



Probing-Prompting Learning Strategy to Increase Biology Learning Activities Student of Class XI IPA 3 at SMAN 5 Kendari

AUTHORS INFO

Alfasri Ahmad
SMP Negeri 24 Buton Tengah
alfasriahmad13@gmail.com
+6282319020954

ARTICLE INFO

E-ISSN: 2721-0804
P-ISSN: 2723-6838
Vol. 5, no. 1, June 2023
URL: <http://usnsj.com/index.php/biology>

Suggestion for the Citation and Bibliography

Citation in Text:

Ahmad (2023)

Bibliography:

Ahmad, A. (2023). Probing-Prompting Learning Strategy to Increase Biology Learning Activities Student of Class XI IPA 3 at SMAN 5 Kendari. *Journal of Biological Science and Education*, 5(1), 19-23.

Abstract

Learning activities are one of the factors that can improve student learning outcomes. However, some students have low learning activity. The aim of the research is to increase the biology learning activities of class XI IPA3 students at SMA Negeri 5 Kendari. This research was carried out in the second semester of the 2013-2014 academic year. This type of research is classroom action research (PTK) with three learning cycles. Each cycle goes through four stages, namely: (1) planning; (2) implementation of actions; (3) observation and evaluation; and (4) reflection. The data source for this research is students who were measured using learning outcomes tests for cycles I, II, and III. The data obtained was analyzed using descriptive analysis. The biology learning activities of Class 97% Based on the research results, it was concluded that the probing-prompting learning technique could increase the biology learning activities of class XI IPA3 students at SMA Negeri 5 Kendari.

Keywords: Probing-Prompting Technique , Learning Activities

A. Introduction

Learning is a fundamental process in human life that allows individuals to acquire new knowledge, skills, understanding, and experiences. It is an active effort to explore information and understanding that enables personal and intellectual development. Learning does not only occur at school or in a formal environment but also in everyday life through social interactions, experiences, and experiments.

Learning activities include a series of actions that occur when teachers and students interact. To achieve learning objectives, focus is given to students so that they can be actively involved in this process. Students are expected to participate with full involvement in all aspects, such as attitude, thinking, and attention, so that they can get the maximum benefit from the learning experience. It is important for teachers to monitor student progress closely, including identifying obstacles that may arise through deeper critical thinking analysis. In this way, teachers can find errors or weaknesses in students' critical thinking abilities and plan learning strategies that can help improve their critical thinking competencies.

Based on the results of observations at SMA Negeri 5 Kendari regarding the learning process in class, it appears that learning is dominated by the teacher. Apart from that, the level of student creativity in the learning process is also relatively low. Observation results also show that the low level of student participation in learning is caused by several factors, such as the

use of learning methods that are not suitable for the material being taught and students' lack of interest in the lesson. The use of variations in learning methods is still very limited, and the role of the teacher dominates all learning activities. As a result, most students tend to be passive in their learning, and they lack confidence in their abilities. Conditions like this result in students who study independently being less involved in social interactions, which in turn can cause boredom and have a negative impact on their level of participation and achievement of learning outcomes.

One alternative to making improvements in the biology learning process is to apply other learning techniques that prioritize student activity and provide students with opportunities to develop their abilities, in this case, the ability to ask and answer. The appropriate learning technique is to apply the probing-prompting learning technique. Learning using the probing-prompting technique is a learning technique in which the teacher presents a series of questions that are guiding and probing so that a thinking process occurs that links each student's initial knowledge with the knowledge they are studying. The application of this technique is an alternative way to make it easier for students to make accommodations and build their own knowledge, as well as an alternative way to make it easier for students to construct their own concepts, principles, and rules into new knowledge (Wijaya, 2010).

B. Literature Review

The "probing-prompting" learning technique is a learning method that involves presenting a number of questions that direct and deepen students' thinking. This aims to stimulate thinking processes that enable students to connect the knowledge and experiences they have with the new knowledge they are learning (Huda, 2013).

Probing-prompting learning techniques can encourage students to think actively, develop courage and skills in answering and expressing opinions, as well as students being trained in solving problems. Being able to solve problems themselves can develop critical thinking skills, which is the process of being able to make reasonable decisions so that what we consider the best about us can be told correctly (Irfan, 2010).

The *probing-prompting* learning technique consists of seven stages. These stages according Huda in Nurjannah, (2013) can be seen in Table 1.

Table 1 . Syntax of the Probing-Prompting Learning Technique .

No	Stages	Description
1.	Explain	The teacher explains the subject briefly
2.	Exposing students to new situations (problems)	The teacher explains new situations, for example by showing pictures, concept maps, or other situations.
3.	Asking question	The teacher asks students questions that are in accordance with the specific learning objectives (TPK) or indicators for all students.
4.	Wait a while	Wait a few moments to give students a chance to formulate their answer.
5.	Student response	Designate one student to answer the question.
6.	Students answer the questions given	If the answer is correct, the teacher asks other students for feedback on the answer to ensure that all students are involved in the ongoing activity. However, if the student experiences difficulty in answering, in this case the answer given is inaccurate, incorrect, or silent, then the teacher asks other questions whose answers are a guide to completing the answer. Then proceed with questions that require students to think at a higher level, until they can answer questions according to basic competencies or indicators. The questions used in this sixth step should be asked of several different students so that all students are involved in all <i>Probing-Prompting activities</i> .
7.	Final question to test the indicator	The teacher gives students the opportunity to ask questions that are unclear so that the teacher can explain again what the students do not understand.

According to research conducted by Mutmainnah et al. (2014), the advantage of the probing-prompting method is its ability to encourage student involvement, increase success rates, and create a positive and emotionally safe learning environment. Apart from that, this technique can also make it easier for students to make accommodations and build their own knowledge. The results of research by Harsoyo and Sopyan (2014) also support the concept that probing-prompting is a student-centered learning method, where the teacher's role is more as a facilitator and mediator in each learning process by asking questions to students.

C. Methodology

1. Research Design

This research was carried out in the second semester of the 2013/2014 academic year at SMAN 5 Kendari. The research population was all class XI IPA students at SMAN 5 Kendari. The sampling technique used a random sampling technique so that class XI IPA3 was selected as the research sample. This type of research is classroom action research (PTK), which is carried out in three cycles. Each cycle consists of planning stages, action implementation, observation, and reflection.

2. Instruments

The instruments used in this research were student activity observation sheets and teacher activity observation sheets in the form of observation sheets on the implementation of learning activities, used to obtain data regarding the conditions for implementing Probing-Prompting technique learning.

3. Techniques of Data Analysis

The data analysis technique used is descriptive analysis, which is intended to provide an overview of the improvement in student learning outcomes taught using the *Probing-Prompting learning technique*.

The data analysis steps are as follows:

- Tabulate data on learning outcomes and student activities
- Calculating the average:

$$\bar{x} = \frac{\sum x}{n}$$

Information :

\bar{x} = Average score obtained by students

n = Total number of students

x = The value obtained by each person

(Sudjana , 2008)

- Calculating the level of achievement of learning completeness:

$$\text{Individually \% TB} = \frac{\text{Achieved value}}{\text{Ideal value}} \times 100\%$$

- Determine the percentage of completion:

$$\% \text{ TB} = \frac{\sum TB}{N} \times 100 \%$$

Information :

$\sum TB$ = Number of students who have completed studying

N = Total number of students

(Usman and Setiawati, 2001)

- Determining the level of success of teacher and student actions in the teaching and learning process:

$$\text{Average percentage (RS)} = \frac{\text{Total score}}{\text{maximum score}} \times 100 \%$$

Action Success Level :

90 % \leq RS \leq 100% : Very good

80 % \leq RS < 90% : Good

70 % \leq RS < 80% : Enough
 60 % \leq RS < 70% : Less
 0% \leq RS < 60% : Very poor
 (Wahyuni, 2008).

D. Findings and Discussion

1. Findings

Biology learning activity data was obtained using a learning activity observation sheet. Based on a descriptive analysis of students' biology learning activities, it is shown in the form of cycle tests consisting of cycle I tests, cycle II tests, and cycle III tests. An overview of the biology learning outcomes of class XI IPA₃ students from cycle I to cycle II and cycle III can be seen in Figure 1.

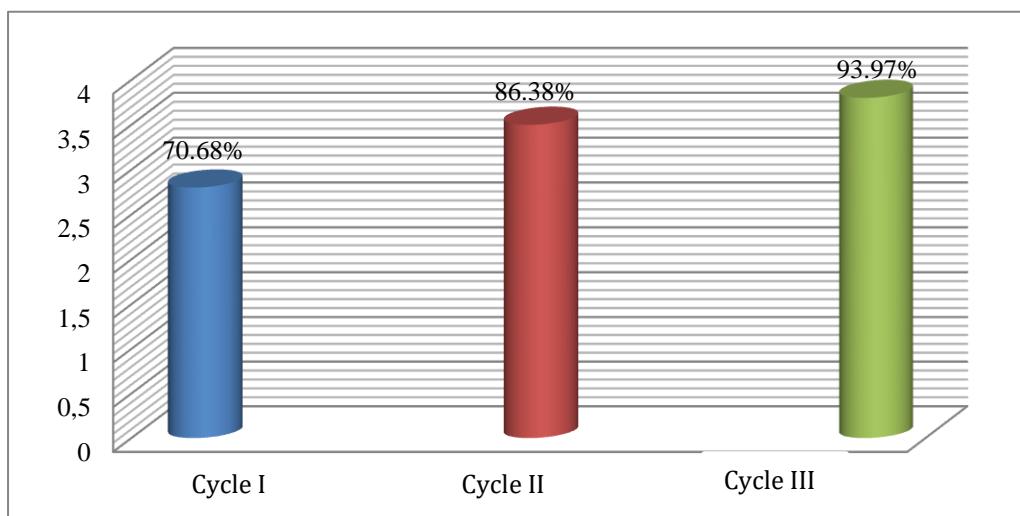


Figure 1. Comparison of the Percentage of Student Learning Activities in Cycle I, Cycle II, and Cycle III

Based on observational analysis of students' cognitive learning activities, it shows that the percentage of students' learning activities in cycle I was 70.68%, cycle II was 86.38%, and cycle III was 93.97%.

2. Discussion

Observation data on biology learning activities in cycle I showed a percentage of 70.68%. In the first cycle of learning, students were not yet familiar with *the probing-prompting learning technique*, including the fact that the time used was not in accordance with the indicators and learning objectives achieved in the learning process. They were also not yet active in asking questions and were afraid to express their opinions. This is in line with Ulya's statement (2012: 6) that applying the *probing-prompting learning technique* makes it difficult to plan the time needed correctly for each activity, it is difficult to avoid answering simultaneously from students, and students have not been trained to express opinions.

Based on the results of the descriptive analysis of student learning activities in cycle II, it can be seen that student learning activities using the *probing-prompting learning technique* were better and received interesting responses from students, with an increase in value of 86.38%. The increase in student learning activities from cycle I to cycle II was 15.7%, and from cycle II to cycle III, there was an increase of 7.59%. This is because the teacher has been able to manage learning by applying the *probing-prompting learning technique* well. This is supported by Jacobsen (2009:54), who says that the application of *probing-prompting learning techniques* is an alternative way to make it easier for students to make accommodations and build their own knowledge.

The research results show an improvement towards the better, although there are still some students who have not shown good enthusiasm for asking questions or giving opinions. This is in accordance with what Rina et al. (2012) stated: that the probing prompting method helps students hone their courage and skills in responding and expressing opinions. This then allows

students to connect concepts they have mastered with new concepts based on their personal understanding, so that they can gain a deeper understanding of the material studied. According to Manopo et al. (2022), teachers can guide students in expressing their ideas, which then triggers a thinking process that utilizes students' individual knowledge and experience. The results of data analysis and hypothesis testing show that there are differences in student learning achievement because there are differences in treatment between the experimental group and the control group.

The use of probing-prompting learning techniques has proven successful in increasing student participation and learning achievement. The results of research conducted by Diasputri et al. (2013) show that this technique is effective in improving students' academic achievement empirically, as well as critical thinking skills and student learning outcomes.

E. Conclusion

The biology learning activity of XI grade students of IPA3 State High School 5 drivers taught using probing-prompting learning techniques showed an improvement with a presentation of 70.68% for cycle I, 86.38% for cycle II, and 93.97% for cycle III. This showed that with the applied learning techniques, there were more opportunities for students to communicate their opinions, be active in asking, and be able to solve the concept of a given problem.

F. References

Harsono, IT, Sopyan, A. (2014). Application of Learning Models

Irfan. (2010). *Effectiveness of Teaching and Learning Biology with Probing Techniques* . Accessed February 22, 2012. <http://physicsmaster.orgfree>.

Jacobsen D. (2000). *Methods for Teaching*. Ohio: Merrill Publishing Company.

Mutmainnah, S., Ali, M., Napitupulu, ND 2014. Application of Probing-Prompting Learning Techniques to Improve Physics Learning Outcomes in Class VIII A Students of SMP Negeri 1 Banawa Tengah. *JPFT* 2 (1).

Nurjannah, S., (2013). *The Effectiveness of the Course Review Horay and Probing-Prompting Learning Model Based on The Power of Two Assisted by Interactive CDs in View of Gender*. Thesis in the Department of Mathematics . IKIP Semarang.

Rina. R ., Natalina. M ., & Yusuf Y., Application of *Probing-Prompting Learning*, to Improve Critical Thinking Abilities and Learning Outcomes of Class VIII c Students at SMP Negeri 1 Bangkinang Barat Academic Year 2011/2012. Accessed on August 09, 2012 from <http://jurnalbiodidaktis.files.wordpress.com/2011/06/vol-4-no>

Sudjana, N. (200 8) . *Assessment of Teaching and Learning Process Results* . Bandung. PT. Rosdakarya Teenager.

Ulya H., Masrukan and Kartono. (2012). Active Implementation of the *Probing-Prompting* Type Cooperative Learning Model Main Material of Trigonometry Class X SMA Negeri 12 Semarang Academic Year 2011/2012unes. *Journal of Mathematics Education* . Vol 3, no 4. Semarang 2012 .

Usman, and Setiawati. (2001). *Learning Evaluation* . Rineka Cipta. Jakarta.

Wahyuni, I., (2008). *Cone Building Learning with an Initiating and Eliciting Approach to Help Understanding of Class VIII Students of SMP 06 Diponegoro Wuluh, Jember Regency*. Thesis, Department of Mathematics Education, Postgraduate Program, State University of Malang. Poor

Wijaya, M. (2010). *Application of Probing Prompting Learning for Improving Students' Critical Thinking Ability in Biology Subjects* . Accessed on July 7 2012 from ([http://jurnaljpi.files.wordpress.com\)/2009/09/vol-3-no-2-muchamadafcariono.pdf](http://jurnaljpi.files.wordpress.com)/2009/09/vol-3-no-2-muchamadafcariono.pdf)