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Research Article

## Enhancing Learning Activeness of Students through Project-Based Learning

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**Abstract:** Students' learning activeness is the most crucial element as its impact on educational success while implementing project-based learning seems relevant in economics learning. Therefore, this study aims to investigate the impact of the project-based learning model on students learning activeness. This study involved classroom action research which conducted at senior high school 5 Palembang in Indonesia. To gather the data, this present study incorporated observation sheets, which were further analyzed using MILES procedures, which consist of planning, action, observation, and reflection, respectively. The finding of this study indicates that the students learning activeness in the pre-cycle were in a low category (49%), and it reached 56% in the first cycle to reach 56% and 68% in the second cycle. Compared to the third cycle, it experienced a dramatic change to reach 80% or a high category. Therefore, there is a need for teachers and schools to make innovations and variations in the classroom teaching-learning process to enhance activeness and meaningful learning.

**Keywords:** learning activeness, project-based learning, classroom research, economics

### INTRODUCTION

The teaching and learning process aims to foster the activity of students through various interactions, activities, and experiences (Yamin, 2013). The theory of constructivism interprets learning as an active process of learners constructing knowledge (Nerita et al., 2023). Learners do not only accept what is given by the teacher, but they also construct their own knowledge through experience based on the involvement between the sensory organs in absorbing stimulus and the brain nerves in managing information (Suharti et al., 2020). Students learning activeness is an essential component of success in the learning process because it involves students directly in understanding, applying, and developing skills (Wijanarko, 2019).

The activeness learning of students can be encouraged by the role of teachers, who will try to provide opportunities for students to play an active role in seeking, processing, and managing the knowledge they acquire through the use of various learning models such as giving individual or small group assignments, holding question and answer sessions, and having discussions. In the learning process, the teacher has a greater role than the students (Purwanti, 2020). There are many things that can be done by teachers to improve the quality of the learning process, one of which is the use of learning models in the classroom. In addition, previous study suggested to involve project-based learning to deal with the activeness (Fauziah et al., 2019; Azizah, 2021; Ritan et al., 2023).

The project-based learning model is one of the innovative learning methods that trains the skills required in the 21st century (Han et al., 2015). Project-based learning is a form of learner-centered active teaching characterized by learner engagement in constructive investigation goal setting, collaboration, communication, and reflection in real-world practice (Kokotsaki et al., 2016). The advantages of project-based learning models include improving motivation in solving problems, making students more active in the learning process by involving them in learning to gather information and apply knowledge, and improving skills in communicating (Sani, 2014).

In addition, one of the efforts that can be made to design learning that is interesting and fun is the project-based learning model, which emphasizes increasing students' learning activeness due to their involvement in discussions to share knowledge and information (Almulla, 2020). The application of the project-based learning model is a priority program in the independent curriculum as it involves relevant and interactive learning (Kemendikbudristek, 2022; Pertiwi et al., 2022; Dewi, 2022). Piaget argued that traditional learning methods are passive, and it is unrealistic to expect reciprocal communication between teachers and learners because the teacher is the one who provides information and learners only listen. In line with this, a prior study proposes in learning to use the project method as a form to create a more active learning environment because of the interaction process between teachers and learners (Pardjono, 2016).

In learning economics, there are many research results showing that the project-based learning model can increase student motivation and learning outcomes (Handika et al., 2021; Hutasuhut, 2010; Pratiwi et al., 2023; Rahmawati et al., 2023; Santoso, 2017; Wirda, 2022). As for other learning, conducting research on the project-based learning model, which shows varying Results from research by Elisabet., Relmasira, & Hardini (2019) show that project-based learning has an impact on the motivation and learning outcomes of students in the learning process. Learners who are involved in the learning process become more creative (Lindawati et al., 2013). The project-based learning is significantly to improve students' critical thinking skills (Pratiwi & Setyaningtyas, 2020).

This class action research aims to improve students' learning activeness in economics subjects at Senior High School 5 Palembang through the application of a project-based learning model. This research will be conducted through several stages, including planning and designing the learning model, implementing the model in learning, observing student interaction and participation, and evaluating learning outcomes that involve reflection on the process and student learning outcomes. The research method to be used is a qualitative approach with data collection techniques through observation. This research is expected to enrich the practice of learning economics at Senior High School 5 Palembang by providing information to teachers about improving the effective learning process by applying project-based learning models in the classroom, providing input to schools in increasing student learning activeness.

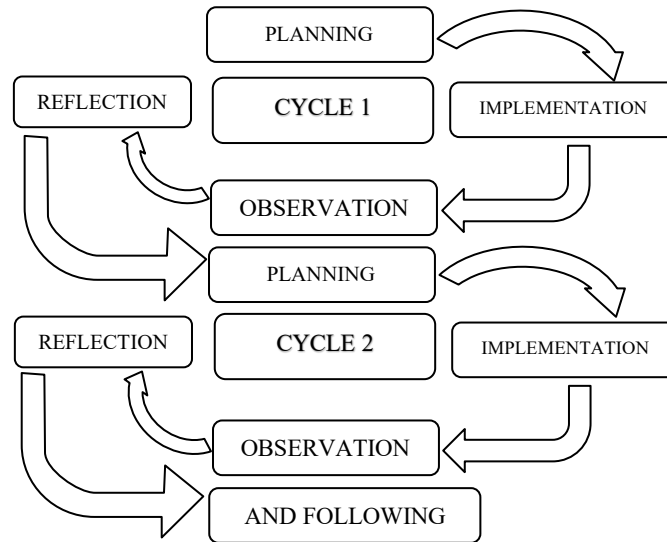
## METHOD

### Research Design

This study adopted classroom action research, which is reflective and involves taking certain actions to improve the quality of learning in the classroom. This research was conducted collaboratively and participatively. Collaborative is where there is cooperation between researchers and class teachers, while participatory is assisted by peers as observers. The classroom action research model in this study followed the

procedures of Kemmis and McTaggart (2015), which has several components, namely plan, implementation, observation, and reflection, and repeat. In detail, the research model is provided in Figure 1.

**Figure 1**  
*Classroom action research flowchart*



**Source:** Kemmis and McTaggart (2015)

### Data and Participant

This research was conducted at Senior High School 5 Palembang from February 2023 to May 2023. The subjects in this study students totaling 35 students with details of 17 boys and 18 girls. Senior High School 5 Palembang was chosen as the research subject because it has certain criteria of needs or challenges in the learning process that are in accordance with the research objectives, namely increasing the learning activeness of students in the economic learning process. This can be seen from the lack of participation of students in the learning process of economics in the classroom. The data collection technique used is observation, and the data analysis technique used in this research is the MILES analysis technique which consists of four stages, namely planning, action, observation, and reflection (Sugiyono, 2018).

### Measurement and Assessment

The assessment system for student learning activity used in the assessment rubric is that each item of the assessed aspect gets a maximum score of four points. The maximum score for learner activity is 52 points. Table 1 informs the indicator of learning activeness.

**Table 1**  
*Activeness indicator*

No	Range	Criteria
1	75% – 100%	High
2	51% – 74%	Medium
3	25% – 50%	Low
4	0% – 24%	Very low

Indicators of the learning process in this study will be seen in the percentage of success of actions based on the score data obtained from the observation of students by calculating the observation score of student and teacher activities in carrying out the learning process, namely as follows:

$$\text{Percentage} = \frac{\text{Total Score Obtained}}{\text{Maximum Score}} \times 100\%$$

The implementation of this research is considered successful if it has met the learning activeness of students through project-based learning model, with a percentage reaching 75% of the number of students (Djamarah & Zain, 2013). While the teacher activity assessment system in the learning process is that every item from the assessed aspect gets a maximum score of 4 points, The maximum score for teacher activity is 24 points each cycle. Table 2 illustrates the criteria for teacher activity observation results.

**Table 2**  
*Categories of observation results*

No	Achievements	Criteria
1	86% – 100%	Very good
2	76% – 85%	Good
3	60% – 75%	Simply
4	55% – 59%	Less
5	≤ 54%	Very less

## RESULT

### The Analysis of Learning Activity

This class action research was conducted from February to May 2023 in Senior High School 5 Palembang. The stages of research implementation are arranged based on the project-based learning model to increase students’ learning activity. Based on the learning process that has been carried out from the beginning of first to the third cycle and the results obtained, the learning activity of students has increased. For more information, it can be seen in Table 3.

**Table 3**  
*Comparison of students’ learning activeness*

Category	First cycle	Second cycle	Third cycle
High	10	22	31
Medium	15	8	3
Low	8	5	1
Very Low	2	0	0

Table 3 shows that there is a comparison of the learning activeness of students in each cycle. In detail, in the first cycle, it is known that there are 10 students with a percentage of 28.57% who are in the high learning activeness category, 42.85% in moderate category, 22.58% in low category and the rest in the very low category. While in the second cycle, it was obtained that there were 22 students with a percentage of 62.85% who were in the high learning activeness category, then the moderate learning activeness category was 8 students with a percentage of 22.58%, then in the low learning activeness category as many as 5 students with a percentage of 14.28% and a very low

learning activeness category as many as 0 students with a percentage of 0%. In the cycle, it found a dramatical change to reach 31 students in the category of a high learning activeness.

### The Analysis of Teacher Activity

Data regarding learning activities was performed by researchers during class action research were obtained through observations used in accordance with the steps of the project-based learning model. The results can be seen in Table 4. From the table, it indicates that the average observation of the syntax of the project-based learning model is 87.5% with very good criteria. Thus, it can be concluded that the implementation of class action research has been carried out according to the syntax of the learning model.

**Table 4**  
*Percentage of teacher activity observation results*

Stage	Percentage	Interpretation criteria
First cycle	80%	Good
Second cycle	92%	Very good
Third cycle	100%	Very good
<b>Average</b>	<b>91%</b>	<b>Very good</b>

### The Analysis of Teacher and Student Learning Activity

The application of the project-based learning model in this study was carried out through six steps, namely (1) formulating fundamental questions, (2) designing project planning, (3) preparing a schedule, (4) monitoring project progress and assessment, (5) testing results, and (6) evaluating learning experiences. The observation results of the application of the project-based learning model to teachers and students from the first to third cycles are presented in the following table:

**Table 5**  
*Application of project-based learning model*

Stage	Teachers	Students
First cycle	80%	56%
Second cycle	92%	68%
Third cycle	100%	80%

Based on Table 5, it shows that there is an increase in the learning activities of students and activities carried out by teachers in each cycle carried out in class X. In the observation of the application of the project-based learning model carried out by the teacher, there was an increase from first to second cycle, namely 12%, and an increase in second to third cycle 8%. Meanwhile, the learning activities of students experienced an increase of 12% each from first to second, and third cycle. The implementation of this class action research was only carried out in three cycles because it was in accordance with the success rate set by the researcher. Based on the opinion of one expert in the implementation of this research, the learning activity of students when applying a project-based learning model was considered successful with a percentage of 75%.

### The Learning Process of Project-Based Learning

In the planning stage, the teacher analyses learning tools, including learning outcomes. and objectives, instrument formulation, material, and learning time allocation.

In the action process, the researcher acts as a teacher while a peer acts as an observer, where each meeting consists of three activities, namely introduction, core, and closing. In the learning process, the researcher first conveys the learning objectives and achievements to be achieved. Furthermore, to find out how much basic knowledge the learners had, the researcher asked a lighter question about the payment system. The researcher also provided a learning video. show as a stimulus for increasing the thinking power of students in analyzing. After that, the teacher asked questions related to the learning video and asked learners to answer them and the teacher delivered material about the payment system. Then, the teacher divides the students into several groups to conduct game activities so that students are not bored and actively participate in the learning process.

Before learners discuss the learner worksheet that has been distributed, the teacher asks each group to formulate basic questions related to the group project; the teacher explains the procedure for making the product; and each group develops a project-making plan. Furthermore, the teacher and learners come to an agreement regarding the schedule for the project. The teacher guides and monitors the progress of the group project and provides assistance to groups in need. At the result assessment stage, each group is asked to present the results of the discussion on the group project. The teacher asks the learner representatives to convey the learning experience related to the group project as a form of experience evaluation.

## DISCUSSION

In this class action research, it is measured using three indicators: active learning that occurs during the process of experiencing, active learning that is formed in learning events or transactions, and active learning that occurs during the process of overcoming problems. Based on the analysis of the results of observations made during the class action research process obtained in the first cycle, it states that the learning activeness of students is included in the moderate category with an average of 56%. In this case, it shows that there are still some students who are less active in participating in the learning process, as evidenced by the results of the study, namely, 22.58% in the low learning activeness category and 5.71% in the very low learning activeness category. Thus, to increase the learning activity of students, improvements are made in the second cycle.

In the second cycle, the teacher provides ice-breaking in the form of an educational quiz game that aims to increase students' learning activity and understanding of the material being studied. This aims to encourage students' confidence in asking questions, answering questions, expressing opinions, and understanding the subject matter easily, while also allowing students to compete with each other so as to encourage students to be more active in the learning process (Nurhayati, 2020). From the results of the implementation of the second cycle, the average results of student learning activeness of 68% were still included in the category of moderate learning activeness. Thus, the improvement is still needed in the third cycle.

In the learning process in the third cycle, encourage active learners to generate ideas for making group projects by conducting brainstorming sessions, namely asking students to write down as many ideas as possible that they have for making group projects. This aims to require learners to generate and develop ideas that they have obtained from brainstorming activities. The use of brainstorming activities is a way to increase the learning activity of students (Putri et al., 2016). Based on the results of the analysis, the

average results of student learning activeness in the third cycle were 80%, with a high learning activeness category.

Learning using project-based learning can improve students' understanding and skills. in developing and producing innovative ideas. in creating and designing projects, and teachers only provide facilities and guide students in the learning process. This is evidenced by an increase in student learning activity from first to third cycle each by 12%. This shows that the more students are involved in the learning process, the more students' learning activeness increases. In line with the theory of Gagne, Briggs and Paul explained that to increase activeness, one of them is by bringing up the activity, participation of students in Learning and activities to bring up activeness in learning can be done with several things, one of which is by practice (Yamin, 2017). The results of this study are also relevant to the results of research from Agustriyanda et al. (2020); Wahyuni et al. (2020); Dharmayani (2021); Suginem (2021). The results of their research state that the application of the project-based learning model can increase students' learning activeness.

In the cone of experience theory, explains that students learn by being actively involved in doing something (real things) or making presentations and can remember material by 90% (Audie, 2019). Therefore, it can be concluded that learning by using project-based learning can increase students' learning activeness, which is indicated by active students participating in the learning process by paying attention to the teacher when explaining the subject matter, collaborating in group discussions, having confidence in expressing opinions, actively asking and answering questions, and developing and generating creative ideas in project work.

## CONCLUSION

The implementation of the project-based learning model applied in three cycles shows that this learning is able to increase the learning activeness of students, as seen from the findings in the study of an increase in student learning activeness from the pre-cycle with an average percentage of student learning activeness of 49% (low category), then increased in the first cycle with an average percentage of student learning activeness of 56% (medium category), then increased in the second cycle with an average percentage of student learning activeness of 68% (medium category), and increased again in the third cycle with an average percentage of student learning activeness of 80% (high category).

### Implication

The application of the project-based learning model in economics has significant implications for increasing students' learning activity. By using this project-based learning model, students are not only the recipients of information but also actively involved in the learning process through projects that are relevant to the economic context. They are given the opportunity to apply the theoretical concepts learned in real-world situations. This not only improves their understanding of the material but also enriches their skills in problem solving, critical thinking, and working together in groups. In addition, project-based learning also encourages creativity and innovation, as students are given the freedom to explore various solutions to complete the given project. Thus, the implementation of project-based learning in economics not only helps to improve students' learning activity but also prepares them with relevant skills to face challenges in a complex economic context in the future.

### Limitation and Future Direction

There are some limitations faced in applying the project-based learning model to the learning process that can be considered. One of these is the time required to design the project, supervise learners during the process, and evaluate the results. There is also the potential for limited resources, both in terms of financial and technological support, needed to support the effective implementation of project-based learning. It is also worth noting that not all learners may be suited to the project-based learning model. Some learners may require more direct guidance or a more traditional learning structure. Therefore, it is important to consider diversifying learning strategies to meet the needs of diverse learners.

In the future, further research could focus on developing a more scalable and structured project-based learning model so as to minimize the constraints that may arise. In addition, research can also explore the integration of technology or specialized applications that can facilitate collaboration and project-based learning efficiently. Furthermore, it is also important to conduct a comprehensive evaluation of the impact of the implementation of the project-based learning model on students' learning outcomes, both in terms of concept understanding and the development of critical thinking skills and the ability to collaborate. Thus, practical guidelines can be developed for educators in designing and implementing effective project-based learning in the learning process.

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