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Implementation of Project-Based Learning Model to Improve Creative Thinking of Elementary School Teacher Education Students in Social Sciences Learning in Upper-Level Class Course

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Abstract

The Indonesian authority encourages that higher education institutions should carried out in a non-lecturing manner, in the form of a case method and team-based project. Therefore, the Universitas Pendidikan Indonesia requires all lecturers to create collaborative and participatory classes. The Social Sciences Learning in the Upper-Level Class Course used the project-based learning (PjBL) model in the form of visits to museums and making videos of the results of their visits, so it is important to investigate the implementation and results of the practice to enhance critical thinking. The subjects of this qualitative study were fourth-semester students at the UPI Serang Campus Elementary School Teacher Education Study Program. The method employed in this research was a descriptive qualitative using observation and questionnaire data collection. The data analysis used the Miles and Huberman framework, comprising data reduction, data display, verification, and conclusion. The results of the research demonstrated that the application of the PjBL model in the course by creating videos and YouTube platforms revealed that students' creativity increased because they were given the freedom to explore their creative thinking in carrying out the project. This is shown by the percentage of 27.21% was in very students completing assignments, with excellent criteria and the rest gained good criteria according to the rubric given. The implementation could be the best practice of PjBL in higher education to increase student creative thinking.

Keywords: Creative Thinking, Project-Based Learning, Social Sciences Learning

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Abstrak

Pemerintah Indonesia mendorong agar perguruan tinggi melaksanakannya secara non-perkuliahan, dalam bentuk metode kasus dan proyek berbasis tim. Oleh karena itu, Universitas Pendidikan Indonesia mewajibkan seluruh dosen untuk menciptakan kelas yang kolaboratif dan partisipatif. Mata kuliah Pembelajaran IPS Kelas Tinggi menggunakan model project-based learning (PjBL) berupa kunjungan ke museum dan pembuatan video hasil kunjungannya, sehingga perlu diketahui pelaksanaan dan hasil praktiknya untuk meningkatkan pemikiran kritis. Subyek penelitian kualitatif ini adalah mahasiswa semester IV Program Studi Pendidikan Guru Sekolah Dasar Kampus UPI Serang. Metode yang digunakan dalam penelitian ini adalah deskriptif kualitatif dengan menggunakan pengumpulan data berupa observasi dan kuesioner. Analisis data menggunakan kerangka Miles dan Huberman yang meliputi reduksi data, penyajian data, verifikasi, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa penerapan model PjBL dalam perkuliahan dengan membuat video dan platform YouTube menunjukkan bahwa kreativitas siswa meningkat karena diberikan kebebasan untuk mengeksplorasi pemikiran kreatifnya dalam melaksanakan proyek. Hal ini ditunjukkan dengan persentase siswa yang menyelesaikan tugas sebesar 21.21%, dengan kategori sangat baik sedangkan sisanya memperoleh hasil pada kriteria baik sesuai rubrik yang diberikan. Penerapan PjBL ini dapat menjadi best practice di perguruan tinggi untuk meningkatkan berpikir kreatif mahasiswa.

Kata Kunci: Berpikir Kreatif, Project-Based Learning, Pembelajaran IPS

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INTRODUCTION

The Project-Based Learning (PjBL) learning model uses projects/activities as its goal. PjBL focuses on student activities in the form of collecting news and using it to create something useful for the lives of the students themselves and others. Students are able to investigate, reflect, design, and respond to current developments according to their interests through PjBL (Fatmawati, 2011). Uno stated that the atmosphere that should be created in the learning process is how students play an active role in learning (Argaw et al., 2017).

This research is motivated by the low level of student creativity in the lecture process, students who tend to be passive, and lectures that do not provide opportunities for students to exhibit their skills in carrying out lecture assignments. Under university policy, learning must be directed at case methods and team-based projects. Specifically, in Social Sciences Education in the Upper-Level Class Course, researchers apply the PjBL learning model. Various studies have been conducted on PjBL, such as Hindun et al. (2022) research, which applied PjBL to improve students' high-level thinking in Indonesian learning and revealed that PjBL could improve students' high-level skills. Likewise, the research results of Dewi et al. (2021) uncovered that the implementation of the PjBL model in social studies learning at Madrasah Ibtidaiyah Wahyu Mandiri produced research results that the implementation of PjBL was effective in improving learning outcomes, with the average student learning outcome reaching 93% completeness in the very high category. This is also confirmed by the study findings of Nasution et al. (2022) who wrote the trend of implementation of the PjBL model in higher university level. Not only due to the indication of policymakers but also the awareness of lectures involving students in higher-order thinking lecturing. The studies above indicate that its utilization in higher education is starting to become massively used. The trend is not only in Indonesia but globally in several countries in different areas (Gama, 2023).

Education is, in fact, the spearhead in preparing future generations to answer the challenges of the times. One way is an appropriate learning process used by teachers to improve students' knowledge and skills. A student-oriented learning process uses appropriate models, methods, and strategies. Therefore, Elementary School Teacher Education (PGSD) students as prospective teachers need to apply and learn to utilize this model.

Further, PjBL is a learning model that provides teachers with the opportunity to manage learning in the classroom by involving project work (Putri et al., 2019). This project contains complex assignments based on highly challenging questions and problems and requires students to work through a series of stages of the scientific method. PjBL also requires students to think critically, creatively, and analytically, use higher thinking skills, and requires collaboration, communication, problem-solving, and independent learning (Purbosari, 2016).

Creativity, more specifically, is related to the ability to find new connections, the ability to see things from a new perspective, and the ability to form combinations of many concepts that come to mind. Creativity is not bringing something that does not exist into existence but is the ability to produce new ideas by making combinations, making changes, or applying existing ideas to different areas (Zubaidah, 2018). It can also be interpreted that creative thinking is the activity of thinking so that creativity emerges in someone or thinking to produce new things for themselves or others (Nugraha et al., 2023).

According to Zubaidah (2018), aspects or indicators of creative thinking skills include fluency, flexibility, originality, elaboration, and metaphorical thinking. Meanwhile, Munandar (in Kristiani et al., 2017) divides creative thinking into several indicators, such as fluency, flexibility, originality, elaboration, evaluation, curiosity, imaginativeness, feeling challenged by plurality, taking risks, and respect for other people. In higher education institutions (universities), all indicators can be measured. This is influenced by the level of cognitive development of students who are considered independent learners.

In this case, the PGSD Study Program, UPI Serang Campus, is committed to forming prospective teachers through educational provisions that implement PjBL. One of the

relevant courses that implements PjBL is Social Sciences Education in the Upper-Level Class Course, which reveals learning promotion projects through digital platforms. One of the projects in this course is making a video after a visit to a museum. Videos uploaded to YouTube must comply with the rubric set by the course lecturer. The video results are then assessed based on certain categories to measure students' creativity in carrying out assignments. As such, this research is crucial to see and prove how the PjBL implementation process is carried out, as well as observing how successful elementary school prospective teachers are in participating in learning using the PjBL model implemented in lectures.

The context of teachers' creative thinking in learning is the teacher's ability to create various new and original ideas and possibilities (Darmuki & Hidayati, 2023). Teachers' creative thinking is also their ability to think as a result of reflection of insight, curiosity, flexibility, originality, and the ability to connect concepts or ideas, which teachers themselves sometimes forget when preparing learning programs (Meintjes & Grosser, 2010).

In a study by Noviyana (2017), it was discovered that learning using PjBL significantly increased student creativity. PjBL is a learning model that involves participants in transferring knowledge (Purbosari, 2016). That way, students will gain additional knowledge through their experience. Apart from that, Setyowati & Mawardi (2018) asserted that PjBL is a learning model that can increase learning motivation, creativity, problem-solving abilities, communication skills, and collaboration and provide experience for students so they can divide tasks and manage materials and time in completing projects. However, there is very little research linking PjBL practices in higher education for prospective teachers, with most research only at the elementary school level, among those carried out by Fitriani & Sarkity (2022).

Based on this, it is necessary to conduct a study on the implementation of the PjBL model to improve students' creative thinking abilities in Social Sciences Education in the Upper-Level Class Course by giving them the task of making videos of visits to museums and then uploading them to the YouTube channel.

METHODS

This research is descriptive qualitative research. According to Sakyi et al. (2020) descriptive research is intended to investigate circumstances, conditions, or other things that have been mentioned, the results of which are presented in the form of a research report. Descriptive research aims to describe existing phenomena, both natural phenomena and man-made phenomena, which can include activities, characteristics, changes, relationships, similarities, and differences between one phenomenon and another. As Waruwu (2023) defined, descriptive research is research that determines the value of an independent variable, either one variable or more (independent), without making comparisons or connecting it with other variables.

The results of descriptive research are presented descriptively. At the end of the research, a description of the facts, nature, and relationships between symptoms will be analyzed using explanatory research (Bingham, 2023). In this case, the phenomenon, condition, or variable to be explained was the implementation of PjBL in Social Sciences Education in the Upper-Level Class Course. Meanwhile, the limitations of the phenomenon were the implementation of PjBL and students' perceptions of lectures supporting the development of creative thinking skills.

In addition, the subjects of this research were fourth-semester students of the PGSD Study Program, UPI Serang Campus, who took the Social Sciences Education in the Upper-Level Class Course.

The data collection techniques employed in the research were observation and questionnaires (primary data) regarding student success in learning about the process of developing creative thinking skills. Questionnaires were distributed to all fourth-semester students who were taking the Social Sciences Education in the Upper-Level Class Course, with a total of 147 students. Meanwhile, observations were made during the project process. The data analysis technique used in this research refers to Miles

and Huberman's version of data analysis (Tanjung et al., 2022), which proposes three activity streams: data reduction, data presentation, and drawing conclusions or verification.

The questionnaire data were then analyzed descriptively to measure the category of student success in learning that develops creative thinking skills. The student success category was obtained from the percentage of questionnaires and assessment results on each aspect of creative thinking skills. Meanwhile, the observation data was analyzed by reducing the findings and according to the research focus. Furthermore, the observation data was used for triangulation purposes. Table 1 below regarding student perception categories was obtained from the percentage of questionnaire entries for each question.

Table 1. Categories of Student Perceptions

Score	Category
5	Strongly agree
4	Agree
3	Neutral
2	Disagree
1	Strongly disagree

RESULTS AND DISCUSSION

Implementation of PjBL

The PjBL learning design in the Social Sciences Education in the Upper-Level Class Course focuses on developing students' creative abilities similar to the approach of Usman & Ratnasari (2019).

In this study, research subjects were given Final Semester Examination assignments on the Social Sciences Education in the Upper-Level Class Course, where there were 4 parallel classes: classes A, B, C, and D, totaling 147 students. The following are the assignment criteria given to students as a group, along with the terms and conditions for the project carried out by the students.

Technical Instructions for Assignments to Create Learning Video Projects Results of a Visit to the Museum
Social Sciences Education in the Upper-Level Class Course Even Semester of the 2022/2023 Academic Year
Universitas Pendidikan Indonesia, Serang Campus

A. Terms

- Videos consist of the following elements.
- The video must feature each member of each group periodically.
- When presenting material, students are required to wear the Indonesian Education University alma mater jacket.
- Each scene/slide may have appropriate supporting images or videos inserted to support the video presentation.
- The duration of the presentation video is around 10-15 minutes.
- Videos may use representative and appropriate background sound (YouTube background sound without copyright), provided that the background sound does not overpower the main sound that conveys the material.
- The video consists of the following elements:
  a. Opening: Presents the topic title and list of group members.
  b. Content: Contains a summary of the material presented in an interactive video, either images or video fragments, accompanied by text (subtitles) to make it easier for video viewers to watch.
  c. Closing: Contains conclusions and an invitation to like, share, and comment.
  (Note: Displays each member in each group periodically).
- The completed learning video project can then be uploaded to the YouTube channel. Then, the YouTube link is uploaded to each student's spot on the Social Sciences Education in the Upper-Level Class Course.
- The latest to be collected (uploaded) is Friday, June 9, 2023.

B. Assessment Aspects

Aspects of assessment based on conformity with the above provisions include:

- Duration accuracy
- Completeness of elements, including opening, contents, and closing
- YouTube background sound has no copyright, and the background sound does not cover the sound that explains it.
- Punctuality in submitting assignments

The provisions above follow several theoretical studies of the implementation of the PjBL model. The learning model (PjBL) is an activity that is made into a mandatory project. This model requires students to be innovative (Herzon et al., 2018). PjBL learning characteristics include (a) creating solutions, (b) focusing attention, (c) innovating, (d) producing outputs and presenting them, and (e) collaborating. In PjBL, students are free to take key questions from a project (Dwi et al., 2018). Therefore, PjBL is considered a learning model that can improve brain abilities well. This ability is influenced by internal and external drives. Creative thinking abilities need to be trained from an early age through consistent habituation (Susilo et al., 2018). A person's cultural personality can also be influenced by whether a person can create activities (Wanelly & Fauzan, 2020).

Moreover, the implementation of the PBL version supports the implementation of active, creative, effective, and enjoyable learning (Mukharomah & Hidayat, 2017). Students will be fully involved in the learning process because they act as learning subjects (Scholar Targeted Gaining Knowledge of). Implementation of learning by implementing PjBL, according to Han et al. (2015), includes selecting content/material and skills to be studied, determining the learning resources used, writing problem formulations, determining motivation, and determining the focus of questions and how to evaluate.

Learning Outcomes of Creative Thinking Skills

In its implementation, more than 25 videos were collected on the YouTube page as a result of student projects, indicating that all students were actively involved and completed their projects. The following is a video screenshot of students making a learning video project, which can be seen in Figure 1 to Figure 3 below.

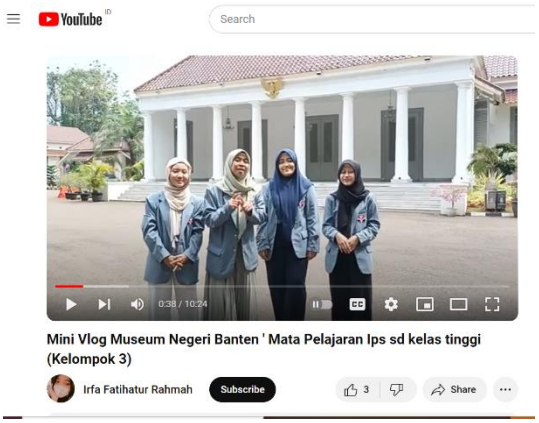

Figure 1. Students Visit & Make Video of the Museum Negeri Banten

The picture above shows students visiting and making a video introducing the Banten State Museum. The video can be accessed and watched via the link https://www.youtube.com/watch?v=odTgkw5a-mE

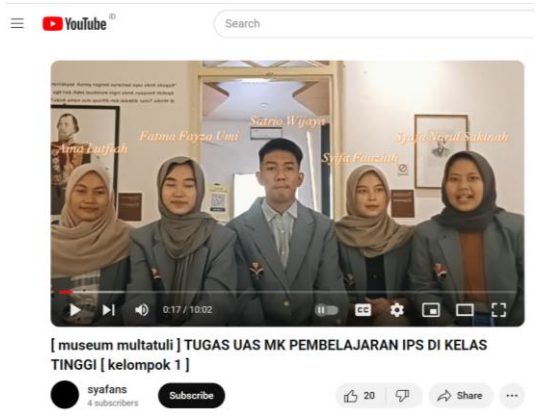

Figure 2. Students Visit & Make Videos of the Museum of Multatuli

The picture above shows students visiting and making a video introducing the Museum of Multatuli. The video can be accessed and watched via the link: https://www.youtube.com/watch?v=MxQ4IfOOwco

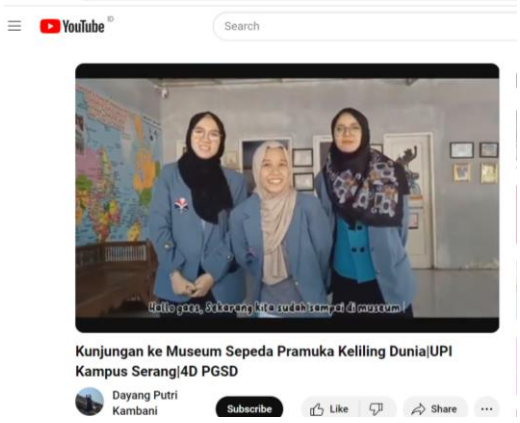

Figure 3. Students Visit & Make Video of the Museum of Bicycle

The picture above shows students visiting and making a video introducing the Museum of Bicycle. The video can be accessed and watched via the link: https://www.youtube.com/watch?v=TCiMDZIOAUU

The creative process of making videos was discovered by assessing the final product and the video-making process through a questionnaire. Assessments that included elements of creative product criteria validly separated quality products through a creative thinking process and became student scores. It can be seen from the variety of museums visited and the form and content of the videos that students appear to be creatively planning their project process. The following are the results of the recapitulation of grades obtained by students based on the assignments given.

Table 2. Recapitulation of Student Scores

Category	**Very Good**		**Good**	
Score	A	A-	B	B+
Number of Students	38	2	56	50
Percentage (%)	25.85	1.36	38.09	34.01

The table above reveals that the majority of assignments made by students met the criteria set out in the assignment rubric. It can be seen that 25.85% and 1.36% fell into the very good category, and 38.09% and 34.01% were in the good category, respectively. In assessing the raw score range, it was determined that students who got a score of 85-95 were in the very good category (A to A-), 75-85 were in the good category (B to B+), and 65-75 were in the fair category (C). Based on the table above, there are no students who got a C (adequate), meaning that the assignments they made in the form of videos resulting from their visit to the museum were very good.

Aside from the success of the creative process through product process videos and the number of products, this is an indicator of a capable, creative thinking process. This denotes that the video-making project can be considered successful in stimulating students' creative thinking, especially when producing and transmitting information from the museum visit (cognitive receptive) into productive information in the form of interactive videos (Hasanah et al., 2022).

This is consistent with Noviyana's (2017) opinion that PjBL can increase student creativity in transferring knowledge. This is also supported by Purbosari's (2016) opinion that PjBL increases students' knowledge through their experiences. Muchtar (2023) also stated that students' creative thinking abilities after implementing the video-based PjBL model certainly had a positive impact. This aligns with previous research which revealed that implementing PjBL in social studies learning in elementary schools could increase student creativity because students are given the freedom to explore their skills in carrying out assignments.

Then, in the research of Kusadi et al. (2020), students who studied with a project-based learning model and students who studied with a conventional learning model had different social abilities and critical thinking skills. In projects involving students themselves, as confirmed by the opinion of Putri et al. (2019), PjBL involves projects, critical thinking, and analysis, where students are required to collaborate, as shown when they visited museums together in this study.

This research using PjBL was carried out by students in the form of a video project, which is different from previous research, where most of the research was conducted in elementary schools and performed by teachers. Even though the material was the same in social studies learning, of course, social studies material in elementary schools for schools and social studies lecture material in

universities for students who are prospective teachers are different. From a material perspective, it is certainly more complex, not as simple as at the elementary school level.

The PjBL model has the characteristics of learner-centered learning, where learning begins with questions or problems that arise in real life (Harlis et al., 2022). Hence, students can hone their problem-solving skills. PjBL has helped students grow as individuals by developing academic and practical problem-solving skills (Nuraini, 2023). Suharningsih & Sahono (2021) added that when making videos uploaded to YouTube, communicating when visiting and explaining the objects in the museum, students could solve problems. Making videos is a highly efficient way to foster students' creative thinking abilities, especially in the context of online learning. Before making a video, students will understand the content more creatively (Kurniawati, 2021).

It is expected that this research will become a basis for future researchers to determine the form and success of the PjBL process for creative thinking skills and the expansion of relationships and implementation in prospective teachers, who are anticipated to apply it at school later when they become real teachers.

CONCLUSION

This research uncovered that the implementation of PjBL in the Social Sciences Education in the Upper-Level Class Course utilized video projects and digital platforms in the form of YouTube. The process was active and met the provisions of the PjBL theory. The video project encourages students to create creative videos after visiting a museum. Based on the success results, it can be concluded that the success of students in the PGSD Study Program in parallel classes 4A, 4B, 4C, and 4D who contracted the Social Sciences Education in the Upper-Level Class Course is as follows.

First, 25.85% of respondents, on average, were able to work on the project in accordance with the predetermined criteria, in the very good category with a score of (A), and 1.36% were in the very good category with a score of (A-). So the total of 27.21% was in very good or excellent criteria. 38.09% of students had also carried out project assignments following the established criteria in the good category with a score of (B) and 34.01% in the good category with a score of (B+). From these figures, it can be proven that students could produce products from the projects they had to work on, namely making videos from visits to museums, which were then uploaded to YouTube according to predetermined performance indicators (rubric). It is expected that the PjBL experience in this lecture can be applied by prospective teachers who will become teachers in good practice when they are at school.

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