

Creating Innovative Methods for Designing Jacquard Circular Weft Knitting Fabrics Using Weave Maker One Software

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Abstract:

Statement of the Problem: The current designs of jacquard circular weft knitting fabrics rely on stereotypical methods, whether from the arts of different civilizations, importing designs from abroad or from different nature elements, which needs to renewal and innovation to activate aesthetic and color values to outperform woven fabrics in an attractive way, which helps in economic popularity. Using graphic programs to create designs for jacquard circular weft knitting fabrics in a traditional way, which weakens designs performance of final product by not keeping up with global taste due to the lack of innovation elements and leads to inability to compete effectively in local and global markets. The high costs of specialized design software are an obstacle to spread to students, academic researchers, and industrial establishments. Which trying to reach to new design solutions to create designs with unique aesthetic and color values for jacquard circular weft knitting fabrics more effectively.

Research Significance: Using one of data of modern science and technology to activate aesthetic and color values of jacquard circular weft knitting fabrics, which contribute to enriching aesthetic performance rates to meet consumer needs and achieve high capabilities for global competition using a simple, inexpensive software and uncomplicated steps. Providing a scientific and experimental study to the extent of impact of using Weave Maker One Software in designing jacquard circular weft knitting fabrics to support and consolidate foundations and principles of proficient education. Which opens new fields to keep pace with technical progress and pursue labor market related to fabrics design and fashion. Utilization of design software as a tool gives accuracy in performance, speed of development, and obtaining multiple aesthetic and color values to achieve complete flexibility in modifying all design inputs, and producing multiple design models simulate final product, in a way develops designer's innovative capabilities and highlights different capabilities of design software.

Research Objectives: Innovating new methodological methods in design thinking for jacquard circular weft knitting fabrics using non-specialized design software, which leads to different design vision for final product, extracting new results in design concepts consistent with modern technologies, and highlighting the designer role in developing traditional design performance. Use non-specialized design software available for free as an alternative to specialized software through practical training and self-learning to upgrade the level of designs in less time, effort and keep pace with technical progress after prices of specialized software risen significantly, while studying difficulties may users faced. Enriching textile library specialized in field of designing jacquard circular weft knitting fabrics with a simple, inexpensive software that can be activated at the level of practical application with complete ease as one of non-stereotypical methods. Which enriches fabric designs from a plastic standpoint, in addition to distinctive aesthetic and color values, which contribute to creating competition in local and global markets.

Research Hypothesis: The research assumes that: Using tools and windows of Weave Maker One Software is one of innovative methods to create a new design vision for Bi-Color jacquard circular weft knitting fabrics, which allows unconventional methods to aesthetic shaping, obtaining a huge number of innovative designs with distinctive aesthetic and color effects quickly with extreme precision at lowest costs. Which increase acceptance degree of final product in local and international markets and develops designer's innovative capabilities.

Research Delimitations: Creating innovative several designs for Bi-Color jacquard circular weft knitting fabrics with distinct aesthetic and color values in style of (straight repeat & mirror left/right repeat) using tools and windows of Weave Maker One software within new and innovative design idea that can be implemented by jacquard circular weft knitting machines.

Research Methodology: The research follows the analytical experimental method.

Experimental Work and Suggested Designs: Includes experimental M/C specifications, produced fabric specifications, steps for creating designs by using Weave Maker One software, and simulation for Bi-Color jacquard circular weft knitting fabrics (38 designs with straight repeat & 10 designs with mirror left/right repeat).

Results & Discussion: Weave Maker One Software with different tools and multiple windows, can be considered one of successful sources to develop design process of Bi-Color jacquard circular weft knitting

fabrics better than traditional processors, whether manually or using graphic programs. Weave Maker One Software develop innovative capabilities for Bi-Color jacquard circular weft knitting fabrics with uncomplicated methods, and create designs characterized by modernity according to international fashion trends, away from using decorative elements from different arts civilizations, or from different nature elements, or imitating designs imported from abroad. Using Weave Maker One Software in designing Bi-Color Jacquard circular weft knitting fabrics has an effective role in setting theoretical and applied rules that are useful in developing designer's innovative capabilities through developing design thinking and developing designer's visual vision, which increases ability to compete effectively in local and global markets. Enriching specialized textile library with scientific and applied studies in field of designing Bi-Color jacquard circular weft knitting fabrics, which benefit to scientific, academic studies, and specialized industrial facilities in field of using non-specialized design software available for free in designing other types of fabrics. Most of specialized software available for free for designing dobby fabrics suitable for designing jacquard circular weft knitting fabrics, and this is due to: designer's mastery level of software's, and this is a method can be used by academics or students to serve teaching process or industrial facilities. Bi-Color jacquard circular weft knitting fabrics distinguished by elegance, superior appearance, and high ability to formed according to nature of human body, while achieving all forms of physiological comfort for user, which makes more suitable for both functional and aesthetic requirements as outerwear fabrics or upholstery fabrics, in addition to low prices. Due to low production costs, which makes it significantly superior to traditional woven fabrics.

Keywords :

Jacquard Circular Weft Knitting Fabrics, Jacquard Circular Weft Knitting M/C, Computer Aided Design (CAD), Weave Maker One Software, Upholstery Fabrics, Outerwear Fabrics

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Paper History :

Paper received May 09, 2024, Accepted July 01, 2024, Published on line September 1, 2024.