

# ENHANCED TURKISH MINIATURE FEMALE DRESS FORM<sup>1</sup>

## TÜRK MİNYATÜR KADIN GİYSİ FORMLARININ İYİLEŞTİRİLMESİ

Nese Yasar CEGINDIR

*Gazi University, Department of Fashion Design, Ankara-TURKEY*

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### ABSTRACT

Miniature dress forms are essential tools in both fashion design education and sector. They are defined as half scaled body forms and are used instead of full size body forms. In this study, it is focused on two steps. First one is explained that reforming and enhancing of traditional miniature female dress form used in Turkey and second one is demonstrated that testing and discussing of new female dress form's success. The miniature dress form was reformed by considering real female body curves and size 38 body measurements in chart that used some of Turkish fashion brands. Then, whether the expected success of basic bodice patterns on the enhanced dress form was tested according to fitting principles criteria. End of the study; find out that reformed and enhanced traditional female dress form is more successful than former for patternmaking process, considering time, material and final decision.

**Keywords:** Fashion Design Education, Miniature Dress Form, Half Scale Body Form, Miniature Mannequin.

### ÖZET

Minyatür giysi formları hem moda tasarım eğitimi hem de sektöründe önemli araçlardır. Küçük ölçekli beden formları olarak tanımlanır ve gerçek ölçekli formların yerine kullanılırlar. Bu çalışmada iki temel adım üzerine odaklanılmıştır. Birinci adımda, Türkiye’de kullanılan geleneksel minyatür kadın giysi formlarının iyileştirilmesi, ikinci adımda ise iyileştirilen yeni formlardan elde edilen temel beden kalıplarının başarısının test edilmesidir. Minyatür giysi formu gerçek kadın kıvrımları ve bazı Türk moda markalarının kullandığı 38 beden ölçü tablolarının ortalamaları dikkate alınarak ve yeniden form verilerek iyileştirildi. Sonra, geliştirilen bu giysi formundan elde edilen beden kalıbının başarısı uyum ölçütlerine göre test edildi. Çalışmanın sonucunda, yeni giysi formundan elde edilen beden kalıbının, zaman, kullanılan malzeme ve sonuç bakımından eski giysi formundan elde edilen kalıba oranla daha başarılı olduğu görüldü.

**Anahtar Kelimeler:** Moda Tasarım Eğitimi, Minyatür Giysi Formu, Yarı Ölçekli Beden Formu, Minyatür Manken.

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**Corresponding Author:** Nese Yasar Cegindir, e-mail: cegindir@gmail.com

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### 1. INTRODUCTION

Even if they did not have same mission exactly, today's miniature dress forms derived from fashionable dolls. When we look back in time, we can see that as expressed by Feinerman in 1979 "fashionable dolls were the remarkable beginning and history of patternmaking" (1). After Renaissance fashion moved from Italy to French court (2), the fashionable dolls which changed between 80 and 90 cm high (3,4), played an initial role in the emergence of European fashion style, form, beauty and also fashion economic life cycle. They were passed from one court to another to keep

the nobility up-to-date (5). Rose Bertin, is known as a foremost fashion trendsetter used them as an advertisements tools (6,7,8). Then, merchants pursued her by using them for their rich customers (9,10). The use of them faded away with the surge of fashion publications in the late 18th century (11). The French Revolution put an end to this practice (12). During the usage of them, they were important means of communicating the latest fashion information and displaying details of garment construction and finishing (3). The dress on them allowed a dressmaker's customers to see the fabric and trim as well as styles of

dress. Dressmakers learned construction techniques from them and used patterns of models prepared for ready to wear which were sold in department stores (12,13). Again, after the World War II, some reasons such as fabric and material shortage and high cost, decrease in affordability extended the usage of miniature dress forms in dressmakers' design trials. For example, namely "the Théâtre de la Mode", Paris couture outfits were shown on them in 1945's (14). Madeleine Vionnet was recorded in literature as the first dressmaker who had used them as a design tool for her first design trials (15,16). Victor and Rolf's miniature exhibition was held in 2008 (17). Dior unveiled the Le Petit Theatre Dior exhibition on them in 2014 (18). In time, with rising interest in fashion, these miniature dress forms were deeply attracted in wide spreading fashion schools. Today, many European, American, East Asian academicians and their students work on them to make design and construction practices. Cegindir and Ashdown created miniature exhibition on half scaled dress forms (19) and they presented another study which was related to usage of them as a way to marketing in fashion industry (20) and also they continue co-working on half scale dress forms by conducting online creative patternmaking project which is supported by Cornell University (21). Miniature dress forms have been used in Turkish fashion design colleges too. However, because of improper and incorrect body shape, and not having crotch curve; especially for lower body, patternmaking practices are not able to be designed and generated correctly and easily. That is why; the aim of this study is to support students' design and patternmaking practices on them by enhancing and reforming of traditional ones.

## 2. MATERIAL AND METHOD

Experimental approach was used in this study which was focused on two steps. First step was enhancing and reforming traditional female dress form and secondly testing success of new dress forms shape. First step included diagnosing of traditional dress forms shape and dimension, and choosing of base dress form, then reforming and enhancing of base dress form with stand by analysing of retail price and finally sending of it for mass production.

There are three basic bodies analysing and assessment methods by which we can capture figure shape. First one of them is linear method which refers to the distance between two points, second is multi probe method which combines linear method with point, surface and shape. Third one is body form methods which incorporate point, length, surface, shape and volume (22). Multiple probe methods were used step by step in this study.

### 2.1. Enhancing and Reforming of Miniature Female Dress Form Procedure:

**a) Diagnosing of Dress Forms:** Poorness and disabilities of traditional female dress form shapes and curves were determined by using Visual Somatography method which is defined as body build, silhouette proportion, and posture, shape analysis on photographs. This method started using in fashion design study with Douty (23) and continued being developed with Minott (24), August (25), Armstrong (26), Simmon, Istook & Devarajan (27), Connell and others (28),

and Rasband (29). It has still been using for analyses of body build, posture and shape. First of all, whole body form build was scaled from thin to average, full and heavy; its posture was classified as faulty, average and excellent (23, 30). Whole dress shapes were checked according to Rasband's major categories of female body shapes from evenly proportioned body to unproportioned body in fashion design (29). Shape poorness of dress forms were scaled between 1 and 5; dimension disabilities of them were degreed between 1 and 3 score. Shape poorness of traditional dress forms were classified following (27,28) ; a) shoulder slope (from upper to lower), b) back curvature (from straight to curve), c) bust (from flat to prominence), d) chest shape (from hollow to prominence), abdomen shape (from simple to prominence), f) hip shape (from flat to rounded), g) buttocks shape (from flat to prominence), h) body shape (ideal, triangular, inverted triangular, rectangular, hourglass, diamond-shaped, tubular and rounded), i) crotch curve (open or not open), j) armhole (small, normal, big). Dimension disabilities of traditional dress forms were classified as follows (27,28,29); a) weight (narrow, normal, large) b) length (short, normal, long) c) circle measurements (narrow, normal, large) d) straight line positions (correct or incorrect) e) armhole and neck line positions (certain or uncertain/correct or incorrect).

**b) Selecting of Base Dress Form:** Three different traditional female dress forms have been being used in fashion design collages in Turkey. Because, they were made in respectively from 1960s to 2000s, they had unfashionable figure type, no shape for today's patternmaking problem solving. They were compared themselves among themselves according to figure build, posture and shape. In this process, after front, side and back pictures of three dress forms were taken at the same positions, their shape contours were compared with each other on Adobe Photoshop CS5 program. Both dress forms and their shape contours were assessed by researcher and her graduate students at Gazi University by using body shape assessment criteria. End of this process, while choosing base dress form it was considered that base dress form might give us opportunity to reform it easily.

**c) Deciding of Base Female Dress Form Dimensions:** while dress form was being reformed, average body measurements which were obtained by Turkish fashion brands female size charts were used. By choosing these brand's size charts, their recognition and sale rates in Turkish fast fashion marketplace were figured out. LCW, Koton, Defacto are the best fast fashion brands in Turkey according to latest sale rates (31). While observing these brands size charts on the online websites; even though waist measurement with 72 cm was common, bust and hip circumferences were changeable (Figure 1). Base bust and hip circumferences were calculated from their size charts average score. Depending on average size score, basic female dress form measurements were determined as follows; Size 38 and bust: 90 cm, waist: 72 cm, hip: 96 cm. The support was taken from a company that makes and sells miniature dress forms (as seen in Figure 1) for fashion colleges and industry by traditional methods in Istanbul, Turkey. The latest records of company, the female dress form measurements became larger than before. These

orders show us female body dimension have changed in time.

## 2.2. Miniature Female Dress Form Testing Procedure:

For the fitting assessment, two different basic bodice patterns were constructed on former and later miniature dress forms by draping methods. Both bodice patterns obtained from them were cut and sew with muslin for muslin test. Then researcher and her graduate students prepared a check list that was based on subjective and qualitative clothing fitting criteria (32) for comparing of their appearances, shapes and dimensions. Both muslin test appearances and shape with curves and contours were evaluated by researcher and her graduate students depending on subjective fitting evaluation guide (33). It consists of three categories; overall fit, front fit and back fit with darts, shoulder, side seems.

## 3. FINDINGS

### 3.1. Enhancing Traditional Miniature Female Body Form:

Before traditional young female dress form was enhanced, the base dress form was chosen by comparing three traditional female dress forms. When three dress forms shapes were compared (Figure 1 left side), their poorness and disabilities were observed. Three dress form shapes were different from each other; first form figure had slim build, second one build had average but inverted triangle shape, third one had stocky figure, stout and rounded shape. First form was thinnest among them and it had narrower dimension than the other forms and had correct posture, shoulder slope, but flat bust, abdomen, buttocks and hip. Armhole line and neck line were not certain and correct. It was closer to proportioned figure (seen as dark brick coloured at Figure 1 right side).

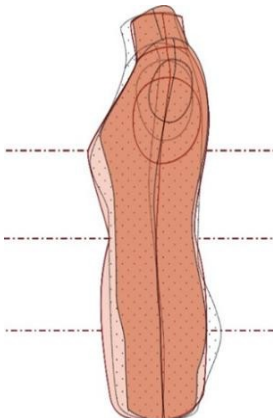









Second form was seen unproportioned body shape and posture. Because, it had upper shoulders, both high and protruding buttocks and hip shape. Third one had stocky body build, lower shoulder slope, flat chest, stout bust, buttocks and hip shape, in correct armhole (big and large dimension). All identifications of dress forms faulty were

shown on the middle column in Figure 1. All dimensions of them were not similar to actual average body dimension into Turkish fast fashion retail brands size charts. As seen side view and posture of them, shoulders slope, side seem line positions, armhole and neck line circumferences were not similar each other, average form dimension and also none of them did not had arms and legs; and of course these were disadvantages in usage of them. End of the comparison process, because of its slim body build and narrow dimension gave us opportunity for its reforming and enhancing, first one was chosen as a base form among them.

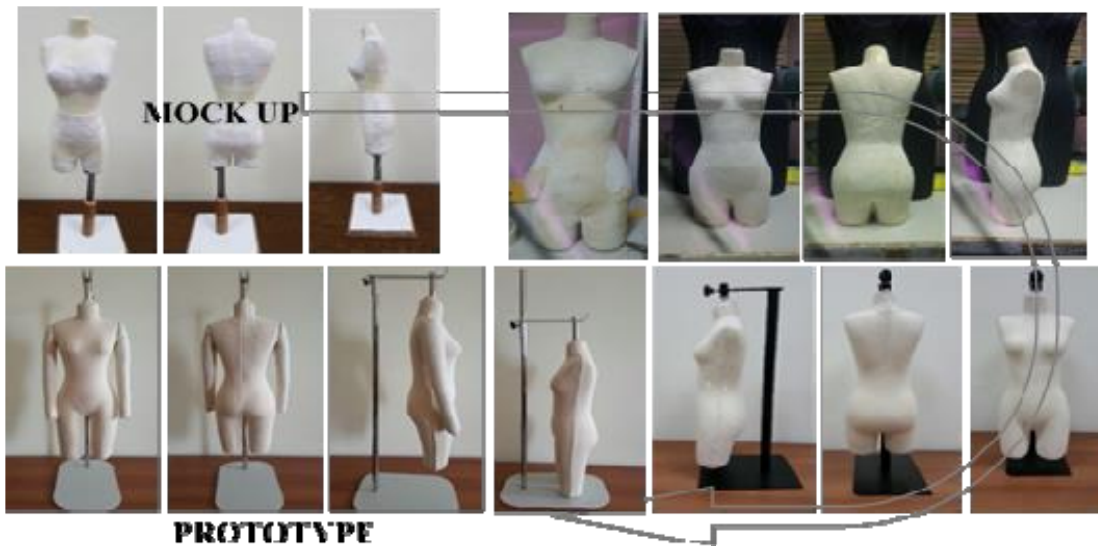
The reforming and enhancing process steps were followed:

**a) Mock-up:** Chosen base traditional female dress form was wrapped by muslin and bandage, and covered with special gum, opened the space in the middle of the lower body part for making two legs, and then it was made of foam. The foam dress form was covered with portable and washable cotton knitting fabric and added a portable metal stand supplier. However, the dress form needed some modification during the testing period. These modifications were about shape, curves, dimensions and also usability of the stand supplier. We decided on rendering waist girth and upper hip curves a little bit smoothly, and extending legs to knees. Besides, a pair of portable arms were prepared to be able to make a sleeve for design practices with sleeves. **b)**

**Prototype:** After modifying process, prototype was prepared and tested again according to body assessment criteria of Somatographic method. (Proportion and shape, dimension and curve: shoulders, back, bust, waist, abdomen, hip, buttocks, armhole, neckline and crotch curves) For this process, physical appearance of dress form was checked and confirmed. All dimensions of new dress form almost well- matched with ½ scale average measurements of female size 38 used by Turkish fast fashion brands charts given in research method. c) Retail sale analysis, mass production and usage: New dress form was tested and confirmed by both public and private university of fashion design college scholars who are both graduate students of researcher and some professionals

View of Dress Forms				Full Scale/Half Scale Dimensions (cm)			Side View and Posture of Three Dress Forms Contours
Model	Front	Side	Back	Bust	Waist	Hip	
<b>I</b> <b>Slim</b>				91 / 45,5	65 / 32,5	85 / 42,5	
<b>II</b> <b>Inverted triangle</b>				89 / 44,5	69 / 34,5	96 / 48	
<b>III</b> <b>Stocky</b>				96 / 48	71 / 35,5	99 / 49,5	

**Figure 1.** Observed three different traditional young female dress forms & Comparison of three different traditional female dress forms to decide base form.



**Figure 2.** From mock-up to prototype process of the reformed traditional female dress form

from ready to wear company in Ankara. Cegindir used this form at her undergraduate and graduate program courses, and Cegindir and Oz also worked on this dress form creating pattern cutting implementations by draping method successfully (35). During the assessment process, they considered on ideal proportions of female figure. Then cost analysis was done by company. All kind of material costs were minimized. Finally, it was decided that its retailing price and the prototype dress form was sent to mass production. Scholar and her undergraduate students started it using for patternmaking experiences, so do many other fashion design college scholars and their students in Turkey.

### 3.2. Testing improved female miniature dress forms

**success:** Researcher and her graduate students obtained two basic bodice patterns from old and new dress by draping method, and compared them throughout a semester in 2015.

As shown in Figure 3, testing process included in both examining of muslin tests and comparing of pattern drafting pieces' contours on the Photoshop CS5 program (Figure 3 right side). these findings were observed at the end of the testing process; a) the basic bodice pattern obtained by new dress form was seemed closer to real female body curves and shape than the bodice pattern obtained by former one, b) all darts of the new pattern were much shorter and curvy, c) also its upper hip girth and buttocks shape were curvier, d) neckline and shoulder line of the reformed dress form seemed too much straightened out by comparing former line; e) back curve seemed to correct shape like real female body curve.

### 3. CONCLUSIONS

Turkish traditional female dress form was enhanced in terms of shape, posture and dimension. While enhancing it, especially two legs and opened crotch curve were generated in this study. Female bodice patterns which were obtained from former and later dress forms were tested. After testing process, when former dress forms shape and dimension was taken into account, it was observed that

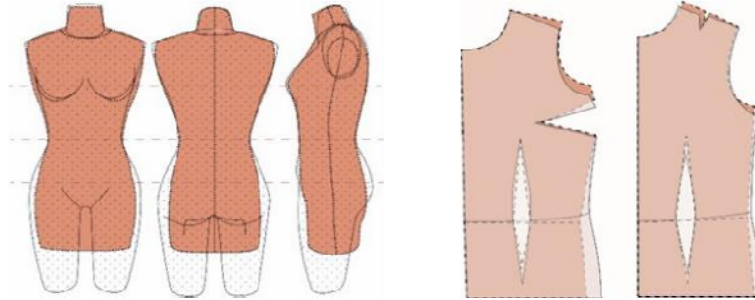
enhanced miniature female dress form is more useful tool than former one. Thanks to portable arms, sleeve patterns were able to be prepared more effectively. Reformed chest, bust, abdomen, back, upper hip girth, buttocks shape and also legs generated crotch curves gave us opportunity of making a realistic pattern fitting. With formed legs, everybody can design lower body patterns like pants, quicker and easier.

An increased importance of good patternmaking skills and fitting in the apparel business are needed for entry into the work as a creative and technical designers graduated from College (36) and patternmakers by their technical knowledge and skills are a catalyser and translator of design ideas into reality, accuracy and profit. However, design experiments and prototype making process of full size manikins take time and become very costly. For these reasons, miniature dress forms give both professional and amateur fashion designers more opportunities in the process of mock up, prototype and for patternmaking implementations. It was thought that miniature dress forms would be useful in fashion design education even though students sometimes have difficulty in assembling and sewing little pieces and curves. Thanks to these dress forms, students are aware of what real body shape and curve is; estimating wear ability and sew ability of their models technically and aesthetically in less time, realizing the design problems and find solutions, making more model iterations in less time, make the mock-up and prototypes on them instead of full scales directly from real fabrics, accomplishing faster with less energy, materials and cost. It is heavily suggested that making exercise on the miniature dress form will bring fashion design education students do more and faster mock up, more realistic pattern cutting skills, aspect of analytical design problem solving more quickly. Next similar studies can be about enhancing of miniature male dress form.

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**Former & Latter Sloper Pattern (front-Back & Side-view)**



**Figure 3.** Comparison of basic patterns obtained from two female dress forms

## REFERENCES

- Rosen, S. (2004). *Patternmaking, A Comprehensive Reference for Fashion Design*. Pearson Inc. New Jersey.
- Woodcock P. 2014. "French Court Dress", *Fashion the Whole Story. Part II: from 1600 to 1799*, Edited by Fogg, M. pp: 86-87. (Turkish Edition). İstanbul: Hayalperest Publishing.
- Werlin, K. 2015. "Fashion Doll, 1715-1785", In *Clothing and Fashion American Fashion from Head to Toe*. Edited by J.Blanco. California: ABC-CLIO. ISBN 978-1-61069-309-7
- Weber, C. 2006. "Pandoras' Box." In *Queen of Fashion: What Marie Antoinette Wore to the Revolution*. New York: Henry Hold and Company Ltd., pp: 1-23. ISBN: 978-0-8050-7949-4.
- Coleman, D. 1977. "Fashion Dolls/Fashionable Dolls". *The Journal of the Costume Society of America*, V: 3, Issue: 1:1-8. DOI: <http://dx.doi.org/10.1179/036121177803657959>
- Langlade, E. 1913. *Rose Bertin- The Creator of Fashion at the Court of Marie Antoinette*, (Adapted from the French: Angelo, Rappoport). New York: Charles Scribner's Sons. Cornell University online archive: accessed March 10, 2016. <https://archive.org/details/cu31924024290623>
- Bertin, Rose, "Marie-Antoinette's Fashion Supplier, History-court characters", Chateau De Versailles, accessed March 20, 2016. <http://en.chateauversailles.fr/history-/court-people/epoque-louis-xvi/-en>
- Kawamura, Y. 2005. "Production, Gatekeeping and Diffusion of Fashion". In *Fashion-ology: An Introduction to Fashion Studies*, 73-88. New York: Berg Publishers.
- Rublack, U. 2011. "Renaissance Fashion: The Birth of Power Dressing", *History Today*, V:61 I:1. Accessed March 29,2016.<http://www.historytoday.com/ulinka-rublack/renaissance-fashion-birth-power-dressing#sthash>.
- Audas, J. (n.d.) "Mannequins", *Beauty and Fashion*, Lovetoknow, Accessed March 28, 2016. <http://fashion- history.lovetoknow.com/fashion-clothing-industry/mannequins>. 11.
- Hunt-Hurst, P. 2015. "Fashion Dolls 1776-1819". In *Clothing and Fashion American Fashion from Head to Toe* Edited by J. Blanco. California: ABC-CLIO. ISBN 978-1-61069-309-7
- 12 Thesander, M. 1997. *Feminine Ideal*. London: Reaction Books. ISBN: 1 861890044
- Weston, P. (n.d.) "Fashion Dolls Fashion History" *Fashion-Era*, [http://www.fashion-era.com/fashion\\_dolls.htm](http://www.fashion-era.com/fashion_dolls.htm).
- Theatre De La Mode. Exhibition of the permanent collection. Mary hill Museum. Washington State. USA. <http://www.maryhillmuseum.org/visit/exhibitions/ongoing-exhibitions/theatre-de-la-mode>. Accessed 05 09 2016.
- Vionnet. Flipzone, <http://sv.flip-zone.com/fashion/couture-1/independant-designers/vionnet-4043>.
- Golbin, P. 2009. *Madeleine Vionnet*, Edited by Gries, Patrick. New York: Rizzoli.
- The House of Victor and Rolf Exhibition: Barbican Art Gallery Event Details. Accessed March 25, 2016. <http://www.barbican.org.uk/artgallery/event-detail.asp?ID=7272>.
- 18 Camara, A. (n.d.) "Christian Dior Debuts "Le Petit Théâtre" Exhibition," *Dress to Kill Magazine*, accessed March 18, 2016. <http://dresstokillmagazine.com/chengdu-china-dior-debuts-le-petit-theatre-exhibition/>
- Cegindir, N. and Ashdown, S. 2014. "From Ladies' Paradise", *Half the Battle: Experiments in Creative Draping on the Half-Scale Form*, Exhibition at Jill Stuart Gallery, Cornell University. Ithaca. New York.

- 
21. Cegindir, N.Y. and Ashdown, S. P. "The Way to Market: Inspired by 'Au Bonheur des Dames'" 71th ITAA Annual Conference. 12-16 November 2014. Charlotte. North Carolina. USA. <http://cdm16001.contentdm.oclc.org/cdm/compoundobject/collection/p16001coll5/id/18679/rec/169>
  22. Ashdown, S. P. and Cegindir, N. Y. (2014). Online Creative Patternmaking: Global Collaborations among Scholars of Apparel Design, Cornell University-USA.
  23. Bye,E., LaBat, K. and DeLong, M.R. (2006). "Analysis of Body Measurement Systems for Apparel". Clothing & Textiles Research Journal. V: 24:2. pp: 66-79. DOI:10.1177/0887302X0602400202.
  24. Douty, H. (1963). "Influence of Clothing on Perception of Persons", Journal of Home Economics, V: 55 (3) 197.
  25. Minnett, J. (1978). Fitting Commercial Pattern-The Minnett Method. Minneapolis: Burgess.
  26. August, B. (1981). The Complete Bonnie August's Dress Thin System. Rawson, Wade. New York.
  27. Armstrong, H.J. (1995). Patternmaking for Fashion Design. Prentice Hall. New York.
  28. Istook, C. L., Simmon, K.P., & Devarajan, P. (2002). "Female Figure Identification Technique for Apparel",
  29. Proceedings of Int. Conference of IFFT Institutes, Hong Kong. 147-173.
  30. Connell,L. J., Ulrich, P.V., Brannon, E.L., Alexander, M. & Presley, A. B. (2006). "Body Shape Assessment Scale: Instrument Development for Analyzing Female Figures", Clothing & Textiles Research Journal. ITAA. 80-95.
  31. Rasband, J. (1994). Fabulous Fit. Fairchild Publishing. New York.
  32. Hillhouse, M.S. and Mansfield, E.A. (1948). General Principles of Fitting. "Fitting", Part 5. Dress Design. Draping and Flat Pattern Making. Ed. A. Blood. Michigan State College. The Riverside Press Cambridge.
  33. Holland, G. (2015). The Best Turkish Fashion Brands. February 4th. Global Blue. <http://www.globalblue.com/destinations/turkey/istanbul/best-turkish-fashion-brands/>
  34. Yu,W. (2004). "Definition of Fit". Clothing Appearance and Fit: Science and Technology. Ed: J. Fan, Yu,W., and
  35. L. Hunter. Woodhead Publishing. ISBN: 1-85573-745-0, p:31-42.
  36. Shen, L. and Huck, J. (1993). "Bodice Pattern Development Using Somatographic and Physical Data". Int. JCST. V:5 (1). p: 6-16.
  37. Cegindir, N.Y. and Oz, C. (2016). "Creative Pattern Cutting Experimentations Under Projection of Scamper Techniques", Idil Journal of Art and Language, V:5 (23), p:941-954. DOI: 10.7816/idil-05-23-10.
  38. Romeo L. D. and Young, A. L. 2013. "Creative and Technical Design Skills: are College Apparel Curriculums Meeting Industry Needs?", Int. JFDTE, V:6, I:3. DOI:10.1080/17543266.2013.783629