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Designing women's garments with artistic embroidery as a process for enhancing students' professional skills in clothing construction and modeling

Abstract. The article examines the process of completing the task "Designing a women's garment with artistic embroidery", which not only reinforces knowledge and skills in clothing construction and modeling but also explores the stages and sequence of designing and manufacturing new models in the sewing industry. The requirements and main aspects of performing the task at each stage are revealed, and the interrelation between the sequence of designing a new product and the creation of artistic embroidery is demonstrated.

Keywords: clothing design and modeling, artistic embroidery, pre-design research, sketch project, technical project, product prototype, practical skills

An artist specializing in decorating items with artistic embroidery possesses not only specific types and techniques of embroidery but also has expertise in clothing design and modeling, understands modern materials, fashion trends, clothing styles and is familiar with the processes involved in designing and producing garments in the apparel industry [6, p. 45].

The process of creating an item with artistic embroidery is characterized by a constant search for volumetric forms, cut, color and compositional solutions. The professionalism of the embroiderer is manifested not only in the ability to create a highly artistic work but also in conveying the values of national culture through the ornamentation, colors and composition of the embroidery.

The educational process of mastering the discipline "Designing and Artistic Modeling of Clothing with Artistic Embroidery" is based on a practice-oriented approach that enables students to acquire knowledge and skills through the completion of practical tasks aimed at applying new ideas in clothing design and developing analytical skills in creative work while drafting sketches [2, p. 135].

The curriculum for the course "Designing and Artistic Modeling of Clothing with Artistic Embroidery" has been developed based on the Federal State Educational Standard for Higher Education in the field 54.03.02 of “Decorative and Applied Arts and Folk Crafts”, approved by the order of the Ministry of Science and Higher Education of the Russian Federation in 2020 and is implemented with the aim of training bachelors in this area [10].

The academic assignment "Designing Women's Clothing with Artistic Embroidery" concludes the study of the discipline and is based on the knowledge and skills acquired by students in fashion theory, general information about clothing,

external shapes of various types of products, assortment, experience in constructing design drawings, types of constructive and artistic modeling, technology for making mock-ups, sequence of fitting garments and methods for correcting defects in the fit of garments on the human figure.

Effective learning in designing and modeling sewn items cannot be achieved without students understanding the stages of product design in the sewing industry and recognizing how these stages are interconnected with the creation of artistic embroidery [5, pp. 266-278; 8]. The goal of this task is to explore the phases of design and technological preparation in garment production, which will be essential for future professional activities. According to academician of the Russian academy of education V.F. Maksimovich, "...there is a direct link between the quality of training artists in artistic embroidery and the prospects for their future professional activity—opening their own art studios, which bring not only the joy of unique high-quality work but also contribute to solving material issues" [7, p. 15].

The sequence of completing the assignment includes the following stages:

• *Pre-project research* (setting the task of product design);

• *Sketch project* (creating sketches of analogous models, proposed models and an artistic sketch of the selected product);

• *Technical project* (developing a technical sketch of the model, a technical drawing of the embroidery, constructing a construction diagram, patterns of product parts indicating the location of the embroidery and manufacturing a prototype) [9].

The purpose of *pre-project research* is to collect and analyze sources, enabling students to determine key parameters and requirements for the future product [5, pp. 3-17]. The objectivity and quality of decisions made in subsequent stages directly depend on the completeness and accuracy of the collected data. Creative sources include artistic styles in art, historical and folk costumes, works by masters of visual arts, various ornaments and types of artistic embroidery, as well as literary and musical works. By utilizing official websites of leading fashion houses, specialized publications and seasonal collection shows, students analyze current trends and identify key styles dominating the current season. They examine fabric texture and color schemes, ornamentation, and decorative elements of models, paying attention to which forms and silhouettes are trendy.

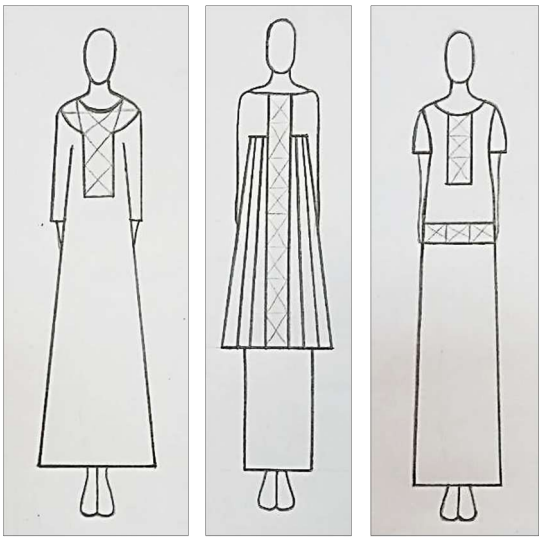

Fig. 1-3. Rough sketches created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

During the pre-design research phase, students create preliminary sketches of models, facilitating the gathering of information and analysis of accumulated creative materials. The final stage of the pre-design investigation involves analyzing all collected materials, rough sketches and developing a mood board—a creative concept for the model.

A rough sketch is a graphical representation of the initial idea, envisioning the future product. (Fig. 1-3[29]). While working on rough sketches, students outline the silhouette, shape of the product, structural divisions, ornamentation, and placement of artistic embroidery.

The moodboard, or "inspiration board," should convey the atmosphere of the future product. It serves as a visual representation of the model's concept, consisting of a set of photographs, illustrations of fashionable designs, historical and ethnic costumes, garment elements, color palettes, material textures, fabric samples, threads and embroidery patterns (Fig. 4). At this stage, students select the type of artistic embroidery and materials for the product.

Fig. 4. Moodboard created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery. Creative source: Historical costume from the 1920–1930s. Embroidery using the "Nizhny Novgorod lace" technique

Based on the results of the pre-design research, students formulate a technical specification for the product, which serves as a starting point for further development of the model and contains the following information: the name and purpose of the product; operating conditions (climatic zone, season, duration of continuous wear); gender, age and size group; method of manufacture (mass-produced, individual); material from which the product will be made; type of embroidery, materials for producing this type of embroidery and the method of production (manual, machine-made or combined) [5, pp. 3-17].

The sketch project plays a crucial role in the process of designing a new product because it is during this stage that the main ideas and visual solutions are formed, which will later define the appearance, novelty and aesthetic appeal of the product, taking into account fashion trends and requirements [5, pp. 272-275]. Sketches of analogous models and proposed models encourage the student to refine the product more clearly, specifically refining its structural features, color

[29] Fig. 1-13. Photo taken by the author of the article.

combinations, selection of sewing materials and the type and placement of embroidery on the product, contributing to the creation of a consumer-demand-driven model.

Analogue models share a common structural foundation. These are products of the same kind, type, purpose and assortment, differing in details, finishes, materials used, color palette, type, placement and embroidery pattern [1; 8]. Development of analogue models is carried out based on the technical specifications, rough sketches and moodboards. When creating sketches of analogue models, particular attention should be paid both to the overall structure of the product and to individual components and elements, including the placement of embroidery (Fig. 5-8). If necessary, additional sketches of decorations such as embroideries and structural nodes can be made.

Fig. 5-8. Analogue models created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

The process of creating analogue models allows students to explore the characteristics of form generation, the structure of constructive and decorative elements of the product. Based on the analysis of analogue models, students develop proposal models (Fig. 9, 10). Since proposal models incorporate the best compositional and structural solutions from the analogue models, they should

demonstrate originality in compositional arrangement and a higher level of technical execution [1; 9].

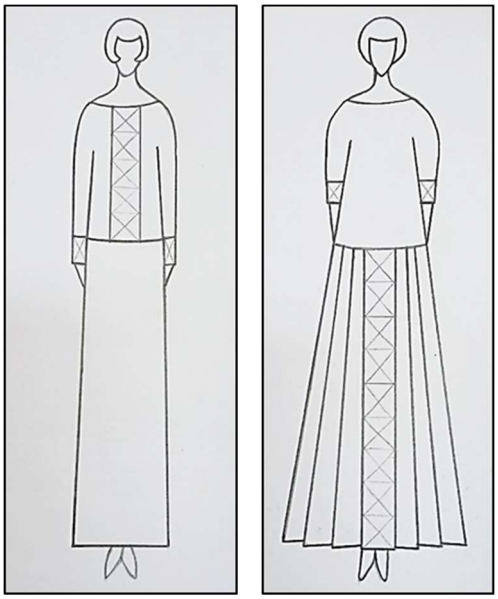

Fig. 9, 10. Proposal models created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

After a thorough analysis of the sketches of the proposed models, the educator, together with the students, selects a model that meets the criteria outlined in the technical assignment and the creative concept of the project. For this chosen model, students then create a colored artistic sketch depicting the model on a human figure in two projections (front view and back view) (Fig. 11). This artistic sketch expresses the color scheme of the model according to the intended design and provides the most comprehensive information needed to evaluate whether the product meets the technical requirements, creates the most rational construction and determines the choice and placement of embroidery [7; 9].

In the process of working on sketches of analogue models, proposed models and the artistic sketch of the product, special importance is given to the use of compositional elements and harmonization of the costume (form, silhouette, line, color, texture), techniques of compositional exploration (static-dynamic, symmetry-asymmetry, rhythm, proportions), and fundamental principles of composition (unity of content and form, structural integrity). Additionally, it is important to consider the regularities of compositional construction: proportionality and subordination of elements, presence of a compositional center and balance of parts and overall compositional unity [4].

As students work on rough sketches, sketches of analogue models, proposed models and ultimately the artistic sketch, they begin to show interest in different ways of representing graphic and painterly forms. In their pursuit of achieving compositional, chromographic, coloristic and textural expressiveness in their work, they start to develop their own distinctive style.

The technical project stage involves the development of construction diagrams for the sample product based on the technical sketch and the creation of a fabric prototype. The technical sketch is a more precise depiction of the model compared to the artistic sketch, but it does not include a human figure and adheres to specific rules [8], which include the following:

- Presence of an artistic sketch as the primary design idea.
- Adherence to proportional accuracy of the human figure.
- Detailed rendering of the design, considering the shoulder, waist and hip belts of the figure.
- Quantitative characteristics of the artistic-constructive indicators of the model, along with the configuration of seams forming the structure.

- Clear delineation of silhouette lines within the garment.
- Precise detailing of small elements such as collars, fastenings, pockets, pleats, finishing stitches and decorative accents.
- Accurate positioning and composition of the artistic embroidery, taking into account the structural segmentation of the garment.

The technical sketch is executed in two perspectives: front view and rear view (Figure 12). Complex or unique details are highlighted on the sketch as enlarged fragments. This helps to thoroughly elaborate and visualize the specifics of the construction and technological processing.

The process of developing a design diagram for a new product includes the following steps:

— Selection of an appropriate base construction.
— Refinement or modification of the base and transferring the desired model-specific features onto it.
— Marking locations for artistic embroidery. Indicating where embroidered elements will be placed on the construction.
— Creating patterns for product components.

Under the guidance of the educator, students prepare a scaled schematic diagram (1:4 scale) of the model's construction, noting the step-by-step construction process. The full-scale construction diagram (1:1) is then independently drawn by the students.

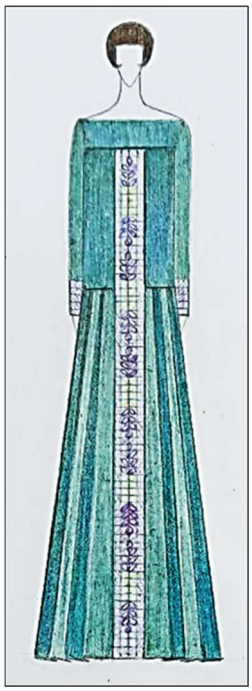

Fig. 11. An artistic sketch of a dress created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

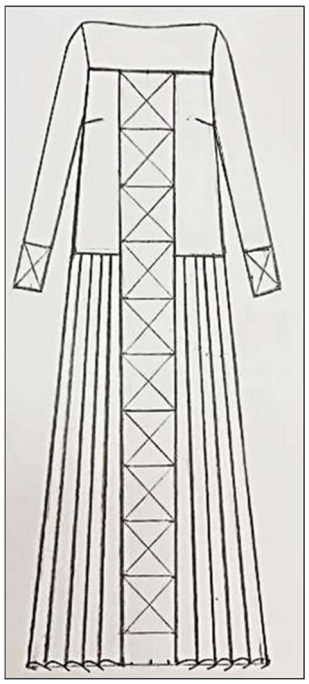

Fig. 12. A technical sketch of a dress created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

Fig. 13. Dress prototype created by A.I. Ustimenko, a fourth-year student from the Department of Artistic Embroidery

Next, the students proceed to test the model's construction using fabric. During this prototyping phase, the creative concept, volumes, proportions, size of

smaller details and the layout and composition of the embroidery are verified. Students develop a technical drawing of the embroidery and attach it to the fabric prototype of the garment (Figure 13).

The final stage involves preparing a report summarizing the completed work. This report includes the outcomes of the pre-design research (moodboard, rough sketches), the sketch project (sketches of analogous models, proposed models and the artistic sketch) and the technical project (technical sketch, model construction diagram, pattern pieces and a prototype with a technical drawing of the embroidery). The report highlights the sequence and interconnection of all stages involved in designing the garment and developing the artistic embroidery.

Through the completion of the academic assignment "Designing Women's Clothing with Artistic Embroidery," students gain a holistic understanding of the creative, artistic and technical challenges associated with creating new products. They learn to analyze the obtained results and apply them in practice during the design process, integrating various elements of pre-design research into a cohesive whole while performing technical editing. This enables them to articulate clear technical assignments and requirements for future products, confidently navigate the stages of design and production and grasp the intricacies of the apparel industry.

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