

An engineering design approach in implementing contemporary furnishings using patchwork technology in accordance with the sustainable development strategy of Egypt Vision 2030

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Abstract:

Investment or human development is the main objective of the educational process, to graduate human cadres that possess the capabilities and skills necessary to keep pace with the changes and developments taking place in the current era. It has become necessary to transform education from just obtaining knowledge and skills to how to employ these knowledge and skills through an organized framework that links knowledge Previous and advanced modern knowledge to form a connected structural system that the graduate can complete on his own later, to be able to meet the needs of society and the labor market. The constructivist theory emphasizes learning based on the use of new experiences in rebuilding old systems , The constructivist theory focuses on the role of the learner in building and forming knowledge through the interaction of new knowledge with previous experiences to modify it. That is, ideas are not placed ready in the hands of learners, but they have to build their own concepts. Knowledge is generated for them through their activity and self-reflection . , and the constructivist theory is used in various fields. It was applied by to study the effect of the filling method on the quality of electronic embroidery for blended knitted fabrics, and used structural and metacognitive strategies to teach home economics to develop thinking among students. Elementary school students, and benefited from in developing some knowledge and skills of embroidery on knitting for undergraduate students, While, she was able to apply the style of constructivist theory to reach a new design structure and open up new horizons for the production of furniture fabrics design characterized by the quality of design and technology and the richness of shape, color and texture, while she was able to innovate and produce new designs for home furnishings. The interest in training and rehabilitating manpower is a contribution to the state in removing the burden from its shoulders to provide job opportunities for many young people, one of the most important objectives of the sustainable development strategy 2030, and educational institutions are among the most capable of contributing to the rehabilitation or rehabilitation of young graduates to develop their skills and qualify them for the labor market, and female graduates The Department of Home Economics is one of the groups that have a lot of experiences, knowledge and skills, but it was noted that their abilities to employ them are very limited, so the current study aimed to develop the students' abilities to employ their ideas and previous experiences and build their new knowledge, using advanced methods to create new structural systems in which diversity is achieved. And the plurality in the levels of formation with one or more materials to create a figurative dialogue between the blocks, spaces and volumes arising between the component parts of the structure of the artwork, through the establishment of relationships of overlap and overlap and the creation of a harmonious formal structure whose components are combined in a dynamic to achieve a kind of heterogeneity in the form and formal structure, To create a vision of an engineering design to implement contemporary furnishings using patchwork technology according to the strategy Sustainable development, Egypt's vision 2030. The research problem can be formulated in the following question (Does constructivist learning positively affect the ability of female graduates to employ their knowledge, skills and experience and qualify them in line with the requirements of the labor market?

Research Objectives

- 1- Inclusion of graduates of the Department of Home Economics in the labor market.
- 2 - Rehabilitation of graduates of the Department of Home Economics to suit the labor market.
- 3- Achieving compatibility between the requirements of graduates and the labor market.
- 4-Identify the extent to which the trainees are interested in the proposed program.

The Results

The results showed that, there were statistically significant differences between the two applications, the tribal and the post applications, in the scale of assessing the skill performance of the graduates in favor of the post application, which indicates the effectiveness of the training in developing the skills of the graduates during the constructivist learning sessions. This is due to the fact that this method makes the students the focus of the educational process to help them flow ideas and develop Knowledge and skills of higher thinking, which motivates them to prepare and implement different designs with a high degree of excellence, accuracy and modernity. That is, the training has a significant positive role in the development of the skill side and helped to discover the latent energies of the graduates that enabled them to carry out the work assigned to them, in addition to their acquisition of a set of information, values and skills needed in this field. The

ETA square also showed that, the percentage of variation in the skill performance of female graduates before and after training ranged between (73%: 82%) during the stages, and the percentage in the skill performance as a whole reached 98%, which indicates that constructivist learning had a strong positive impact on the levels of female graduates in Increasing their ability to benefit from the knowledge, skills and experience that they have, which helped them to significantly develop their skill performance. In addition, the results of specialists evaluating the executed furniture showed that the patchwork units in the design structure contained new plastic formulations with compatible colors and harmonious raw materials that were characterized by excellence, uniqueness, modernity and intellectual contemporary that added aesthetic values to the executed products, and the design structure was implemented with techniques suitable for functional purposes. It is commensurate with the different methods of care to which it is exposed, and the materials used in its implementation take into account that they are suitable for the purpose for which they were implemented, that is, they have their own functional specifications of durability, so they must be at a high level of quality and durability in order to withstand the nature of use by repeating the washing process, And it has a soft, comfortable feel. In addition, the executed furniture was of low cost and high value and was characterized by the quality and accuracy of execution and finishing. On the other hand, the consumers' evaluation indicated that the executed furnishings conform to the general taste, achieve distinction and uniqueness, and contain distinct aesthetic and artistic values. The distinguished execution method added a new aesthetic vision in the field of furnishings, in addition to the compatibility of the colors used with the prevailing fashion, ease of care and suitability of household needs, The executed furnishings contain innovative artistic values. The used patchwork units added aesthetic values to the furnishings, making the products executed with the patchwork units unique and in line with the modern trends of contemporary home furnishings. In addition, these furnishings are characterized by precision implementation, finishing, quality of materials, and ease of care, which raises the Its economic value increases its marketability. Moreover, the results of the evaluation of the graduates of the training indicated that the training provided them with new specialized skills that are farther and deeper than the traditional skills acquired. These skills contributed to increasing their efficiency and effectiveness, which increases the opportunity for them to be able to compete and engage in the labor market through the establishment of small or micro projects. From the foregoing, it is clear to us that this training is a kind of transformational training that qualifies graduates to do some work that they have not previously done and is needed by the labor market, and accordingly the skills that graduates acquire during the study period can be called (skills for success), but there are other skills Graduates must acquire them, which are the skills of employment or work, and they are the skills provided by the vocational training or qualification programs, as the acquisition and mastery of skills is a key factor for participation in the labor force to enhance productivity.

Keywords :

Patch work , Training professional , Constructivist learning

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