

Developing Student Creativity Through Project-Based Learning in Leather Media Product Design

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ABSTRACT

Craft media learning plays a strategic role in equipping students with the ability to process materials, techniques, and design concepts in an integrated manner. Leather media was chosen as the focus of the learning project because it has unique material characteristics and high artistic potential. Leather can be processed through various techniques, such as carving, pressing, sewing, and combinations with other materials, thus providing broad opportunities for students to explore the shape, texture, and function of the product. This study aims to develop student creativity through the application of project-based learning (PBL) in leather media product design in craft media learning. The study used a quantitative approach with a pre-experimental design in the form of a one-group pretest–post-test design. The research subjects consisted of 20 students of the Craft Education Study Program at the Institut Seni Indonesia Padangpanjang, Indonesia. The results showed a significant increase in student creativity after the application of project-based learning. The average creativity score increased from 67.85 in the pretest to 82.60 in the posttest, with the t-test results showing a p value <0.05. The N-Gain value of 0.46 is in the moderate category, indicating that project-based learning is quite effective in developing student creativity. Therefore, it can be concluded that Project-Based Learning can be an effective alternative learning model in craft media learning to encourage student creativity and innovation.

Keywords: Student Creativity, Craft Media, Project-Based Learning

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INTRODUCTION

Various efforts to develop the creative industry and digital economy require higher education graduates to possess not only technical skills but also creativity, innovation, and the ability to produce works of aesthetic and functional value. In the context of vocational arts education, particularly skills education, creativity is a key competency that must be developed because it is directly related to the process of creating works and developing craft products that adapt to market needs and developments (Hasan, M., 2021).

Media arts education plays a strategic role in equipping students with the ability

to process materials, techniques, and design concepts in an integrated manner. However, in practice, learning is often still oriented towards technical skills and reproduction, such as patterns or examples provided by teachers. This type of learning pattern has the potential to limit students' space to explore ideas, imagination, and innovation, which results in optimal creativity development (Prabawa et al., 2021) . This condition highlights the need for learning approaches that provide space for students to think creatively, experiment, and produce work independently. One relevant learning approach to developing student creativity is project-based learning (PBL) (Putri & Wikarya, 2025) . PBL positions students as active subjects in the learning process through activities such as designing, implementing, and completing real-life projects. This model encourages students to explore ideas, solve design problems, and integrate knowledge and skills to produce meaningful products. Several studies have shown that PBL is effective in enhancing students' creativity, independence, and engagement in practice-based learning. (Muhaemin & Yunus, 2021) .

Leather was chosen as the focus of this learning project because of its unique material characteristics and high artistic potential. Leather can be processed using various techniques, such as carving, pressing, sewing, and combining it with other materials, thus providing students with numerous opportunities to explore the form, texture, and function of products. Furthermore, the use of leather is relevant for the development of creative industries based on local crafts, which demand products with high aesthetic and economic value (Abubakar, 2021) . Through project-based learning in leather product design, students not only learn material processing techniques but are also trained to develop creative ideas, make design decisions, and consider the aesthetic and functional aspects of the product. The learning process, which includes planning, exploration, experimentation, and presentation of work, is expected to create meaningful learning experiences and encourage optimal development of student creativity (Lestari et al., 2022) .

Based on the description above, this study aims to develop student creativity through the application of project-based learning in leather media product design in media craft learning. This study is expected to contribute theoretically to the development of project-based art learning strategies, as well as practically to lecturers in designing more creative, contextual, and relevant learning that meets the needs of the creative industry.

RESEARCH METHODS

This research sample uses a quantitative approach with a pre-experimental design in the form of a single group pre-test design. This design was chosen to determine the effect of the application of project-based learning (PBL) on the development of student creativity in learning media crafts based on the design of leather media products. The research subjects were 20 third-semester students majoring in skills education at the Padangikat Art Institute. The research subjects were selected using a purposeful sample, considering that the students already had basic skills and were relevant to the application of the leather media product design project-based (Sihotang, 2023) .

Data collection was conducted using: 1) creativity tests, in the form of design tasks

and making leather craft products, which were given before (pre-test) and after (post-test) the implementation of project-based learning; 2) a creativity assessment rubric, which includes aspects of idea fluency, originality, flexibility, and work development; 3) observations, to support quantitative data related to student engagement during the project-based learning process.

In addition, the main research instrument was a product creativity assessment rubric developed based on creativity indicators in arts education. The instrument's validity was verified in consultation with arts education experts and crafts teachers, while its reliability was tested using the interlevel reliability coefficient.

Data were analyzed using descriptive and uncertain statistics. Descriptive analysis was used to describe students' creativity scores before and after the implementation of project-based learning. Inferential analysis was conducted using paired-sample tests to determine significant differences between pre-test and post-test scores. Prior to the t-test, the data were tested for prerequisites using a normalized test.

RESEARCH RESULTS

Research result

The results of this study were obtained from the students' creativity scores before (trial) and after (post) the implementation of project-based learning in leather media product design. Creativity was assessed using a rubric that included aspects of idea fluency, originality, flexibility, and work grouping .

Table 1. Distribution of frequency distribution of students' creativity scores

Category	N	Mean	Standard Deviation	Minimum Score	Maximum Score
Pretest	20	67.85	5.42	58	77
Posttest	20	82.60	4.98	74	91

Based on Table 1 above, the average student creativity score in the pretest was 67.85, while in the initial test it increased to 82.60. There was a 14.75 point increase in the average score, indicating an increase in student creativity after implementing project-based learning.

Table 2. Results of Student Creativity Analysis before and after the implementation of project-based learning

N	Mean Pretest	Mean Posttest	t count	df	Sig. (p)
20	67.85	82.60	8.94	19	0,000

Based on the test results above, it shows a significant value of $p < 0.05$, which means that there is a significant difference between students' creativity scores before and

after the implementation of project-based learning. Therefore, project-based learning has a significant impact on the development of students' creativity in media craft learning based on leather media product design.

Next, to determine the level of increase in student creativity, an n-profit analysis is carried out using the following formula:

$$N\text{-Gain} = \frac{\text{Skor Posttest} - \text{Skor Pretest}}{\text{Skor Maksimal} - \text{Skor Pretest}}$$

Based on the pretest and average stamp scores, the following values were obtained:

$$N\text{-Gain} = \frac{82,60 - 67,85}{100 - 67,85} = 0,46$$

The N-Gain score of 0.46 indicates that the increase in student creativity is in the moderate category, which indicates that project-based learning is quite effective in developing student creativity.

The results of this study were obtained from the students' creativity scores before and after the implementation of project-based learning in leather media product design. Creativity was assessed using a rubric that included aspects of idea smoothness, originality, flexibility, and work grouping. Based on descriptive analysis, the students' creativity scores in the pre-test stage indicated that their creativity skills were still in the moderate category. Students tended to produce product designs that followed existing examples or references, with limited variations in ideas and exploration of forms. Aspects of originality and elaborated work had not been optimally developed, as seen from the lack of design innovation and conventional processing of leather media .

After implementing project-based learning, the test results in this study showed an increase in student creativity scores across all assessment indicators. Students were able to express a wider variety of ideas, produce more original designs, and demonstrate flexibility in processing leather through a combination of techniques and supporting materials. Furthermore, the details of the work concept and product development appeared more mature compared to before the project-based learning implementation.

The results of statistical tests using paired trial samples showed a significant difference between students' creativity levels before and after the implementation of project-based learning. These findings indicate that the implementation of project-based learning in leather media product design has a positive impact on the development of students' creativity in craft media learning .

DISCUSSION

The increase in student creativity after implementing project-based learning shows that PBL is effective in creating learning experiences that encourage students to think creatively and innovate. Through PjBL, students do not only passively receive

material, but are directly involved in the process of designing, exploring ideas, solving design problems, and realizing products. This process is in line with the characteristics of art learning, which emphasizes direct experience and the creation of works.

During the project planning stage, students are encouraged to independently identify product ideas and concepts. This stage contributes to the fluency and flexibility of ideas, as students are given the freedom to explore various design possibilities. Furthermore, during the project implementation stage, students are exposed to real-world problems related to engineering, materials, and product functionality, which encourages creative and innovative solutions (Almulla, 2020) . The use of leather as the focus of the learning project also plays a significant role in fostering student creativity. Leather's flexible nature and high artistic potential provide students with ample room for exploration to develop unique and visually appealing designs. By combining leather processing techniques with other materials, students can produce more diverse and original works.

The findings of this study align with those of Maros et al., 2023 , who stated that project-based learning can enhance students' learning abilities and develop higher-order thinking skills, including creativity. Furthermore, the results of this study support previous research showing that PBL is effective in practice-based and skills-based learning, especially in the arts and vocational education fields (Benlaghrissi & Ouahidi, 2024) . Therefore, project-based learning in leather media product design not only contributes to improving students' technical skills but also plays a significant role in developing creativity as a core competency in vocational education. The results of this study reinforce the urgency of implementing a learning model based on contextual and real-world experiences in arts education so that students are better prepared to meet the demands of the creative industry.

CONCLUSION AND SUGGESTIONS

Based on the research results, it can be concluded that the application of project-based learning (PBL) in leather media product design can significantly improve students' creativity in learning craft media. This improvement is shown by the difference in students' creativity scores before and after the application of PBL, the results of the main sample t-test, and the n-0 gain value, which is in the moderate category.

Project-based learning provides students with the opportunity to actively engage in the design and creation process, thereby fostering the development of creative ideas, originality in design, and the ability to integrate aesthetic and functional aspects of a product. The use of leather as a project material also provides students with ample room for exploration in developing creativity and innovation in design. The implications of this study indicate that project-based learning can be used as an effective alternative learning model in craft media education, especially to develop student creativity. Further research is recommended to develop research designs with control groups, expand the number of subjects, or integrate aspects of entrepreneurship so that the development of student creativity can be reviewed more comprehensively.

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