UDC
687.3

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PROBLEM-BASED LEARNING FOR DEVELOPING SOCIOCULTURAL VALUES THROUGH TEXTILE EDUCATION: EVIDENCE FROM AN INTERIOR DESIGN COURSE

Purpose. *To examine how problem-based learning contributes to the development of sociocultural values through the study of textile materials and to identify conditions for applying this experience to the education of fashion industry specialists. The article examines a teaching intervention involving 20 students enrolled in an Interior Design programme, conducted as part of doctoral research in the Republic of Moldova. The qualitative findings highlight the relevance of tasks that connect textile analysis with reflection on the cultural, social and environmental implications of design decisions.*

Keywords*: problem-based learning, textile education, sociocultural values, interior design, sustainable development, professional education.*

Objectives. University education in textiles and design requires students to develop the ability to justify professional decisions in relation to product use, cultural context and environmental consequences. These requirements provide a basis for integrating sociocultural values into subject-specific activities. The pedagogical problem addressed concerns the organisation of learning situations in which students can put these values into practice while investigating and completing a textile-related task.

In this study, sociocultural values are understood as principles that guide judgements and behaviour in relationships with others, cultural heritage and professional responsibilities. Their expression can be examined through cooperation, openness to different perspectives, acknowledgement of peers' contributions and the justification of decisions. Professional competences involve mobilising knowledge and skills to complete a task; values guide the purpose and manner in which these competences are applied.

Problem-based learning (PBL) organises learning around a problem that requires inquiry, the integration of knowledge and the development of a reasoned solution [2]. The teacher facilitates investigation, while students help identify issues that require further exploration. This approach is relevant to the study of

textiles, where the same design solution can be assessed against functional, aesthetic and cultural criteria.

The objectives of the article are to describe the teaching intervention implemented in the Textiles in Interior Design course, synthesise the qualitative findings on students' experiences and propose guidelines for curricular adaptation in the education of fashion industry specialists. The intended contribution is to clarify the relationship between textile analysis tasks, reflection on choices and observable expressions of sociocultural values during learning.

The contribution of this article lies in identifying pedagogical conditions under which textile-related problem-based learning can provide opportunities for the expression and assessment of sociocultural values. Drawing on an intervention in interior design education, the study proposes transferable principles for designing and assessing learning activities in fashion-related programmes, while acknowledging the need for their empirical validation in these contexts.

Methodology. The article draws on the applied study presented in the experimental chapter of the doctoral thesis Educational Strategies for Developing Sociocultural Values among Students in Engineering Degree Programmes [1]. The intervention was conducted during the 2022/2023 academic year at the Technical University of Moldova, Faculty of Urbanism and Architecture, with third-year undergraduate students in the fifth semester of the Interior Design programme. The analysis focuses on this particular teaching intervention, separately from the overall evaluation of the pedagogical model presented in the thesis.

The class comprised 20 students organised into five working groups. The anonymous pre-intervention questionnaire was completed by 19 students, and the post-intervention questionnaire by 20 students. After the activities had concluded, a two-hour focus group was held with five participants, one from each working group. These figures describe participation in data collection and should be distinguished from learning outcomes. The questionnaires were anonymous, and the study report does not document individual matching of responses before and after the intervention.

The intervention consisted of four weekly, face-to-face sessions, each lasting two hours. In the first session, students discussed the task, identified topics for investigation and organised their collaboration. The second session involved discussing the information collected and selecting issues for further exploration. In the third session, students prepared their conclusions and proposals for action. During the final session, projects were presented to peers and an assessment panel. The teacher acted as a facilitator of learning [1].

The common topic was the analysis of textile materials in interior design. The task required students to identify textile types and styles, explain compositional elements and examine the use of textiles in interiors and craft objects. Students were asked to analyse the care of these products and the associated environmental implications, as well as to research craft centres and artisans in the Republic of Moldova. The subject-specific problem therefore explicitly incorporated cultural considerations and reflection on the responsible use of materials.

Data were collected through questionnaires administered before and after the intervention, final open-ended questions, a focus group, project presentations and observations of the sessions. The questionnaires addressed subject knowledge and reflections on competences for sustainable development. In this article, the interpretative synthesis follows the five categories described in the doctoral study: perceptions of problem-based learning, sustainability competences, the learning process, satisfaction and suggestions, and sociocultural values [1].

The findings are presented descriptively, focusing on the reported themes and the organisation of teaching and learning. The study does not provide item-level response distributions, individual scores or frequencies for the qualitative categories that would allow differences in performance to be calculated. Accordingly, the analysis examines the educational relevance of the experience and the conditions under which it was implemented, without estimating a causal effect or the extent of individual progress.

Research results. The first finding concerns a broader approach to analysing textile products. According to the synthesis of open-ended responses and the focus group, students connected design problems with cultural, social, economic and environmental concerns [1]. They regarded the topics as engaging, relevant and conducive to generating ideas. These findings indicate the perceived relevance of the interdisciplinary task; they do not establish the proportion of participants who attained a particular level of competence.

The outputs of the activity are illustrated in the thesis by three visual examples that connect selections of materials and textile surfaces with interior settings [1]. The examples depict uses such as furniture upholstery, rugs and textiles for living spaces. They document relationships between materials, the surrounding setting and the function of an object, providing a basis for discussing compositional coherence. Their documentary value lies in the visual solutions proposed. Assessing the quality of professional decision-making also requires access to students' reasons for selecting, using and caring for a material.

From a formative assessment perspective, the relationship between visual selection and the explanation of a choice helps distinguish technical outcomes from expressions of values. A coherent composition may demonstrate the application of design knowledge. Explaining the provenance of references, acknowledging peers' contributions and discussing the consequences of a choice make it possible to examine behaviour during the same task. This distinction is an interpretation of the reported experience and provides a principle for developing assessment: each judgement about a value should be linked to an identifiable behaviour or argument in the student's work.

The task created opportunities to connect visual composition, textile use and product care. For example, the analysis of a material for an interior setting could be extended through questions about its suitability for use and the implications of its care. Within the intervention, this was an area for educational reflection. The reported data do not include laboratory tests, measurements of textile durability or quantitative assessments of environmental impacts.

The second finding concerns students' participation in shaping the learning process. Discussing topics for investigation and revisiting them in the following session created opportunities for independent decisions. Project presentations and feedback between groups connected inquiry with the public explanation of a solution. From an educational perspective, this sequence provides opportunities to practise autonomy and cognitive flexibility, as students must formulate their own position and consider other arguments.

The study highlights the role of peer interaction and of the teacher as a guide. The synthesis of discussions identifies freedom of expression, peer learning and reflection on experience [1]. These elements describe working conditions that support cooperation. To assess the development of a value, however, participation in an activity should be considered alongside how students take responsibility for tasks, listen to others and use feedback.

The third finding concerns the relationship between textile heritage and professional reasoning. Researching crafts introduced references to the communities and practices that give meaning to an object. This approach can support an understanding of products' origins and cultural contexts. Research on heritage and sociocultural values highlights the role of understanding and promoting heritage in university education [3]. In the case examined, this relationship is documented through the task content and discussion themes, without a separate measure of cultural respect.

Students made two specific suggestions: allowing more time for discussion between groups and addressing problems in collaboration with the private sector.

The first suggestion indicates the importance they attached to exchanging arguments. The second reflects an interest in bringing learning tasks closer to professional situations. In this study, collaboration with enterprises is a direction proposed by participants for improving the activity.

Table 1 connects the findings described in the thesis with the educational implications proposed in this article. The final column represents a pedagogical interpretation of the findings, rather than additional experimental measurements.

Table 1 – **Summary of qualitative findings and educational implications**

Analytical category	**Finding reported in the study**	**Educational implication**
Perceptions of PBL	Topics perceived as relevant and engaging	Problems linked to design practice
Sustainability	Cultural, social and environmental aspects connected	Justifying choices from several perspectives
Learning process	Freedom of expression and feedback between groups	Time to explain and revise solutions
Suggestions	More discussion and private-sector collaboration	Adjusting time and contextualising tasks
Sociocultural values	Reflection and cooperation in task completion	Observing behaviour through explicit indicators

Source: synthesis based on [1, pp. 103–104]; *educational implications proposed in this article.*

The findings support the organisation of learning situations in which textile analysis is accompanied by the communication and justification of decisions. The educational value of the experience lies in the connection between inquiry, discussion of solutions and reflection. Favourable perceptions of the method are a finding about participants' experiences; assessment of their work and behaviour is also required to document the development of values.

Education for sustainable development provides a conceptual basis for interpreting this experience. UNESCO links learning for sustainability to the development of knowledge, values and the ability to make responsible decisions [4]. GreenComp includes reflection on values, critical thinking, problem framing and collective action [5]. In the study examined, these concepts help interpret the task and educational interactions; they were not used as standardised instruments for measuring outcomes.

For the education of fashion industry specialists, the experience suggests opportunities to adapt tasks to selecting materials for a garment, using a cultural reference or analysing product care. Such adaptations should preserve the open-ended nature of the problem and require alternatives to be compared. Application

to clothing design is a curricular proposal: the study participants were enrolled in Interior Design, and the findings cannot be directly attributed to a sample of clothing design students.

Values can be operationalised through observable behaviours in these tasks. Cognitive flexibility may be examined through the reasoned revision of a solution following feedback. Professional integrity may be assessed through the acknowledgement of sources and an accurate account of the limitations of information about materials. Cultural respect may be examined through explanations of the provenance and meaning of a reference. These indicators are proposed for the development of educational assessment and require examination in subsequent interventions.

In a subsequent implementation, the teacher could separately assess the accuracy of textile-related information, the quality of reasoning and collaborative behaviour. The assessment criteria should be shared before the activity so that students understand their relationship to the task. Self-assessment, peer feedback and teacher observation could be combined in the analysis of the same situation. Involving an industry partner would require a problem that can be addressed within the available time and a clear definition of the partner's contribution to feedback.

Interpretation of the findings is limited by the small sample, the inclusion of a single class and the short duration of the intervention. Differences in the number of responses before and after the intervention, together with the anonymity of the questionnaires, mean that a complete individual comparison cannot be assumed. The focus group involving five students provides insights into experiences and suggestions, but does not represent the distribution of opinions across the whole class. No separate comparison with a control group or follow-up assessment of the persistence of value-related behaviour is reported for this PBL intervention.

Furthermore, the study report does not detail procedures for independent coding of responses or checks of agreement between assessors. The conclusions therefore concern the educational potential and teaching conditions identified. Further research should follow the same participants over time, systematically document their work and apply explicit criteria for analysing expressions of values.

For example, students in a fashion design programme could be asked to select textile materials for a garment inspired by a traditional cultural reference. The task would require them to compare functional properties, justify the cultural relevance of their choices, consider material care and environmental implications, and explain how feedback influenced the final design decision.

Conclusion. The intervention involving 20 Interior Design students provided an applied setting for connecting the study of textile materials with

reflection on the cultural, social and environmental implications of design. The qualitative findings describe interest in interdisciplinary topics, the relevance of exchanging arguments and a desire for closer connections with professional practice. These findings support the use of problem-based learning to organise educational activities, within the limits of a small-scale descriptive study.

For the education of fashion industry specialists, the article contributes guidelines for incorporating values into textile-related tasks, facilitating discussion and explicitly assessing reasoning and collaboration.

The main pedagogical implication is that sociocultural values should be addressed not only through the content of textile-related problems, but also through explicit criteria for assessing students' reasoning, collaboration and reflection on professional decisions.

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