

MODELING INTEGRATED INTO FASHION DESIGN IN THE CONTEXT OF EDUCATION.

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A simple Internet search returns more than 70 modeling methods in America in the second half of the 19th century alone. With greater or lesser differences, these methods show an interest in developing alternatives that make the teaching-learning process of clothing modeling more efficient. It is true that, in the second half of the 19th century, the dissemination of methods was very limited, but the search for alternatives for effective and motivating teaching in clothing design has always been an important topic and the subject of studies.

Today, however, albeit in a more globalized and integrated manner, we continue to seek the adoption of resources and strategies to improve this teaching process, so that students are more involved and participate more in the acquisition of knowledge. The use of interdisciplinary methods, with new approaches and new practices, aims to train professionals who are more creative, more critical, collaborative, and, perhaps most importantly, innovative.

This is the topic we address in this dossier: *integrated modeling in fashion design education*.

We chose to begin with “*Not every path is straight: limits and possibilities for raising awareness among fashion design students through pattern making education*” so that we could immediately invite readers to join us on a nonlinear journey, one that may already be familiar to those who approach pattern making from the perspective of sensory knowledge.

Considering that modeling promotes the materialization of the wearable object and the meanings that derive from this interaction between body and artifact—translated with great expressiveness in Paula da Silva Hatadani's illustration and Seila Cibeles Sitta Preto's graphic design on the cover of this issue of the magazine—authors Bárbara Pavei de Souza, Adriana Cardoso Pereira, and Mônica Karina de Souza highlight that this practice can be seen from the inherent potential to constitute an expressive field, creating meanings and aesthetic experiments.

However, when tracing a historical overview from the context of the emergence of modeling education in Brazil—transitioning from informal learning with family members, through manuals, or even through trial and error, and systematic, technical teaching aimed at working in industry—the investigations demonstrated a remarkable legacy left for modeling teaching today. Even in the context of higher education courses in fashion design, one still encounters reproductive methods based on the establishment of execution orders and predetermined models that highlight the instructional nature of teaching and learning practices.

The reflective stance regarding the strategies to be employed—in view of the desired profile for the training of the subjects, future professionals in the field of fashion—leads the authors to explore the limits and potentialities of teaching modeling based on the pedagogy of affections, that is, centered on the construction of knowledge through aesthetic experimentation, whose relationships with perception and sensitivity prove to be inseparable. Thus, they point out ways and strategies to enable teaching modeling through the senses in order to motivate students to explore the many possibilities that arise from the dialogue between wearable products and the body.

Along the same lines is MODthink, a model focused on teaching and learning modeling designed to integrate fashion design processes, addressed in this dossier by the author herself, Lucimar de Fátima Bilmaia Emídio, and by Karoline Cristyna Ribeiro Bertolino in the article *Bionics applied to modeling focused on sustainability: contributions of the MODthink model*. By encouraging research and exploration of ideas and innovations based on the interaction between technical-creative and technical-productive information flows, it allows students to develop a new way of thinking about modeling, rather than simply reproducing it.

The model initially proposes the contextualization and synthesis of a problem situation, considered the focal point of modeling, and subsequently a sequence of phases—problem analysis, investigation, exploration, verification, and execution—for each of which suggestions are presented for applicable design tools and creativity techniques, which constitute effective cognitive resources to assist in the activities performed.

The authors present a case study in which the MODthink model was applied to an academic project in the context of a Fashion Design Course. When analyzing and surveying the main aspects involved in defining the modeling problem, whose focus was to apply the project concept to product modeling, it was identified the possibility of using the bionic creativity tool to establish analogous relationships between the characteristics of the natural element and the product's functions, as well as to serve as a basis for defining production aspects focused on sustainability.

With regard to the inclusion of modeling in design processes, the dossier also covers *modeling and visual syntax: an essential connection*.

for the formation of design thinking, the report by Maria Antônia Romão da Silva, Thassiana de Almeida Miotto Barbosa, and Maria Celeste de Fátima Sanches on a teaching activity included in the pedagogical project of a Fashion Design Course, based on Project-Based Learning (PjBL) and an interdisciplinary approach. This is the Integrative Project in which, in the reported activity, a dialogue was promoted between the knowledge of Visual Methodology and Modeling for the articulation of constructive elements and expressive content in the syntax of form, aiming at the realization and generation of innovative and assertive formal possibilities.

For the authors, designing a sensory space, such as fashion clothing, involves entering into a process permeated by the relationship between form and content, that is, between a tangible dimension configured spatially and an informational dimension, full of syntactic and semantic properties, which makes it essential to use pedagogical strategies that favor interactions between such knowledge. The teaching-learning process takes a non-linear approach, discussing the educational efforts made to promote the development of skills involved in the syntax of fashion clothing design and modeling thinking as integral parts of the construction of design reasoning. The intention is that basic formal structures can be effectively converted into constructive modeling resources and become part of a natural process of feedback on the student's thinking throughout their design journey.

While teaching modeling is linked to informational content involving syntax and semantics and refers to a sensitive understanding of the body in its interaction with wearable artifacts, there is also a clear need to master logic and precision in order to construct proportional structures that are appropriately sized to fit different parts of the body and provide comfort.

This issue is addressed by Suzana Ferreira Paulino Domingos in *Mathematical Language in the Modeling Learning Process in Higher Education Fashion Design Technology Courses: A Case Study at a Private College in Recife*, which aims to analyze, from the student's perspective, the possible contributions arising from the interdisciplinary relationship between mathematics and modeling knowledge in the context of the teaching-learning process of a Higher Education Course in Fashion Design Technology.

The daily use of mathematical content by professionals in the field is a fact, given the need to construct clothing with precise cuts and standardized measurements. The development of modeling, based on anatomical study, requires knowledge of measurement tables and mastery of geometric principles in order to deal with points, lines, straight lines, curves, and proportions to enable the drawing of diagrams that will result in shapes to dress the body.

We conclude the dossier with *collaborative design methodologies for flat pattern making in clothing*, in which Élide Belquice de Araújo Santiago, Raquel Gomes

Noronha, and Ana Lucia Alexandre de Oliveira Zandomeneghi investigate methods related to Collaborative Design with the intention of applying them to optimize the teaching of flat pattern making in clothing.

Based on a survey of recent results—from completed research conducted in fashion and clothing design courses that address issues related to the teaching of flat pattern making—the authors selected content that was identified as barriers to student learning and mastery. On the other hand, a systematic review of the literature allowed us to compile studies that addressed the relationship between collaborative design and clothing modeling in order to select cases of application that would serve as a basis for the research in question.

From then on, they were able to revisit the problems initially identified, understand them, discuss them, and find ways to solve them based on the principles and concepts of collaborative methodology. The authors concluded with a proposal for a methodological roadmap that includes flexible steps for applying collaborative design in the context of teaching flat pattern making for clothing, in which collaboration is intrinsic to the level and intensity of involvement of each collaborator, thus encouraging new relational and working models in the educational sphere.

We hope that our dossier, dear reader, will lead you to reflect on the role of modeling education in contemporary times, as actors that we are, conscious of our responsibility for training the professionals we envision for the future. To stimulate this reflection, how about a brainstorming session?

We would start like this... looking closely; diversifying our gaze; bringing different worlds together; blending knowledge; sparking curiosity; building collectively; defining roles; sensoriality; bodily space; space for interactions; wearable interface; experiencing; exploring; becoming flexible; playing; having fun; motivating; instigating; innovating; technologizing; collectivizing.

Enjoy your reading! Have a good reflection!