

DEVELOPMENT OF PJBL AND DEEP LEARNING TO IMPROVE STUDENT CREATIVITY IN PANCASILA INTEGRATED ARTS EDUCATION

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ABSTRACT

The development of the PjBL and Deep Learning models in Pancasila Education integrated with Arts and Culture can enable students to explore in designing projects accurately. This study aims to describe the development of the PjBL and Deep Learning models in Pancasila Education integrated with Arts and Culture. This research model uses the 4D model of development research (R & D) (define, design, develop, and disseminate). The development was carried out on developing teaching modules, the reference devices include teaching modules (learning plans), assessment instruments, student creativity observation sheets, student response questionnaires to learning activities, teacher response questionnaires to teaching modules. Data were collected using observation and questionnaire techniques. The research instruments used were questionnaires and observation sheets. The collected data were analyzed quantitatively to determine the average score, by categorizing based on the evaluation table referred to by the criteria, then analyzed qualitatively. This study found that: (1) the product was declared feasible after going through one revision with the addition of several components in each section from content experts, language, media, and practitioners and (2) the product was declared practical because it met the aspects of self-instruction, self-contained, stand alone, adaptive, and user friendly. Therefore, it is concluded that the Project Based Learning model with the Deep Learning approach on the material of applying Pancasila values in everyday life is feasible and practical to use in learning Pancasila Education integrated with Arts and Culture.

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INTRODUCTIONS

Pancasila Education is a compulsory subject in the Indonesian national curriculum that must be taken by all students at all levels of formal education (Magdalena et al., 2020). This subject plays an important role in the Indonesian education system by shaping students into responsible citizens who contribute to society, nation, and state. Through Pancasila Education, students are expected to be able to develop strong characters, democratic values, and a sense of responsibility (Rahima, 2024). One of the main discussions of Pancasila Education related to the implementation of the Merdeka Curriculum consists of four main elements (Badan Standar Kurikulum dan Asesmen Pendidikan, 2024).

The implementation of the Independent Curriculum has been implemented in elementary schools since three years ago. In the first year it was implemented in grades 1 and 4, while in the following years it was implemented in grades 1, 2, 4 and 5. Currently, in the third year, it has been implemented in all classes in elementary schools (Badan Standar Kurikulum dan Asesmen Pendidikan, 2024; Fitriyah & Wardani, 2022; Kebudayaan, 2020). The difference between the Independent Curriculum and the 2013 Curriculum lies in the way learning is delivered in class. If the previous curriculum was thematic, then in the Independent Curriculum it focuses on one subject but does not rule out the possibility of being integrated with other subjects (Madhakomala et al., 2022; Oktaviani et al., 2023).

In addition, the implementation of the Independent Curriculum has many differences, especially the focus of the learning center. If the old curriculum tended to be more teacher-centered, the Independent Curriculum is student-centered. The Independent Curriculum is relevant to the concept of Ki Hadjar Dewantara's thinking, namely not only prioritizing students' cognitive abilities but also prioritizing character education, prioritizing the conditions around students (local culture), emphasizing the concept of happy/enjoyable learning, and highlighting the concept of independence, freedom, and equal rights of students (Efendi et al., 2023; Satria et al., 2024).

A preliminary survey of 25 third grade students showed that 80% rarely participated actively in discussions, while 20% relied on peer ideas for creative tasks. This shows that students' communication and creativity skills in understanding unity in diversity are still underdeveloped (Nofitasari & Mubarak, 2025). Given the importance of communication and creativity in the era of 21st century demands. Based on data from the Program for International Student Assessment (PISA), it shows that 56 countries have not optimized their education systems to develop students' creative thinking skills. In comparison, 34 other countries have succeeded in this. Showing that more than 50% of the countries participating in this survey have not paid enough attention to aspects of learning that develop students' thinking and innovation (June & Muzaini, 2024).

Creativity supports students' ability to solve everyday problems in innovative ways and produce original ideas and creations (Murtini et al., 2024). Creativity is related to children's desires and imaginations that they want to express in the form of work (Nadar & Pujianti, 2023; Nipriansyah et al., 2021; Syaikhu et al., 2022; Utami & Vioreza, 2020).

Creativity is demonstrated by the originality and usefulness of ideas. However, students need to choose from many ideas and determine the most useful ones. Thus, creativity actually also involves someone to be able to evaluate more useful ideas (Zhu et al., 2017). Creativity has many benefits for children's growth and development, especially those related to the Pancasila Learner Profile based on character. Creative activities in the formation of character and Pancasila values can instill Pancasila values in students, such as respecting diversity, behaving according to norms, and having a sense of responsibility (Zakso et al., 2022).

Studies show that activities designed to stimulate creativity and divergent thinking can substantially enhance students' creative capacity (R. Aziz, 2023; Elif, 2016). In addition, factors such as gender and individual personality traits further influence creative potential (Lin et al., 2012). As has been studied by (Hosokawa & Katsura, 2018; Zhang et al., 2018) that a person's creativity is also determined by the level of cognitive

intelligence, emotional management ability, social intelligence, and mental health of students.

Educational strategies that prioritize creativity not only contribute to personal growth but also to professional success (Rabia et al., 2024). However, creative thinking varies from individual to individual, reflecting a unique approach to problem solving. Some factors that influence low creativity include the lack of adequate educational facilities, conventional teaching methods, and a lack of understanding of the importance of developing creative thinking skills from an early age (Yumarna et al., 2025). In addition, students are trapped in a mindset that focuses on memorizing lesson materials, without being given the opportunity to think critically or develop new ideas (Acep Iyan et al., 2023).

Interesting learning that can develop students' skills can be done by applying various appropriate learning models. Project-based learning is one of the most widely considered learning models and disciplines. The results of previous studies stated that successful learning outcomes were obtained with project-based learning practices (Dewi et al., 2021; Triana et al., 2020). Project-based learning is one of the important components in the implementation of the Merdeka Curriculum, namely in the Pancasila student profile strengthening project (Ansya & Salsabila, 2024; Sari et al., 2023).

In addition to implementing P5, project-based learning is also applied to general subjects such as Pancasila education, arts and culture, mathematics, and others. So the development of a project-based learning model (PBL) needs to be carried out in elementary schools, especially to support the implementation of the Merdeka Curriculum. PjBL has many advantages, including being able to activate students, increase motivation, and be able to improve student learning outcomes in learning (Nirmayani Dewi, 2021). The development of this PBL model was carried out in the Pancasila education subject in the material "Application of Pancasila Values".

The Project Based Learning model is a learning model that emphasizes challenging questions and complex assignments so as to encourage students to design, solve problems, organize tasks, and produce real products related to the learning carried out (Ibarra-Sáiz et al., 2021; Megawati, 2024). Students who apply this model in learning have higher creativity and critical thinking skills. This is possible because the focus of the PjBL model provides a stimulus for students to actively participate in learning and maximize understanding, critical and creative thinking capacity (Zulyusri et al., 2023). The syntax of the PjBL model is: (1) identifying and formulating projects; (2) project completion design; (3) scheduling;

(4) project completion; (5) report preparation; (6) project evaluation and results (Hendrawati et al., 2024; Permana et al., 2021; Widiastuti & MR, 2024). In this study, the teaching module was modified according to the syntax of PjBL by applying the Deep Learning approach.

This approach focuses on deeper, contextual, and meaningful learning (A. Aziz & Zakir, 2022). Deep Learning refers to a learning approach that focuses on deep understanding, relationships between concepts, and implementation of knowledge in real conditions. Deep understanding is carried out through critical, creative, applicable, and reflective thinking processes (Akmal et al., 2025; Ramadan et al., 2025). This approach allows students to process, integrate, and apply this knowledge in situations they experience. Thus, students can understand a concept thoroughly and utilize the knowledge they have learned in everyday life (Asmi & Wijayanto, 2025; Putri, 2024). The research was conducted by implementing the Deep Learning approach, thus presenting meaningful, conscious, and enjoyable learning for students.

Through the PjBL model by integrating the Deep Learning approach, students are given space to explore, make mistakes, and learn from their own experiences. The combination of PjBL with Deep Learning can provide opportunities to overcome the problem of lack of skills, be it critical reasoning, creativity, collaboration, or communication, as 21st century skills possessed by students in Pancasila Education subjects integrated with art.

Arts and culture have three main concepts, namely collaboration, creativity, and interdisciplinarity (Ansya & Salsabila, 2024; Safitri et al., 2025; Setyaningrum & Hutami, 2021). The concept of art is applied as a

manifestation of the product differentiation approach. Product differentiation is the selection of product types according to the abilities and talents of students (Aditomo, 2024). Meanwhile, Arts and Culture according to the curriculum in elementary education has four main components, namely fine arts, music, dance, and theater ((Badan Standar Kurikulum dan Asesmen Pendidikan, 2024).

The product differentiation applied is that students are free to determine the type of final product produced from learning by considering students' interests and talents towards the main components of art. In fine arts, works can be in the form of posters, infographics, comics, and others. Then for music, students can create simple songs related to the tasks given with musical accompaniment from the tools and materials available around them. Furthermore, for dance and theater, students can create short dramas related to the application of Pancasila values, the presentation of which can be live or from recordings.

Previous studies have shown the progress of PjBL in civic education and related subjects (Yuniati & Indriayu, 2024). According to research (Laili et al., 2025) found that PjBL significantly increased the creativity of fourth grade students in arts and culture (SBdP) subjects, with a posttest score (95.82) exceeding the pretest average (71.47) and a high N-Gain index of 0.85. Likewise, (Ma & Putri, 2025) found that interactive PjBL significantly improved students' understanding of ethnic diversity, while (Nofitasari & Mubarak, 2025) highlighted its role in strengthening social attitudes. In addition, (Davies et al., 2013; Setiawan et al., 2024) observed that PjBL combined with picture card media can improve students' creativity.

However, this study did not examine in depth the impact of PjBL on students' creativity skills during learning. What is new in this study is combining the PjBL model with the Deep Learning approach, which has not been widely applied together in the context of elementary school education. Based on this background, learning needs to facilitate students to be able to develop their ideas. The incorporation of relevant arts-based materials into PjBL improves creativity outcomes, including in areas such as Pancasila Education. This study developed PjBL and Deep Learning to enhance student creativity in Pancasila Education integrated with arts. The purpose of this development research is to describe the development of the PjBL and Deep Learning model in Pancasila Education integrated with arts and culture. These findings are expected to contribute to active learning practices in elementary schools and serve as a reference for educators and adopt a learner-centered approach.

METHODS RESEARCH

The research uses a development model (R & D) with a 4D model (Four D Model) (Indaryanti et al., 2025; Zamsiswaya et al., 2024). According to Supartini et al., (Supartini et al., 2020), development research is a process used by researchers to develop and validate educational products. There are four stages of development, namely define, design, develop, and disseminate (Scott et al., 2024; Thiagarajan et al., 1974).

This study was conducted to develop a teaching module in Pancasila Education integrated with Arts and Culture for grade VI elementary school that analyzes the improvement of student creativity with the PjBL and Deep Learning models. The teaching module is arranged with a learning duration of 2 lesson hours by providing an explanation of the learning steps that are adjusted to the PjBL syntax, delivering material with a Deep Learning approach that prioritizes meaningful, conscious, and enjoyable learning. The reference tools include teaching modules (learning plans), assessment instruments, student creativity observation sheets, student response questionnaires to learning activities, teacher response questionnaires to teaching modules.

The population of this study was grade VI elementary school students in Delanggu District, Klaten, Central Java. The sampling technique used was simple random sampling, which is the selection of participants randomly without considering strata, so that each member of the population has an equal opportunity to be included (Maduekwe & de Vries, 2019). Small-scale trials were conducted on grade VI elementary school students from various schools who were taken randomly with the aim of conducting research simulations to obtain an

initial picture of the feasibility of the teaching module. A large-scale trial was conducted on thirty sixth-grade students of Tlobong 1 State Elementary School after obtaining a valid and effective teaching module after being used in a previous limited class trial. This study uses several data collection techniques, namely questionnaires (expert and practitioner validation), observation, semi-structured interviews, and documentation. The interview instrument used in this study was designed to explore information related to the development of PjBL and Deep Learning towards increasing student creativity in Pancasila Education integrated with arts. The source of interview data came from the implementing teacher of the learning. Observation activities were carried out in three main stages to obtain a comprehensive picture. The documentation study conducted was analyzing documents that could provide data to support the process of developing the model.

This study uses several data collection techniques, namely questionnaires (expert and practitioner validation), observation, semi-structured interviews, and documentation. The interview instrument used in this study was designed to explore information related to the development of PjBL and Deep Learning towards increasing student creativity in Pancasila Education integrated with arts. The interview data sources came from two teachers implementing learning at different schools. Observation activities were carried out in three main stages to obtain a comprehensive picture. The documentation study conducted was analyzing documents that could provide data to support the process of developing the model.

In addition, this study also used a needs analysis questionnaire, expert validation, teacher and student responses. The results of the needs questionnaire analysis were used as consideration in designing teaching modules in Pancasila Education lessons integrated with Arts and Culture for grade VI elementary schools which were analyzed by increasing student creativity with the PjBL and Deep Learning models. The validation instrument was used to collect feedback from media, language, and material experts (Montes et al., 2023). The response instrument, in the form of a questionnaire, was distributed directly to teachers, students, and experts to collect their input.

RESULTS AND DISCUSSIONS

Results

This development produces a product in the form of a teaching module in the Pancasila Education lesson integrated with Arts and Culture for grade VI elementary school which analyzes the increase in student creativity with the PjBL and Deep Learning models. The learning module developed contains material related to the application of Pancasila values in everyday life. This material has an important position considering that the center of the implementation of the Merdeka Curriculum is the strengthening of Pancasila values as depicted in the Pancasila Student Profile and the Pancasila Student Profile Strengthening Project.

The application of Pancasila values is used as a means to train students' creativity. The following data is the result of the development of teaching modules for teachers consisting of: (a) foreword, (b) table of contents, (c) lesson implementation plan and (d) appendices containing teaching materials. The teaching module has the same components as in the learning process. The core components in this teaching module include: module identity, initial competencies, Pancasila student profiles, facilities and infrastructure, target students, learning methods, learning objectives, meaningful understanding, trigger questions, learning activities, reflection, assessment, and enrichment and remedial activities.

In the teaching module, there is an activity to create infographics regarding the application of the values of Pancasila, the 4th principle. The project product is free to the students. The product can be in the form of infographics, videos, short dramas, short stories, posters, dioramas, and other forms. The validation data for the development of the learning materials was obtained from 3 experts and 2 validator practitioners in the form of qualitative and quantitative data. The quantitative data was then analyzed in each aspect. The average results of

the validation of the teaching module by the validator can be seen in Table 2.

Table 2. Results of Validation of Teaching Modules by Validators and Practitioners

No.	Aspect	Value	
		Expert	Practitioner
1	Self instruction	4	3,5
		4	4,5
		4,5	4
		5	4,5
		4,5	4
		4	4
		4	4
2	Self contained	4	4,5
		4,5	4
		4,5	4,5
		4,5	4,5
3	Stand alone	4,0	4,0
		5,0	4,5
		4,5	4,5
4	Adaptive	4,5	4,5
		4	4,5
		4,5	4,5
5	User friendly	4,5	4
		4,5	4,5
		4,5	4,5
		4	4,5
Average		4,36	4,28

The validation results of the developed teaching module obtained an average of 4.36 from experts and

4.28 from practitioners or can be categorized as very feasible. Based on the validation data of the teaching module in Table 2, the teaching module that was prepared was declared very valid and feasible in the validation of content, media, and language as well as several practitioners. However, there were several comments and suggestions given by the validator which were then used to revise the teaching module. These comments and suggestions are presented in Table 3.


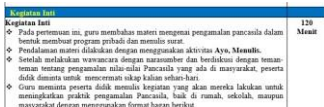


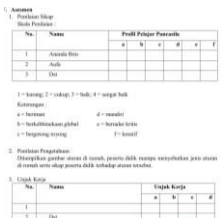

Tabel 3. Comments and Suggestions from Validators and Practitioners

Validators	Comments and Suggestions
V1	In the teaching module, assignment activities are not included in the project
V2	PjBL and Deep Learning model steps should be made in learning activities
V3	Media has not utilized technology
P1	Added description of each assessment

P2 Attachments that are not easily accessible can be barcoded to make accessing the material easier.

Then, a revision was made to the product used to correct deficiencies and perfect the developed teaching module product so that it is ready to be used. Improvements and refinements of the product were made based on comments and suggestions from the validator's validation results. The results of product improvements and refinements based on the validation results can be seen in Table 4.

Table 4. Results of Product Improvement and Refinement from Validation Results

Validators	Early	Fixes
V1		<p>c. Tahap 2: Merancang Proyek</p> <p>(1) Setiap kelompok Menyusun rencana proyek berdasarkan pertanyaan mendasar. Contoh proyek: membuat infografis mengenai penerapan nilai-nilai Pancasila sila ke-4. Produk proyek dibebaskan kepada peserta didik. Produk bisa berupa infografis, video, drama pendek, cerita pendek, poster, diorama, dan bentuk lainnya. (diferensiasi produk)</p> <p>(2) Guru memberikan bimbingan dan masukan terhadap rencana proyek yang dibuat peserta didik.</p>
V2		
V3	<p>Sarana dan Prasarana (Materi ajar, Alat dan bahan)</p> <p>Materi Pokok</p> <p>❖ Belajar Mengamalkan Pancasila: Membuat Program Pribadi dan Menulis Surat</p> <p>Media :</p> <p>❖ Proyektor dan layar, presentasi multimedia, grafik dan infografis</p> <p>Sumber Belajar Utama atau sumber lain</p> <p>❖ Buku siswa, artikel, jurnal, dokumen resmi</p> <p>Sumber Belajar Lain yang relevan</p> <p>❖ Buku-buku terkait pendidikan pancasila dan sumber online yang relevan</p>	
P1		

moral messages and social values are obtained after using the teaching module product with the PjBL and Deep Learning models to increase creativity. Teaching materials contain descriptions of materials, examples, images, practice questions, assessments, and reflections that encourage the development of a creative attitude.

The developed teaching module has met the indicators of self-instruction, self-contained, stand-alone, adaptive, and user friendly. These five indicators are evidence that the teaching material product is considered practical to be used to improve the creativity of elementary school students. These results are in line with previous findings that succeeded in achieving a high practicality value in the developed product (Rofi & Susilo, 2023). Other studies also show that teaching modules with the PjBL model through thematic, partial, and incidental approaches are effective in increasing children's involvement in the learning process (Zulfa & Sari, 2024).

Student-centered project-based learning is useful for developing individual and group projects. Project-based learning refers to an inquiry-based learning approach that encourages students to construct knowledge by engaging them in completing meaningful projects and developing tangible products (Guo et al., 2020). Project-based learning includes problem-solving, decision-making, inquiry, and creative skills (Zayyinah et al., 2022). The stages of project-based learning are in line with the stages developed by The George Lucas Foundation in 2005, as referred to in (Sari, 2018) which include identifying fundamental questions, designing project plans, creating activity schedules, monitoring students and project progress, testing results, and evaluating experiences.

This teaching module is considered a potential innovation in project-based Pancasila Education learning that forms character according to the values in Pancasila. However, there are several improvements in this teaching module, for example by improving the clarity of project tasks that encourage students to think critically, creatively, and work together. Through PjBL, this teaching module aims to provide an in-depth project-based learning experience (Sahjat et al., 2025).

The project assignment given by the teacher is to create infographics regarding the application of the values of the 4th principle of Pancasila. Products in the form of infographics, videos, short dramas, short stories, posters, dioramas that can improve high-level thinking skills (HOTS) through analysis, evaluation, and creation/creativity. The evaluation of the results of the teaching modules developed after being revised is very relevant to the demands of 21st century education which prioritizes the development of critical thinking skills, collaboration, and creativity. The integration of the PjBL and Deep Learning models provides a new dimension in learning, which not only pays attention to cognitive aspects but also to students' moral and social character. These findings support previous research showing that the PjBL and Deep Learning models can increase the appeal and effectiveness of learning (Martín et al., 2021; Mursid & Junaidi, 2025).

The PjBL and Deep Learning models developed in the teaching module are presented in a structured manner. After going through a revision process according to what is suggested by experts, the core activities are divided into five stages. These stages include: (1) determining basic questions, (2) designing projects, (3) preparing project schedules, (4) project implementation, and (5) evaluation and reflection. According to ((Ringotama et al., 2022) there are several stages in using the Project Based Learning approach in the learning process, namely asking questions, designing product plans, evaluating products, and conducting assessments through observations during this project activity. Each learning activity is adjusted to the stages of PjBL learning which of course are associated with materials that include deep learning. Education is currently entering the concept of Deep Learning, which emphasizes deep understanding, problem solving, and the integration of various disciplines in the learning process (Fu & Hwang, 2018; Rahmawati et al., 2022).

This teaching module is also equipped with technological features in the application of Canva media to make it easier for students to understand the rules in their surroundings, starting from the home and school environment. The developed teaching module remains relevant and can be applied in the context of Deep Learning, because this model emphasizes in-depth exploration through projects, encourages students to examine

rules that are in accordance with Pancasila values, and trains creative thinking in compiling projects in the form of infographics. In addition, this teaching module also accommodates the principles of Deep Learning, such as experience-based learning, reflection, and active involvement of students in building their understanding (Blankesteijn et al., 2024).

The practical response of the teaching module by teachers indicates that the teaching material has passed the quality assurance test. This is in line with Hamweete's theory (Hamweete, 2012) that teaching material products must pass the quality assurance graduation test. Quality assurance procedures must be available to achieve the objectives of procuring the teaching module, especially in educational institutions (Kankaew et al., 2021). The procedure also ensures that the quality of the teaching module meets the needs of the current educational environment.

The positive assessment given by teachers is also in line with previous findings related to the teacher needs questionnaire for the Pancasila Values teaching module integrated with the PjBL and Deep Learning models. Teachers received a learning model prepared from the curriculum packaged by the government and they were satisfied. Other findings also claim that the learning module product received a good rating in terms of content validity and relevance. The products developed include clear, attractive, and new content (Ambayon, 2020). This is also in line with the findings of Balbin et al (Balbin et al., 2021) which claims that the evaluation of the module from teachers has been received with decent qualifications. However, teachers continue to be directed and encouraged to consider interesting features in the product as an important part of the material. A module product or teaching material must have innovation and motivate student learning.

The findings of this study have important implications for educational practice, policy development, and teacher training. In practice, this study highlights emphasizing in-depth exploration through projects, encouraging students to examine rules that are in accordance with Pancasila values, and practicing creative thinking in compiling projects in the form of infographics. This is in line with the objectives of the Merdeka Curriculum, which emphasizes an active and engaging learning approach that is tailored to student characteristics. Furthermore, policy makers are encouraged to integrate PjBL and Deep Learning into the curriculum and provide support through teacher training programs, to ensure that educators are equipped to implement the model effectively.

However, this study has limitations that need to be considered. The results are specific to a particular setting and activity, thus limiting generalization to a broader context. Limited resources, especially in schools with inadequate infrastructure, pose challenges in implementing the PjBL and Deep Learning models. Furthermore, the lack of a comprehensive assessment framework hinders a full evaluation of the effectiveness of PjBL in addressing all aspects of student development. These limitations highlight the need for further exploration to refine and expand the application of PjBL and Deep Learning in various educational settings.

CONCLUSION

The results related to the Project Based Learning model with the Deep Learning approach on the material on the application of Pancasila values in everyday life are feasible and practical to use in integrated Pancasila Education learning Arts and Culture to improve student creativity. The product was declared feasible after going through one revision with the addition of several components in each part of the teaching module suggested by media, language, material, and practitioner experts. As for practicality, the product is stated to be practical because it meets the aspects of self-instruction, self-contained, stand alone, adaptive, and user friendly. This validation ensures that teachers can introduce and apply Pancasila values in everyday life using the PjBL and Deep Learning models. Future research should focus on addressing existing limitations by providing insight into the long-term impacts of PjBL and Deep Learning not only on student creativity but also elements of critical thinking,

collaboration, etc. In addition, a strong formative and summative assessment framework can also be developed to help evaluate its impact comprehensively.

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