

CREATIVE PATTERN CUTTING EXPERIMENTATIONS UNDER PROJECTION OF SCAMPER TECHNIQUE¹

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ABSTRACT

While designers are converting their ideas into dress forms, they develop new and creative design solving techniques and pattern cutting methods. Creative pattern cutting based on draping technique is a process in which both design and technique go well synchronized and is also a very helpful way to improve design problem solving skills by fresh ideas. This technique contains implementations that allow to be formed on the body form instead of being sketched on the paper. The creative pattern cutting method allows combining the design quality of haute couture with the production technology of ready to wear, thus, more creative designs can be carried out more economically. The main focus of this study is to combine SCAMPER technique, which is one of the creative problem solving techniques, with creative pattern cutting which is based on draping method without sketching. A capsule collection consisting of fifteen outfits is created by using SCAMPER technique and draping method. Selected three models from this capsule collection is presented with all details. The study shows that the combination of the SCAMPER technique with draping method is useful to solve design problems. We recommend professional and amateur designers and scholars to use this combination in their problem solving processes.

Key Words: Creativity, Draping, Creative pattern cutting techniques, Scamper technique, analysis of design process.

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SCAMPER TEKNİĞİ PERSPEKTİFİNDE YARATICI KALIP HAZIRLAMA UYGULAMALARI

ÖZET

Tasarımcılar fikirlerini giysi biçim ve formlarına taşıırken; yeni, yaratıcı çözümler ve kalıp uygulama teknikleri geliştirmişlerdir. Drapaj tekniği tabanlı yaratıcı kalıp uygulamaları, tasarım ve tekniğin bir arada yürütüldüğü ve yeni fikirlerle tasarım problemlerini çözmeye becerilerini arttıran bir uygulamadır. Teknik, tasarımın kâğıt üzerinden ziyade, insan formu üzerinde gerçekleştirilmesine izin vermektedir. Yaratıcı kalıp uygulamaları, haute couture'ün tasarım kalitesi ile hazır giyimin üretim teknolojilerini birleştirmeyi ve böylece daha yaratıcı tasarımların ekonomik olarak sunulabilmesini sağlamaktadır. Çalışmanın amacı; yaratıcı problem çözme tekniklerinden biri olan SCAMPER tekniğini, eskiz yapılmadan drapaj tekniğine dayalı yaratıcı kalıp teknikleriyle birleştirmektir. Scamper tekniği ve yaratıcı kalıp uygulamaları birleştirilerek on beş parçadan oluşan bir kapsül koleksiyon hazırlanmıştır. Bu kapsül koleksiyondan seçilen üç model detaylarıyla sunulmuştur. Araştırma sonucunda, SCAMPER tekniğinin drapaj sistemi ile birleştirilmesinin tasarım problemlerinin çözümünde faydalı olduğu gözlenmiştir. Profesyonel ve amatör tasarımcılar ile araştırmacıların bu birleşimi, problem çözme süreçlerinde kullanmaları önerilmektedir.

Anahtar Kelimeler: Yaratıcı kalıp hazırlama teknikleri, Scamper tekniği, Tasarım süreç analizi, İlham ve moda

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Many designers and scholars agree that fashion design as an industry is not a process of creating art; even though new notions such as “wearable art” and “conceptual design” emerged in 1980’s. The clothing design process must certainly be done creatively, but it also has to offer producible, wearable and saleable products in the fashion market. Related to this point, Stroescu and Hawley (2014: 1) argue that “creatively harnessing the zeitgeist, or spirit of the times, and translating its influence into unique, timely, and marketable merchandise has been the key to survival of fashion-focused companies since the dawn of the twentieth century”. Pattern cutting is the most important step in this process of production, which enables design to be realized because the pattern establishes the product’s structure by combining wearable and saleable design aesthetic with functionality and manufacturability.

There are many different clothing design construction methods to realize design ideas. For instance, “someone begins with sketch, another begins 2D flat pattern, whereas others prefer to begin work with fabric by using 3D draping techniques” (Dieffenbacher, 2013: 14). Additionally, “clothing design is a demanding process which must address both aesthetic and technical issues. Achieving both visual allure and a precise fit are essential to the creation of successful apparel products. Many famous designers thus work closely with talented patternmakers because the pattern is invaluable to the fashion designer. It is as a plan to the architect” (Calderin, 2009: 162). Since it allows creation of garment shapes by forming and pinning fabric directly on a dress form, draping is a very common method among the famous fashion designers. This technique allows designers to quickly create or change the model on the dress form, because they can see how the model interacts with body. As stated by John Galliano: “It’s more like engineering than anything else. It’s finding the limits of what you can do when wrapping the body in fabric. Everything evolves. Nothing is strictly defined” (<http://stylecaster.com/fashion-quotes/>). Designers, pattern-makers, and scholars generally go through a similar process during draping. The process consists mainly of three phases: preliminary study, development process and finishing (Armstrong, 2013; Kiisel, 2013; Crawford, 2012). As Armstrong points out;

“Draping does not rely on the aid of a pattern to create designs, although a draper may choose to incorporate parts of an existing pattern in the preparation of the muslin to assist in the drape. It is also true that those using the flat patternmaking method may incorporate some aspects of draping in creating a specific design...it enhances the patternmaker’s ability to create design patterns accurately and within time constraints” (Armstrong, 2013).

Due to these reasons, creative draping techniques have improved the work of many highly regarded designers. Madeline Vionnet’s bias cut technique (Golbin, 2009: 15-20), Madame Alix Gres’s sculptural drapery technique, Charles James’s experimental-engineering technique, Rei Kawakubo’s deconstruction method

(http://www.style.com/trendsshopping/stylenotes/040113_Style_Print_Rei_Kawakubo_Comme_Des_Garcons), Sato's transformative cutting technique (<https://www.centerforpatternndesign.com/products/transformational-reconstruction>), Tomako Nakamichi's Bunka Style (Nakamiki, 2011) method based on fabric manipulation or Julien Roberts's subtraction cutting (McQuillan, Rissanen and Roberts, 2013: 39-49) have given us new opportunities in 3D pattern-making. While designers use many pattern constructing (drafting) methods, they also try to combine their preferred methods with new creative problem solving techniques such as brainstorming, lateral thinking, co-designing and etc.

Among these techniques, "SCAMPER is considered one of the easiest and most direct creative problem solving techniques. This technique is based very simply on the idea that what is new is actually a modification of existing old things around us" (Elmasy, 2015). It is a simple creative checklist invented by the American author Bob Eberle. Eberle created a mnemonic based on the work of brainstorm guru Alex Osborn (Reijter, 2015). The name SCAMPER is an acronym for seven techniques, it stands for: (S) substitute, (C) combine, (A) adapt, (M) modify, minimize or magnify, (P) put to another use, (E) eliminate and (R) rearrange or reverse (<http://litemind.com/scamper>).

AIM OF THE STUDY:

The aim of this study is to try combining draping method with the SCAMPER technique for generating creative pattern cutting experiments. As expressed by Fisher, the notion of our work can be framed that "designers who have been cutting patterns for twenty years can still learn something new, the process of learning never stops" (Fisher, 2008). For this purpose, we would like to try SCAMPER and draping techniques together in order to see how they work together. The main focus of the study is to combine SCAMPER technique which is one of the creative problem solving techniques, with creative pattern cutting techniques based on draping. The reasons for the selecting these two techniques are as follows;

1. Creative thinking and problem-solving methods are essential parts of the design process to turn ideas into innovation and break the barriers against creativity. The SCAMPER technique is one of such successful methods used in creative thinking.
2. While fashion designers are converting their ideas into dress shape and forms, they develop new, creative pattern cutting methods and design solving techniques. Draping is one of the most common and successful techniques in the fashion design field, which puts creativity into practice by obtaining pattern from the body form.

METHOD:

A capsule collection designed for avant-garde stylish young woman is created by using an experimental method. First of all, according to Erikson's stages of psychosocial development descriptions, "early adulthood is defined as a person in the age range of 20 to 39 years, middle adulthood is defined as a person in the age of between 34 and 60" (Cramer, FlynnandLaFave, 1997). Erikson's 'psychosocial' term is derived from the two source words - namely psychological (or the root, 'psycho' relating to the mind, brain, personality, etc) and social (external relationships and environment), both at the heart of Erikson's theory (<http://www.businessballs.com.html>). Related to this conceptualization, young adult woman in this study is presupposed to be in the age between 25 and 45, have a career at the upper middle class income, creative, open-minded and not yet married but in a romantic relationship; and have a modern wealthy life style with connections to famous people. She can afford designer and bridge category brands. According to fashion market, price point definitions are sorted as follows: luxury couture, designer, bridge, contemporary, better, moderate, budget, off-price (<https://www.weconnectfashion.com/articles/price-point-definitions>).

A capsule collection for adult young woman composed of interchangeable 15 items for spring and summer 2016 was designed. All pieces were made by following SCAMPER technique steps and creative draping method. First, mock ups were designed by muslin, and then every stage was criticized repeatedly and collaboratively. McKelvey&Munslow's (2003: 33) analysis steps of the design process (for example, creativity, shape, form, proportion, drape, construction, etc.) were considered for criticizing the models. After evaluating the capsule collection in terms of creative design principles and cost, models were sewn with suitable fine satin and chiffon fabric on the half scaled female dress form enhanced by Cegindir (2016). The half scaled female dress form is based on woman size 38 and embodied real female body shape and curves.

This study's samples are just three items selected from this small capsule collection, and include process (steps) from an idea to production. Chosen three models are cocktail/party dresses for avant-garde women. The capsule collection's theme is "protection" and is driven from a group of ancient armor suits that are selected from museum collections. We aim to interpret male driven metal protective gear "armor" for female through fabric. It emphasizes on controversial use of women's body in media, while abuse, threats and bad living conditions still remain for so many women. With this work we wish to demonstrate a powerful woman whose power is not based on wearing male driven metal gear but is arisen from her choices

and control over her body. We want to play with female body forms and beauty standards. Because of today's beauty expectations, women are trying to achieve and forced to have hour glass body shape. For this reason, each model contains panels to give a thinner waist line and extra side pieces on hips for exaggerating the body form. Every design selection, i.e. panels, lines, dart manipulations and use of bias cut technique give us an opportunity to alter the visual perception. By choosing this theme, we illustrate that protection is not necessarily a physical need anymore, like it was in ancient times, but it is a psychological need in modern life. Thus, SCAMPER technique provides us seven ways for adjusting ancient armor designs. Each ancient armor was selected from historical fashion illustration books (Grafton, 1995). On the other hand, draping technique gives us a significant opportunity to see the progression of obtaining the end-product during the design process.

As seen in Figure 1, in general, the creation of the capsule collection is composed of the following steps: First, mood board is prepared to guide collection design process. Second step is consisted of three sub-routines; a) brainstorming with SCAMPER technique to select which item should be regenerated, reformed, modified or eliminated; b) mock up with draping technique which gives us the opportunity to evaluate whether design idea works or not, c) cost analysis which supports us whether design could be bought or prepared for ready to wear. Finally, prototypes and technical drawings are generated for layout.

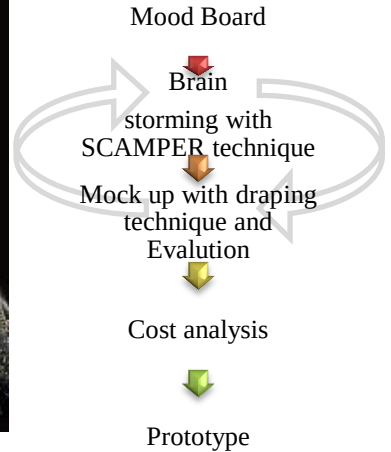


Figure 1: Summary of the capsule collection creation process

Table 1 shows us helpful SCAMPER technique questions that allow us to create the collection and guide the design process. Summary of the capsule collection process and selected three model layouts are given in Figure 2. During the creation of models, depending on substitute step questions, researchers follow the creative cutting and construction approaches like Japanese designers such as Issey Miyake, Rei Kawakubo, Yohji Yamamoto or like European designers such as Madeline Vionnet, AlixGres and Coco Chanel.

Table 1: Creative pattern cutting examples combining SCAMPER with draping technique

STEPS OF SCAMPER	HELPFUL QUESTIONS (For new design)	OUTCOMES
Substitute	Can I use an alternative a) structure, b) idea, c) different material?	a) Instead of intricate metal pieces, which were used in armor; pleats were designed for physical movability. Licra satin and chiffon are used for obtaining a softness and femininity instead of iron as a symbol of power and strength. b) Instead of physical safety of armor, garments were focused on physiological safety. c) Soft chiffon and licra satin were preferred instead of iron.
	Can I change parts?	Tassets, helmet & visor, gorget were changed for first model, pauldron & coulbar were re-generated for second model, and breast plate, helmet, knee cop & polyenes were modified for third model.
	Can I replace component?	Metal parts linked with sliding rivets were replaced with pleats in waistline while leather belts changed with zippers.
Combine	Can I combine a) objectives, b) products to create something new?	a) Symbol of physiological power linked with symbol of physical power. b) Missions of the armor which are covering the male body, protection from attacks and showing splendor; combined with female body, and softness as a dress.
Adapt	What can I copy, borrow or steal?	Armor' form was copied to dress design by decreasing its details and changing locations.

	Can I incorporate techniques & idea?	Armor smiting techniques incorporated with creative draping techniques.
	What is similar to my challenge?	Draping, folding and reforming techniques used by many designers such as Madame Vionnet, Gres or Kawakubo's.
	What other process can I adapt?	Haute Couture's production processes are adapted to ready to wear.
Modify	Can I magnify or minimize it?	Ancient armor parts such as "helmet, gorget, tassets" were modified for each model.
	Can I make it huge or tiny?	Visual perception was created by using bias cutting pieces on the hips and by wrapping vertical bias pleated drapes on the waist.
	Can I increase its frequency?	Increase in pleat drape frequencies were inspired by armor parts such as tasset's frequencies.
	Can I multiply it?	Although collection was prepared with Haute Couture process, it was reorganized by modifications for limited ready to wear market.
Put the Other Use	Can I use something from another industry?	Models were generated to be suitable as a costume for movie or theatrical productions.
Eliminate	Can I delete a part of the process?	Instead of sketching, models were defined on the dress form.
	What rules can I remove?	Dart positions and forms were designed more creatively rather than traditional calculations.
	How can I simplify my product or process?	Dart positions were changed and side seams were eliminated with bias tapes.
	Can I switch parts of the process?	Separate design (drawing, sketching) and production (pattern drafting and sewing) steps were changed and combined with each other.
	Can I change the sequence?	Technical drawings (flats) were done after the production.

As shown in Figure 2, models are created in alignment with Miyake's or Kawakubo's folding or intriguing construction, Vionett's bias cutting and Gress's sculptured draping techniques without sketching. All pieces of this conceptual collection are designed to draw attention to body proportion. Because, the proportion is an essential design principle stated by Chanel: "fashion is architecture. It is a matter of proportions" (<http://stylecaster.com/fashion-quotes/>), and expressed by Fisher: "proportions can be changed fairly easily using various construction methods via which moving a hemline, waistline, seam or dart position can dramatically alter the balance of width and length on an individual body shape. Choice of fabric texture and color can also add to the overall effect conveyed by the cut and shape of a garment" (2008, 14). The first model is based on folding techniques while the second model is focused on exaggeration of bust line by the combine step, and the hip line is magnified on the third model.

Stroescu and Hawley (2014), take on the economic aspects of fashion product design as follows: All companies or individuals involved in the creation, production, promotion, and sale of items should have these characteristics: (a) to have novel and specific aesthetic and functional properties, (b) to trigger psychological reactions related to desire and need, and (c) to be adopted by a group of people for a limited amount of time. The environment of today's fashion designers is characterized by increased competition, enhanced consumer awareness, and rapidly developing technology (Stroescu, and Hawley, 2014: 1). Also, as in the past "today's fashion industry addresses many economic levels, from low-priced budget products to bespoke products selling for tens of thousands of dollars each, and all price levels in between"(Keiser and Garner, 2012).

"creative pattern cutting has added cost implications such as expensive lays due to irregular shaped patterns that cause excessive wastage.market levels are differentiated through creative pattern cutting. High end designer fashion and couture can often be defined through innovative cutting, luxurious fabrics and exquisite finishes. These garments have to be toiled, fitted and sampled several times. This justifies their cost. The lower end of the market place, particularly fast fashion is limited by price constraints, with garments produced in inferior fabric" (2010: 15-24).



Figure 2: Layouts of selected three models

In order to minimize collection's cost, all models were created by taking into consideration the minimalist approaches like Gianfranco Ferre, Helmut Lang and Jill Sander. For example; Ferre states that he use the same approach to clothes as he did when he designed buildings and "It is basic geometry: you take a flat form and revolve it in space" (<http://stylecaster.com/fashion-quotes/>). This approach is preferred in "Combine", "Modify" and "Eliminate" steps while designing all three models in Figure 1.

By using cutting and construction methods in all models, upper and lower body parts are highlighted. Side seams and darts are taken out when it is possible and armor components such as tassets, helmet, gorget, breast plate, knee cop and etc. are used in models. Therefore, the model costs are suitable for better and bridge level of fashion market.

CONCLUSION:

Through this study, as seen in Table 1, Figure 1 and Figure 2, we realize that both SCAMPER technique, which is one of the easiest brain storming technique, and draping method, which is the best "creative" garment design cutting method, work well together. SCAMPER technique and draping cutting method provide us with successful solutions for design problems. The collection's cost was decreased by combining side seams and dart positions by minimizing parts of pattern detail and also both fabric consumption and craftsmanship for contemporary and better category of the market (it is referred as product created with lower-priced lines and fabric by designers). However, even though minimizing the collection cost is aimed, it is observed that due to fabric and craftsmanship costs and labor intensive creation process, the cost reduction is not enough to create a collection for economy class market.

SUGGESTIONS:

The main idea of the SCAMPER technique is the modification of existing things around us. Thanks to combining SCAMPER technique's questions with draping method, a new creative process for designers to generate new collections is formed. In addition, these techniques can help designers achieve sustainability in fashion by re-forming or re-generating old materials. We suggest that these two techniques can be used for fashion design and product development processes.

Chung and 12 university students evaluate different creative thinking approaches and present 24 products by using different combinations. SCAMPER technique is one of the approaches in the study and proven to be effective like our study (Chung, 2013: 213-220).

In the recent years, consumers have been included in the design processes all over the world and they demand new features beyond the traditional alternatives in the fashion industry such as aesthetics with conformity, originality with health, sensitivity and eco-friendship, quality with affordability. Therefore, today's designers must keep these demands in mind during their design process. That's why SCAMPER technique and draping method can be the solution for them. Both professional and prospective fashion designers can regenerate or reform their existing designs with seven ideas to find different solutions.

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