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LEARNING METHODOLOGY FOR SEWING AND MODELING A STRAIGHT-CUT SKIRT BASED ON THE STEAM EDUCATION SYSTEM

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Abstract
This paper discusses the organization of teaching methodology for sewing and modeling a straight-cut skirt based on the STEAM education system. The study highlights interdisciplinary teaching of technology, demonstrating ways to develop students' practical sewing skills alongside logical thinking, precise calculation, engineering approaches, and aesthetic taste. Using the model of a straight-cut skirt, the processes of taking measurements, pattern making, fabric selection, cutting, sewing, and modeling are methodologically grounded in integration with STEAM components — Science, Technology, Engineering, Art, and Mathematics. This approach contributes to linking theoretical knowledge with practical activity, developing independent working skills, and enhancing technological culture among students.

Keywords: straight-cut skirt, sewing, modeling, STEAM approach, measurement taking, pattern, construction, fabric, cutting, sewing process,

technological sequence, mathematics, engineering, aesthetic design, professional skills.

In modern education, it is essential for teachers to develop students' practical skills along with theoretical knowledge, enhance their logical thinking and creativity, and teach them to solve problems and carry out accurate calculations. It is especially important to help students effectively apply competencies that allow them to improve their work based on precise calculations. The STEAM education system serves as an effective tool in achieving these goals.

Although the straight-cut skirt is relatively simple in its construction among sewing products, the process of its creation—from cutting to the final product—includes all the key stages of garment making. These include taking measurements, selecting fabric, creating patterns, placing patterns on fabric, cutting, sewing, heat treatment (ironing), decorating, and modeling. Therefore, this topic has significant potential as a core learning object in technology education.

Within the STEAM education system, the process of sewing and modeling a straight-cut skirt is reflected as follows:

- Science – studies the physical and mechanical properties of fabrics, fiber structure, and material selection.
- Technology – focuses on the use of sewing machines, tools, equipment, and modern technological processes.
- Engineering – involves pattern construction, modeling, and arranging details and seams based on technological sequences.
- Art – explores color harmony, aesthetic taste, decoration, and compositional solutions.
- Mathematics – deals with calculations, measurements, and proportions.

Organizing lessons step by step based on STEAM methodology allows students to connect theoretical knowledge with practical activities. Mathematical accuracy is required in taking measurements, engineering thinking in pattern making, scientific approaches in fabric selection, and creativity in modeling. This, in turn, plays a crucial role in developing professional competencies, independent working skills, and technological culture in students.

Teaching sewing and modeling of a straight-cut skirt through the STEAM approach increases students' interest in technology subjects, ensures interdisciplinary integration, and improves the quality of education. At the same time, it serves as an effective methodological tool for guiding students toward their future professions.

Conclusion:

In conclusion, learning to sew and model a straight-cut skirt based on the STEAM education system effectively integrates theoretical knowledge with practical skills. It enhances creative and logical thinking and plays an important role in developing competencies that meet modern educational requirements.

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