



## Improving Students Critical Thinking Skills Using the Door Model in Elementary School Students

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### ABSTRACT

The problems in this study are the low level of mobility, critical thinking skills and learning outcomes of fifth grade students. Lack of motivation, lack of critical thinking skills, and low interest in learning affect learning outcomes. The solution to overcome these problems is to use the PINTU model (project based learning, investigative group, and numbered heads together) in learning. This study aims to describe teacher activities and analyze changes in student activity, critical thinking skills, and student learning outcomes in the natural science content material on the properties and shapes of objects. By using qualitative and quantitative methods of classroom action research (CAR), this research took place in three sessions in class V SDN Habau Hulu (consisting of 10 students). The types of data presented include data on teacher and student activities, critical thinking skills through observation, questionnaires, and student learning outcomes through tests and observations. Indicators of research success and learning completeness were 85% of students achieving KKM scores  $\geq 70$ . The learning results showed that the number of sessions per session increased along with the acquisition of teacher activity in the implemented learning model, obtained points in Session I of 21 points, Session II of 26 points, and Session II of 28 points. Third Session The level of student activity was 70% in Session I, 80% in Session II, and 100% in Session III. Students' critical thinking abilities were 60% in Session I, 70% in Session II, and 83% in Session III, increasing to 90%. Meanwhile, the completeness of student learning outcomes in the first session was 40%, the second session was 60%, and the third session was 90%.

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## INTRODUCTION

Science learning, especially in elementary schools, should provide opportunities for students to ask questions, generate ideas, build the necessary skills, and naturally

develop students' curiosity through a hands-on learning process (Darmawan et al., 2019). Science learning at school is something that must be learned by students. The science learning process prioritizes providing direct experience to develop the ability to explore and explore the environment scientifically (Nurjanah et al., 2018). Scientific learning should lead to knowledge and behavior to support students to deepen their understanding. Based on the existing reality, according to observations from SDN Habau Hulu. It can be understood that students have difficulty in learning science content material related to the nature and changes in the shape of objects, and students' understanding of scientific concepts is still very low. This can be seen in the 2021-2022 school year with 10 out of 20 students scoring below KKM which is 58% and 10 students scoring above KKM which is 42% which is the minimum integrity standard (KKM) set by the school, which is 70:00. This situation is of course unexpected, because with the KKM set by the school, students' academic achievement is very low.

DOOR is a way out of a house where the door is very important for a house that still does not look complete without it. That is why the word DOOR is used in this lesson. Or rather, it has the same meaning: a way out of this learning problem. Referring to the problem above, the researcher proposed an alternative solution to the problem by combining the PINTU learning model consisting of Project Based Learning (PJBL), model Group Inquiry (GI) dan model Numbered Heads Together (NHT).

Group Inquiry (GI) was chosen because it can overcome the problem of not developing knowledge and understanding of scientific concepts, not developing scientific process skills or scientific thinking, lack of student cooperation, failure to develop critical thinking skills, failure to develop critical thinking skills, Inability to develop passive skills: Students are not motivated to participate in the learning process. Based on previous research findings, the Group Investigation (GI) learning model can improve understanding of scientific material concepts, improve scientific process skills, improve collaboration and critical thinking skills, increase student activeness and increase student learning motivation (Darmayanti et al., 2020). Based on the problems described above, it is necessary to immediately carry out classroom action research entitled "Improving Critical Thinking Skills of Science Content Using the PINTU Model in Elementary Schools.

## **RESEARCH METHOD**

The study used classroom action research, which teachers use to solve problems in their own classrooms. Classroom action research (PTK) is research conducted in the field of education to improve and/or improve the quality of learning in the classroom. This class action research consists of 3 sessions. Each session in PTK consists of planning, implementation, observation and reflection. The source of this research data comes from the principal and teachers who teach Class V at SDN Habau Hulu for the

2022/2023 school year. The types of data presented in this study are in the form of qualitative and quantitative data, including: a) Qualitative data is presented in the form of words that contain meaning, namely observation sheets of teacher activities and student activities combined using learning models. b) Quantitative data is data about student learning outcomes in the form of numbers.

## RESULT AND DISCUSSION

The results of this study are a comparison of research results covering four aspects studied, namely teacher activities, student activities, students' mathematical critical skills and student learning outcomes at meeting 1 to meeting 3.

The table below describes the results of teacher learning observations from sessions 1 to 4 with problem-based learning models, group studies and team play tournaments.

**Table 1.**  
**Trends in Increased Teacher Activity**

Meeting	Meeting	Meeting
1	21	Pretty good
2	26	Good
3	28	Pretty good

Based on the table above, it can be seen that the scores obtained from each meeting have increased. The increase can be seen from meeting 1 with a score of 27 (75%), meeting 2 with a score of 29 (81%), meeting 3 getting a score of 32 (89%), and in meeting 4 getting a score of 35 (97%). The results of observations on teacher activities show that each teacher meeting continues to experience improvements in the teaching process and can achieve the success indicators expected by researchers by obtaining scores with "Very Good" criteria. From these results, it shows that research conducted using a combination of problem-based learning models, group investigation and teams games tournaments takes place optimally to get the expected results.

In addition, the authors also analyzed the trend of Increased Student Activity. A recapitulation of children's activities at meetings 1 to 3 can be seen through the following table:

**Table 2.**  
**Trend of increase in Student Activity**

Meeting	Meeting	Meeting
1	50%	A small number are active
2	60%	A small number are active
3	90%	Almost all of them are active

In the table above, it can be seen that during the learning process using a combination of problem-based learning models, group investigation and teams games tournament experienced a good improvement. In meeting 1 student activity obtained a classical percentage of 50% with the criteria of "Less Active", meeting 2 obtained a classical percentage of 60% with the criteria of "Active", meeting 3 increased again to obtain a percentage of 90% with the criteria of "Very Active". Peningkatan aktivitas siswa ini disebabkan oleh fakta bahwa pada setiap pertemuan, Researchers seek to correct gaps or weaknesses in teaching so that future students will re-engage and become more active in each lesson. Therefore, it has been proven that teachers can carry out the teaching process well and increase the expected efficiency of students.

In the analysis, critical thinking skills at each meeting continue to improve. For more details, the author presents them in the following table:

**Table 3.**  
**Critical Thinking Skills Improvement**

Meeting	Meeting	Meeting
1	30%	A small percentage are critical
2	60%	Most are critical
3	90%	Almost all of them are critical

Based on the table above, it can be seen that during the learning process using the problem-based learning model, group investigation and teams games tournament experienced a good improvement. At meeting 1 students' critical thinking skills were on the criteria of "critical small part" with a percentage (30%). Meeting 2 achieved the "mostly critical" criterion with a percentage (60%). Meeting III on the criterion was "almost entirely critical" with a percentage (90%). As students' critical thinking skills improve, the weaknesses or shortcomings of researchers in the learning process at each meeting will be corrected, allowing students to re-engage in each class and become more proficient in the future. Therefore, it is proven that teachers can carry out the learning process optimally and improve students' critical thinking skills as expected.

In the analysis, critical thinking skills at each meeting continue to improve. For more details, the author presents it in the following table:

**Table 4.**  
**Recapitulation of Student Learning Outcomes**

Meeting	Percentage		
	Meeting	Meeting	Meeting
1	60%	70%	40%
2	70%	80%	60%
3	90%	100%	90%

Based on the table above, it can be seen that each aspect experienced an increase in learning outcomes at each meeting. In the cognitive aspect (knowledge) at meeting 1 students who completed reached 70%, then at meeting 2 reached 80%, and at meeting 3 reached 100%. Then in the affective aspect (attitude) at meeting 1 students who completed it reached 60%, then at meeting 2 it reached 70%, and at meeting 3 it reached 90%. Furthermore, finally in the psychomotor aspect (skills) at meeting 1 students who completed reached 40%, then at meeting 2 reached 60%, at meeting 3 reached 80%, and at meeting 4 reached 93%.

For more details on improving student learning outcomes can be seen in the following graph:

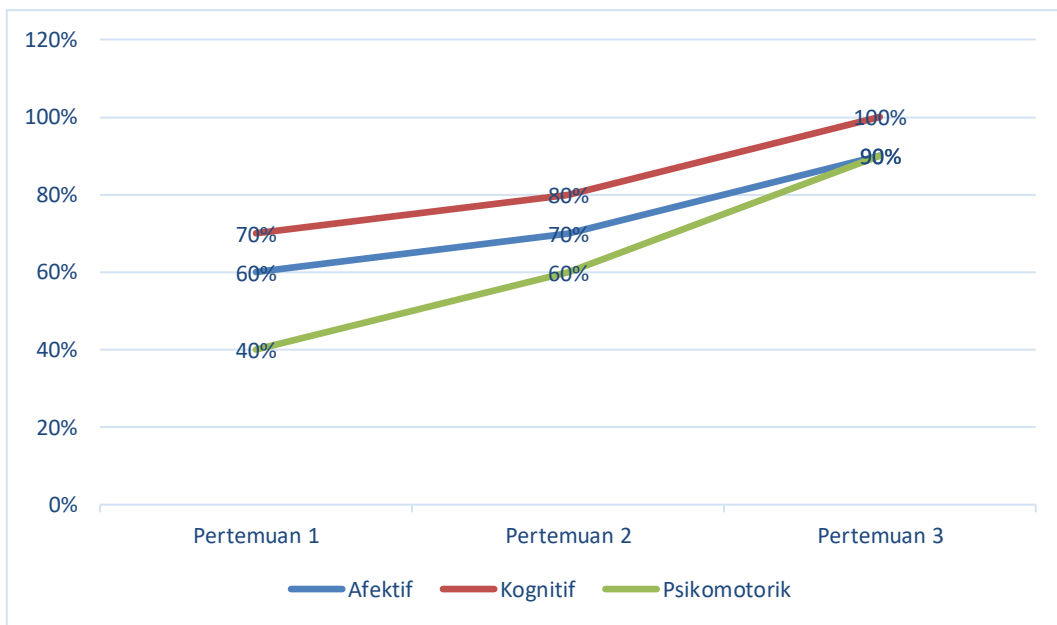


Figure 1.

### Student Learning Outcomes Improvement Graph

Based on the graph above, it appears that there has been an increase in various aspects, namely teacher activity, student activity, critical thinking skills and learning outcomes. Illustrated from the picture, updates are made to all aspects of each meeting. This matter shows that a relationship was found between these six aspects, if the teacher's encouragement during the learning system is better implemented, the enthusiasm of students in participating in learning will also increase, and through the increasing enthusiasm of students in participating in learning. As a result, it will soar and it will also develop. The increase will also increase consisting of cognitive, affective and psychomotor aspects.

## CONCLUSION

The results of this class action research can be concluded as follows: 1) Teacher activities in learning activities "the nature and transformation of objects" using the PINTU model in class V of SDN Habau Hulu have been carried out with very good criteria. 2) Student activity in learning science content material "properties and changes in the form of objects" using the PINTU model in grade V students of SDN Habau Hulu has increased so that it reaches classical criteria almost entirely active. 3) The results of the analysis of improving critical thinking skills in learning activities "the nature and change of the form of objects" using the PINTU model in grade V of SDN Habau Hulu have increased so that the classical criteria are almost entirely critical. 4) The results of the analysis of improving learning outcomes in learning activities "the nature and change of the form of objects" using the PINTU model in class V of SDN Habau Hulu have increased so as to achieve completeness classically and individually.

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