

Modified Project-Based Learning in Geography: A Better Approach

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Abstrak

Untuk memastikan peserta didik memahami materi yang dipelajari, diperlukan pembelajaran yang konstruktif dan interaktif. Minimnya pengetahuan tentang peta dan gagasan ruang di kalangan siswa SMA Muhammadiyah 1 Pontianak menyebabkan ketidakmampuan mereka dalam memahami teks yang menggunakan peta sebagai penggerak penelitian ini. Untuk mengatasi hal ini, pembelajaran berbasis proyek bersifat konstruktif dan menyenangkan diperlukan. Pembelajaran berbasis proyek dimodifikasi dan diintegrasikan dengan bimbingan intensif oleh guru dan pembagian tugas untuk setiap anggota kelompok reguler untuk memastikan semua peserta didik aktif dalam penyelesaian proyek. Metode Penelitian Tindakan Kelas digunakan untuk mengetahui efektivitas pembelajaran berbasis proyek yang dimodifikasi. Temuan penelitian ini menunjukkan adanya peningkatan hasil belajar setelah menerapkan Modified Project Based Learning dalam pengalokasian sumber daya pertambangan di Indonesia melalui penggunaan pre-test dan post-test. Agar konten dapat dipahami, pembelajaran yang berpusat pada siswa memotivasi peserta didik untuk terlibat dalam pembelajaran aktif dan akhirnya memiliki pemahaman yang baik tentang konten tersebut.

Kata kunci: Modifikasi Pembelajaran Berbasis Proyek, Keaktifan Peserta Didik, Geografi

Abstract

To ensure students understand the material being studied, constructive and interactive learning is needed. The lack of knowledge about maps and the idea of space among students of Muhammadiyah 1 High School Pontianak causes their inability to understand texts that use maps as the driving force for this research. To work around this, project-based learning is constructive and exciting. Project-based learning is modified and integrated with intensive guidance by the teacher and the division of tasks for each regular group member to ensure all students are active in project completion. Classroom Action Research Methods are used to determine the effectiveness of modified project-based learning. The findings of this study indicate an increase in learning outcomes after implementing Modified Project Based Learning in allocating mining resources in Indonesia through pre-test and post-test. For content to be understood, student-centred learning motivates students to engage in active learning and finally have a good understanding of the content.

Keywords: Modified Project Based Learning, Student's Engagement, Geography



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INTRODUCTION

Education is an essential need that must be owned by every human being to improve their standard of living. The existence of education plays a role in creating a better generation to build the nation and state in the future. The quality of education is closely related to the learning that is carried out and the interactions that occur in it to the level of understanding of students. The level of students' understanding of learning material is one of the factors that influence the quality of education. The low understanding of students is one of the problems that are often encountered in the learning process. There are many factors that can cause students' low understanding of material such as boring learning so that students are not enthusiastic in learning (Mulyati & Waluya, n.d.). This certainly has an impact on basic competencies that are not achieved and learning outcomes are not satisfactory. Therefore, interesting and interactive learning is needed to develop students' thinking power, creativity, motivation and interest. This needs to be applied to every subject including Geography.

The media that is often used in geography learning is maps, both at the high school and university levels. Maps are the basic essence of geography subjects which are closely related to spatial or spatial concepts (Kumalawati et al., 2020). However, maps that are only presented with pictures and verbal delivery only cause learning to be boring and ultimately affect the low level of student's understanding because students only play a passive role in learning. This shows that the use of learning models and approaches needs to be considered to create effective learning (Pratama & Arief, 2019).

The Project Based Learning cooperative learning model (project-based cooperative learning model) is a learner-centered learning model, namely students exploring in creating a product to obtain various learning outcomes which include knowledge, skills and attitudes (Nur et al., 2016). Project Based Learning has a concrete activity design syntax to help students better understand the material, especially in Geography subjects. In order to develop attitude, knowledge, and skill capabilities, the project-based learning paradigm employs projects as a learning method. The focus of this learning is on tasks that result in goods. Students are anticipated to be able to create a product as part of this project-based learning. By focusing on students' learning activities, the project-based learning model is created based on the degree of thinking growth of students, enabling them to carry out activities in accordance with their abilities, comfort level, and areas of interest in learning (Anggara, 2017).

Project Based Learning approach provides opportunities for students to deepen knowledge while developing other abilities such as critical thinking, problem solving, collaboration and communication. The Project Based Learning learning model does not only focus on the final result but also pays attention to the process of working on the project in learning. Besides the advantages possessed by Project Based Learning, this learning model has several weaknesses such as requiring quite a long time to complete projects so that it can hinder other study schedules and problems in class management often occur which can cause project work in groups to be not optimal. Students who work and study in groups often experience problems and prefer to work individually. This is due to a sense of compulsion to work with someone who is actually not wanted to be in the same group, there are group members who are not active because they do not understand what to do or lack of motivation, there are group members who are too dominating so that group decisions are only made by one or two people and ignore the other members (Alves et al., 2012). This can also be caused by a lack of self-awareness in students. Self awareness is very important for every student to have because it influences the application of discipline and self-control in classroom interactions (Septianingias & Herwin, 2022). This problem causes conflict and communication problems so that it can cause Project Based Learning to be ineffective and not produce results. Project work will also take more time if there is no good collaboration within the group.

Based on the problems that have been described, it is necessary to modify and improvise by educators towards the implementation of Project Based Learning. The purpose of this modification is to ensure that the implementation of Project Based Learning can run optimally and effectively in increasing students' understanding of related material and ensuring that all students play an active role in the learning process. Several things that must be considered in the modification of Project Based Learning are project based learning plans that are tailored to the needs of students and Basic

Competencies according to the curriculum to be achieved, time management by teachers and students so that projects can be completed in an efficient time and class and group management through observation and monitor intensively to ensure the project is completed properly and all group members play an active role. Therefore, researchers conducted research at Muhammadiyah 1 High School Pontianak and compiled an article entitled "Modified- Project Based Learning: A Better Approach".

METHOD

This research is using Classroom Action Research. Classroom Action Research is research conducted in the classroom by implementing a certain action to improve the quality of learning both in the process and in student learning outcomes (Sumarni et al., 2016). Model that applied in this study is the Kemmis and McTaggart Classroom Action Research Model which includes the planning stage, the action and observation stage and the reflection stage. This model is used as the flow of this research, starting from the planning stage consisting of administering a pre-test to measure students' abilities before being given action and preparing the Project Based Learning design to be applied, then proceed with the action and observation stage which consists of implementing Project Based Learning. by students and teachers who observe and guide intensively. The last stage is the reflection stage, namely providing feedback and teacher assessment of the performance of each group and the results of the project, followed by carrying out a post-test to measure students' understanding after implementing Project Based Learning. The Classroom Action Research was conducted in Muhammadiyah 1 High School Pontianak, West Kalimantan. The respondents of this research were students of XI IPS 1 class as many as 30 students (17 males and 13 females).

To find out whether the application of modifications to Project Based Learning is effective or not, a pre-test and post-test were carried out. The data analysis technique used was to compare the overall average scores of the students on the pre-test and post-test scores. The minimum completeness score is 75 with the following value and predicate intervals:

Table 1. Score Interval and Predicate

Score Interval	Predicate	Description
93-100	A	Very Good
84-92	B	Good
75-83	C	Enough
<75	D	Less

RESULT AND DISCUSSION

The research was carried out in stages starting from the preparation stage, the implementation stage and the reporting stage. The preparation stage consists of preparing a learning plan that applies the Modified Project Based Learning model as well as preparing pre-test and post-test questions. The implementation phase begins with the administration of pre-test questions in class XI IPS 1. The pre-test is presented in the form of a Google Form, which consists of 10 multiple choice questions. The pre-test is given to students before implementing Modified Project Based Learning. After carrying out the pre-test, the implementation of the Modified Project Based Learning model is carried out at the next meeting.

Students are divided into small groups of 5-6 people. Each group was assigned to make a map of the distribution of mining resources in Indonesia using tools and materials such as manila paper, markers, dyes and so on. Students in their groups collect information from various sources. In working on the project, the researcher guides and directs each small group so that all students can be

active in completing the project. Each group discusses the distribution of mining resources in Indonesia and compiles maps according to the creativity and results of the cooperation of each group member. At the next meeting, a post-test was carried out to determine the effectiveness of the Modified Project Based Learning that had been carried out. Based on the pre-test and post-test values that have been obtained, the average values are obtained in the following table:

Average Pre-test Score	Average Post-test Score
63,60	95,50

The Project-Based Learning that was implemented previously by teachers at the school that became the object of this research is still conventional and has not been improvised. Therefore, to increase students' understanding of the distribution of mining resources in Indonesia and to ensure that all students play an active role in learning, the researcher implemented Modified Project-Based Learning. The following table shows a comparison of conventional Project Based Learning that is usually used by the teacher and Modified Project Based Learning applied in this study.

Table 3. Comparison of Project Based Learning with Modified Project Based Learning

No	Project Based Learning (Dopplet,2003)	No	Modified Project Based Learning
1	Designing Purposes	1	Planning Stage a. Project design planning that is adjusted to the Basic Competencies to be achieved. b. Distribution of groups fairly according to student characteristics while building a culture of confidence and responsibility c. Introducing team and project rubrics about projects and groups performance assessment to the students d. Preparation for the learning process
2	Field of Inquiry		
3	Solution Alternatives	2	Action and Monitor Stage a. Design a timeline for projects components. Help students for making strategies while doing the projects and managing their time properly. b. Help students to organize task division for each person in the groups equally to make sure all the students can work collaboratively c. Monitor the progress of the project. Teacher supervise the groups intensively about the project making and watch the group dynamics to make sure all the students are participating.
4	Choosing the Preferred Solution		
5	Operation Steps		
6	Evaluation	3	Evaluation Stage a. Assess the outcome using a team and projects rubrics. b. Give students feedback about the project and the group performance. c. Evaluate more with summative test individually

Based on the acquisition of the average score in Table 2, there is an increase in the score of student learning outcomes before and after the application of the Modified Project Based Learning model. The average pre-test score is 63.60 and the average post-test score is 95.50. Student learning outcomes increased by around 30% after the application of the Modified Project Based Learning

model when viewed from a comparison of pre-test and post-test scores. This even and significant increase shows that the application of the Modified Project Based Learning model in Geography, especially related to the distribution of mining resources in Indonesia, is quite effective in helping students understand the material and obtain satisfactory learning outcomes. This Modified Project Based Learning is not only improve student's understanding but also their activeness, creativeness, communication and team work to finish the project on time and properly.

Project Based Learning that already improved is proven to be able to help students to understand the subject matter and students' collaboration skills. Students' skills in analysing and understanding space spatially, critical thinking and communication can be well developed because of the support of activities that are interactive and constructive. Modified Project Based Learning has constructive learning procedures so that it can support students to learn creatively and independently (Nurhadi et al., 2018). The Modified Project Based Learning model is proven to be a collaborative, progressive, learner-centered and interactive learning model through project-based assignments that involve affective, cognitive and psychomotor competencies (Harizah et al., 2022). As learning outcomes do not only include cognitive abilities or knowledge but also affective and psychomotor skills such as productive and social skills (Afidah, 2021). The modified project-based assignments in the form of maps carried out in this study encourage students to actively seek information from various sources and work together with friends in their groups to discuss and complete projects well. This activity makes it easier for students, especially those who have a visual way of learning, to remember and understand spatial concepts through the distribution of mining resources in Indonesia. Not only that, students can learn about time management and collaborative team work which can help them to be active learner. Initially, this material was only taught verbally and was rote, making it difficult for students to remember the material in the long term. However, through the application of a Modified Problem Based Learning model that is constructive and encourages students to be active, it will help students understand the material and remember it for a longer period of time (Hayati et al., 2016).

CONCLUSION

A particular project must be completed as part of the modified project-based learning methodology, which places emphasis on students' participation and activeness in learning. The modified project-based learning paradigm is an effective one that encourages students to study on their own, engage with teachers and other students, learn about time management and team work also actively gather information from diverse sources. The project-based learning approach encourages students to increase their emotive and psychomotor values in addition to their cognitive values. This model is applicable to a variety of subjects, including geography.

The modified project-based learning methodology has been shown via research to enhance student learning outcomes and encourage students to take an active role in their education. In order for this learning model to be used effectively, the teacher's role as a guide is unquestionably crucial. It is anticipated that engaging in constructive and interactive learning will help students master their course material and develop their creativity and engagement in the learning process.

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