1. Introduction

During the fifteen years of my teaching experience in the Fashion department in the field of pattern making, draping and design of garments at the National Academy of Arts in Sofia, Bulgaria, my observation on the students’ work and their understanding of pattern making led me to different techniques of developing new forms and designs of garments.

Students are admitted in the Fashion department after serious personal training in drawing, and high scores on the entrance exam for the specialty, which consists of life drawing of a human figure in black and in colour. The second task of the exam is to design and draw an accessory inspired by an assigned object. The majority of them are coming from schools with general education and they don’t have any background knowledge on the real process of creating a garment.

In our program, pattern making is one of the main courses. Students start to learn how to create a basic form for all the classic garments of the female and male wardrobe. The course is taught during the bachelor’s and master’s degrees, starting from flat pattern making, and concluding with the learning of draping. During the study process students are expected to be very consistent, and great perseverance is required for the knowledge to be assimilated. Maintaining constant interest and consciousness along the process to the final result represents a big effort for them. That takes long group work, and learning without creating for a relatively long period of one semester can be confusing. Students are eager to start their own projects, and have difficulty to accept that learning pattern making is a process similar to learning a new language, in regards to the time and practice it requires.

My deep understanding of the profession of a fashion designer is to include the knowledge of pattern making, draping, and to combine it with the feeling and understanding of the relationship between the human figure and the garment. Knowing these principles allows them to freely make variations of the garment design. What is key in this method is acquiring the notion of how alterations in construction are applied to the final result. The main goal of this method is to arrive fast at the realization of the prototype. The first two years generally emphasize on the knowledge of producing the basic patterns, and are tailored to help students realize their fashion project. The knowledge they accumulate is responding to the skills they need for their fashion project to be realized. Nowadays, creating new constructions and forms plays a big role in a designer’s projects, and the quest for innovation is oriented towards the construction of the garments. This reflected on the devising of a new program, and made changes onto the semester projects. Instead of starting to work on experimental projects in 3rd year, students started to work with innovative forms from 1st year. The idea to adapt and transform basic shapes helped the students to
be more creative in their design process, and gave them freedom to be more innovative. My experience has shown me that it is very difficult for them not to be influenced by the images and the designs they are exposed to on the Internet, and instead of copying them, it is much easier to create a form by cutting and manipulating an existing basic pattern in different ways and go through the process to innovate the classical forms, so as to find new functions.

The idea to achieve three-dimensional forms by using flat patterns has been an inspiration in the process. Using experimental methods of making new forms expands the students’ creative thinking.

After the fashion decades of the 20th century, a new period of consumerism started affecting every area of the development of the fashion industry. Concerning pattern making, not only the silhouette, the length of the shoulder, or the skirt are changing. The influence of deconstructivism spreads to areas of art, including fashion. Most notably, that affects the appraisal of pattern making, which in turn gives birth to new forms and volumes. Inspiration can be found in the world around us, and there are so many different methods to develop new structures and design details.

Encouraging creative thinking in pattern making is positively received by students. The notion of using the strict classic system in pattern making is often considered difficult. Once they learn to create the basic blocks, they can start to play with all the basic principles. They can break the rules, be innovative, and are free to apply the accumulated knowledge to develop further ideas. By cutting, adding, and withdrawing forms on basic sleeves, bodice blocks, collars, and hoods, a new unexpected form can result in the idea of a new garment design.

In 1st year, after studying the basic patterns of skirts, students have to work on their own project for a skirt playing with geometric forms- a triangle, a rectangle, a square, and a circle. It was a very difficult path for them to take before finding a wearable skirt project consisting of these figures. That led me to the idea that students need experimental work in their education. However, this project must be limited to one or two figures, as incorporating more elements into the design can be more difficult for them in the beginning, and they need more assistance to be guided until the final project. It is important to allow them to test out their own ideas, because university should be the place where students develop their creativity and way of thinking. The students’ demand and expectation for the subjects they study is to learn all the innovations and meet new challenges. This different way of making them familiar with the disciplines syllabus maintains their interest in the subject, and helps them go further with the skills they build on the basis of this knowledge.

In the master’s degree the focus is put on the course on draping. In the last years I realized that students are more motivated if different methods are included during their studies. We started to mix methods and techniques, and to combine flat pattern-making with draping, to play with darts transformations, to incorporate different volumes. The study of various techniques encourages the curiosity and the interests of the students, and stimulates their workflow.

On the next pages are presented some examples of different sleeve silhouettes achieved by transforming a basic sleeve block. They are based on simple techniques - cutting, adding forms and volumes, using bias and straight grains.

2. The Sleeve Pattern Transforming Examples

2.1 Tulip form sleeve

The first example is a demonstration of how a straight short sleeve can be transformed into a type of balloon sleeve. The sleeve has been divided in three parts by a free drawn curve line which defines where the volumes will be added. The simple action of cutting, opening the cut lines, and adding supplementary value on the curved section gives volume on the desired place. By giving the same length of the curve on the opposite part that will be stitched up by cutting and opening, a balloon form will appear. The lower part will be cut on the straight line of
Fig 1. Tulip form sleeve

Fig 2-1. Semi-circle transformation (pattern)

Fig 2-2. Semi-circle transformation (costume)
the fabric and the upper parts - on bias to give a nice soft form. Even if the curves of the upper parts are longer, they could be easily stitched up with the shorter line giving an ease on the longer side.

2.2 Semi-circle transformation
Example 2 is a long straight sleeve. It is cut in seven parts with semicircles placed diagonally. The semicircles are cut and flared in order to form alternated convex and concave sections, creating varied volume on the upper side of the sleeve. The pieces are cut in bias to allow the material to take in the ease when it is stitched, and to form soft volumes. The length of the flared section could be different, according to the intended design.

2.3 A curve meets a straight line
Example 3 is based on the simple effect you achieve in stitching a curved line to a straight line. Here the block of a straight long sleeve is divided in three parts vertically. The middle part acts as a band that is making a concave form once stitched with the curved lines on both sides. It is good to follow the same principle as in the previous examples and cut the flared parts in bias, and then the ease is easily taken by the pieces cut on straight line.

2.4 Volumes on bias
Example 4 expands on the idea of the multiple possibilities of forms that could be realized by simple intervention, such as cutting and adding supplementary value on the flared parts. In the middle of the long sleeve a wavy line divides the block in two parts. Once the sleeve is divided in two, a few cuts are made on the convex parts of both details. By simple separation of the cut parts a flared pattern is obtained. Both are cut in bias which gives a nice wavy movement of the sleeve once the details are assembled.

2.5 Volumes from curves
Example 5 experiments with curves in a short sleeve that

![Fig 3. A curve meets a straight line](image)
Fig 4. Volumes on bias

Fig 5. Volumes from curves
New Sleeve Forming Methods Based on the Classic Sleeve Sloper for Increasing Creative Pattern Development Abilities

Fig 6. Cones sleeve

Fig 7-1. Sleeve in curved layers(pattern)

Fig 7-2. Sleeve in curved layers(costume)
shows a silhouette achieved by a strongly pronounced curve line. One of the parts is again cut and flared with added volumes on the convex sides. It is cut in bias to allow easier sewing with the other part of the sleeve.

2.6 Cones sleeve

The sleeve in example 6 draws inspiration from puzzle games. The three-quarter circles located on the middle of the sleeve will be transformed into convex shapes of cones. It is shown on the drawing that a bigger circle needs to be sewn on the smaller one and form a cone. The center of the base of the constructed cone is shifted away from the designated place of the base.

2.7 Sleeve in curved layers

Example 7 is cut in four parts, with three curved lines. Volume is given to three of the parts. The three sections are superimposed and achieve volume through facings stitched to the base of the sleeve and the form of the detail.

3. Conclusion

Education in high schools differs from that in professional colleges. Manufacturers in the fashion sector need better trained staff on several levels. Skilled seamstresses, tailors, dressmakers, pattern makers, cutters, and machine technicians are always in demand to meet the needs of the large sewing enterprises. The training of specialists is performed at colleges with professional orientation. Fashion designers and fashion pattern makers emerging from universities are supposed to have well rounded view and knowledge on different sectors of the fashion industry. Their education differs from that of narrow specialists. The broad spectrum of studied subjects as drawing, painting, history of art, fashion history, costume and fashion history, textile design, cad-cam systems, computer design, etc. give them broad knowledge on art and fashion. The acquired skills help them take up different positions in the field of the fashion industry, and gives them the ability and confidence to be rapidly trained in the special branch where they are employed.

The subject “Pattern Making and Draping” in universities is one of the main disciplines where students are expected to be well prepared and able to respond in design tasks. New technologies and methods for tailoring, and the mix between flat pattern making and draping is opening new horizons for the specialists in the field. What is sought on the market are prepared multi-skilled designers with a wild field of creativity, ready to respond to new challenges. Universities are the places to encourage new ideas, ways of thinking, and the flexibility to respond easily to the specific situation and demand on their workplace.

All in all, attention to detail has been given to garments in every epoch. Nowadays new forms are sought to make the silhouette attractive and unique. New methods and techniques emerge and encourage designers and young creatives to find their own way to construct original silhouettes, and build their own style. It is therefore important for students to be challenged in creative constructive thinking in the course of their education.

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