

Teacher

T.E.L.C Girls Higher Secondary school,
Uslampatti, Madurai

Due to my in born interest in designing clothes, I took up Textile And Dress Designing as my Higher Secondary course at **T.E.L.C Girls Higher Secondary School, Uslampatti,** Madurai District during 1994-1996. I got high score in +2 therefore my parents advised me to study B.A Tamil. Later I completed M.A Tamil.

Then I got seat in B.Ed Tamil and realised that college is a place where you basically have to be independent, with more of self study and assignments to build your shill and gain knowledge. In B.Ed I was really glad that I was a step ahead from the rest due to my practical knowledge and skill from dress designing course. I noticed my class mates struggling to complete their practical work whereas I could finish it without much burden due to the strong foundation laid during my higher secondary education in 'Dress Designing'. At present I am happily working in school where I have studied.

XII TDD_English version CHAPTER 15.indd 239 1/13/2020 4:55:34 PM

CASE STUDY 7

T. Kasuthuri
Teacher
T.E.L.C Girls Higher Secondary
school, Uslampatti, Madurai

After my 10th boards in 1996, my parents wanted me to take up science and become a professional since I got high score in science. I had to fight battles to go against and take up Textiles and Dress Designing at **T.E.L.C Girls Higher Secondary School, Uslampatti,** Madurai district because that's what I wanted to do. After that I have completed Diploma in Teacher Certificate Course. With the Gods grace and the knowledge got from my school teachers, I have joined as a teacher in the same school where I studied. Presently I am working with full of satisfaction.

I am very grateful to my school and staff members who encouraged me and helped me to develop myself.

XII TDD_English version CHAPTER 15.indd 240 1/13/2020 4:55:34 PM