A Comparison between Manual and 3D Programs methods in Female Trouser Flat Pattern Drawing

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Abstract:
Clothes industry is considered one of the most important industries. It enjoys a non-stop development due to the rapid development in the social and economic life. Thus, producers and researchers of clothes compete to avail the necessary factors to produce such industry (Managi, 2005, p.1). Due to such development, which has taken place at the start of the twentieth century, that has covered all aspects of life, the need to apply a scientific method in designing clothes, such a process that precedes the process of cutting and tailoring clothes that should produce stable and guaranteed results, has been one of the key requirements of our era. Therefore, our era is characterized with rapid change and innovation in women's fashion and clothes styles. Objectives: Using the 3D programs in producing the basic model of women's clothes for (40-44-48) sizes. Measuring the effectiveness of using the 3D programs in reducing the production time of the basic model of women's trousers compared to the manual method. Measuring the effectiveness of the use of the 3D programs in reducing the cost of producing the basic model of women's trousers compared to the manual method.

Methodology of the study: In this study, the researcher relied mainly on the experimental approach that targeted conducting a comparative study of two methods of implementing the flat model for women's trousers; they are the traditional method of modeling, the flat method and the method of using modern programs in the fashion industry field "3D programs". Eventually, arbitration of models was carried out by the specialists using the estimation scale to achieve the objectives of the research and verifying its hypotheses. Sample of the research: Sample of the research comprised 12 working women, six of them are working at Tabook University and the other six are working at King Abdul-Aziz University. Results: There were statistically significant differences at (0.05) function level between the two average control ratios in women's trousers implemented by the manual method and the 3D program, for the front, side and back axes. Such differences were in favor of the women's trousers implemented by the 3D program. The improvement rates in women's trousers (front, side and back) implemented by the 3D program ranged from 17.78 to 20.45. There were statistically significant differences at (0.05) function level between the two average control ratios in women's trousers general form implemented by the manual method and the 3D program. Such differences were in favor of women's trousers general form implemented by the 3D program. The improvement rate in women's trousers general form implemented by the 3D program was 21.93. There were statistically significant differences at (0.05) function level between the two average control ratios in women's trousers implemented by the 3D program and the modified 3D program, for the front, side and back axes. Such differences were in favor of women's trousers implemented by the modified 3D program. The improvement rates in women's trousers front, side and back axes implemented by the 3D program ranged from 20.68 to 24.21. There were statistically significant differences at (0.05) function level between the two average control ratios in women's trousers general form, implemented by the 3D program and the modified 3D program.

Keywords: Flat pattern, 3D Modeling Programs, Female Trouser