A study of the effect of using AutoCAD program in designing weft knitting fabrics to Improve students’ skills in industrial technical education

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Abstract:
Industrial technical education is one of the pillars of economic development, and the main source for providing qualified technical manpower cadres capable of fulfilling the requirements of the labor market, so they must be provided with knowledge and multiple technical and technological skills. The problem of the research lies in the presence of deficiencies in the skill performance of industrial secondary school students, and this deficiencies appear in the lack of innovation elements in the designs of knitted weft fabrics that are used to make graduation projects, The research problem can be formulated in the following questions (What is the effectiveness of using AutoCAD program in increasing the achievement rates of industrial secondary school students for the cognitive aspects of designing weft knitting fabrics?, What is the effectiveness of using AutoCAD program in increasing the proficiency rates of industrial secondary school students to invent new designs for weft knitting fabrics?), so it was necessary to study the problem and develop solutions to overcome this shortcoming. By trying to link the theoretical side with the practical side and the use of computer technology to obtain a distinguished student with technical skills that enable him to keep pace with the rapid civilized development and meet the needs of the labor market, Therefore, the research aimed at preparing a computer program in the field of weft knitting design, using AutoCAD, and using self-learning for measuring the effectiveness of the program’s teaching in terms of developing students’ knowledge and skills on weft knitting design and measuring the program’s effectiveness in terms of knowledge and skill achievement, as well as raising the level of the graduate’s competence in knitting specialization within the industrial sector, where the proposed program was applied (Before, after) on the research sample, which consisted of 30 students divided into two groups (each group consisting of 15 students).

Research Objectives:
Develop a training program by using AutoCAD program, and using self-learning to develop the skills of female industrial secondary school students. Raising the innovative ability of the students, in order to improve the aesthetic properties of the fabrics produced to raise the level of the final product represented in the graduation projects.

Research Methodology:
The research follows: the descriptive method and the experimental analytical method. Descriptive Approach: To describe and analyze the content of the course "weft knitting design" for The students of the third industrial secondary school, the knitting department to prepare the proposed program.. The experimental analytical approach: to apply the program for "weft knitting design" on the sample members to verify the effectiveness of the program.

Results:
There are no statistically significant differences at the level of significance (0.05) between the average scores of the control group And the average scores of the experimental group in the pre-application of (achievement test - skill test ). There are no statistically significant differences at the level of significance (0.05)
between the average scores of the control group and the average scores of the same group in the post application of (achievement test - skill test). There are statistically significant differences at the level of significance (0.001) between the average scores of the control group and the average scores of the experimental group in the post application on (achievement test - skill test) in favor of the experimental group. There are statistically significant differences at the level of significance (0.001) between the average scores of the experimental group and the average scores of the same group in the post application on (achievement test - skill test) in favor of the post application. There are statistically significant differences at the level of significance (0.001) between the average scores of the control group and the average scores of the experimental group of the arbitrators’ evaluation scores for the final product of the students of both the experimental group and the control group in favor of the experimental group.

**Keywords:**
- Weft knitting fabrics - AutoCAD program - Industrial technical education

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