

# Efforts to Increase Learning Outcomes Natural Science (Ipa) Junior Student Affairs 6 Padangsidempuan by Using the Learning Model Guided Inquiry Assisted LKPD

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## ABSTRACT

This study aims to determine the increase in student cognitive learning outcomes by using the Guided Inquiry learning model assisted by LKPD. The involvement of students in the implementation of the science learning process at SMPN 6 Padangsidempuan is very lacking. This can be seen from the low average grade of the Natural Sciences Daily Semester 1 Grade VII class. Most students have not been able to achieve the specified KKM grades. Students still lack active interaction between students and teachers and students and students. Application of a model, and the use of LKPD in the teaching and learning process is very necessary, because with the existence of a model, and the use of LKPD in the process, will make students more interested and motivated to follow ongoing lessons, one of which is a guided inquiry learning model assisted by LKPD. The study was conducted by the Classroom Action Research method in grade VII students of SMPN 6 P, with a total of 31 students. This research was conducted in 2 (two) learning cycles. The study showed that an increase in cognitive learning outcomes for students of class VII -1 at SMP Negeri 6 Padangsidempuan in the first cycle was students who completed 17 people (35.4%), exceeded 3 people (9.6%) and 11 person did not complete (54.8%), experienced an increase. P there is the second cycle increased that students who pass the 24 (77.4%), exceeded 7 people (22.5%) and no more students who did not complete. Based on the results of the study it can be concluded that the use of the Guided Inquiry learning model assisted by LKPD can improve the learning outcomes of science students of SMP Negeri 6 Padangsidempuan.

**Keywords:** Learning Outcomes, Guided Inquiry Learning Model, Learning Outcomes, LKPD.

## 1. INTRODUCTION

Science learning in junior high school is expected to be a vehicle for students to learn about themselves and their surroundings, and apply it in their daily lives. Science learning emphasizes providing direct experience to develop competencies so that students explore and understand the natural environment in a scientific manner. Science teachers must have the ability to create a learning atmosphere that can provide direct experience for students. Whereas all this time science lessons have been considered as difficult lessons, with the discovery of student involvement in the implementation of the learning process is very lacking. Many students just sit passively in their respective places watching the teacher explain the subject matter being taught.

According to Sрни M. Iskandar (1997:2) namely Natural Sciences is extensive human knowledge obtained by

systematic observations and experiments, and explained with the help of rules, laws, principles, theories, and hypotheses(1). Understanding Science According to Maslichah Asy'ari (2006:7) Science is human knowledge about nature that is obtained in a controlled manner. This explanation implies that science is not only a product but also a process(1). Science as a product is human knowledge and as a process that is how to get that knowledge.

Learning outcomes are often used as a measure to find out how far someone masters the material that has been taught. Learning outcomes are evidence of the success that has been achieved by students where each activity can produce a distinctive change, in this case learning outcomes include activity, process skills, motivation, and learning achievement (Winkel, 1991:42)(6). Dimiyati and Mudjiono (2006:45) explains that ha sil learn the results achieved natural form of numbers or scores after achievement test given to student within a certain time(6). The result of

learning is the end result after undergoing a process of defense, the change is visible in the actions that can be observed and measured (Arikunto 1990:133)(6).

The learning method used by teachers is still conventional. When the teacher asks the students then only 1 or 2 students answer, the rest students choose to remain silent on the grounds of shame and do not know what to answer. Students also rarely ask the subject matter taught. The types of questions students usually ask are cognitive questions. Most of the students have not been able to achieve individual competence with a value of minimum criteria completeness (KKM) that must be met is 70. Low use values Average Daily Exam IPA Semester Class VII in the school year 2017/2018 is 68 (under KKM).

Efforts to overcome this problem, one of the learning models that can be used to improve student learning activities and competencies is the guided inquiry learning model, where the learning process is oriented towards students who can stimulate students to be active in teaching and learning activities. Gulo (2008:84) that guided inquiry is a learning model that involves the maximum ability of students to find and investigate a problem in learning(3).

Inquiry learning emphasizes the process of searching and finding. The subject matter is not given directly to students but the teaching and learning process remains under the supervision and guidance/ instructions of the teacher. The teacher as a facilitator and motivator for students in carrying out the learning process and hopefully students can understand the concepts of the material that has been taught so as to cause a sense of joy towards learning.

Based on the facts found during observation to improve student learning competencies, it is necessary to conduct classroom action research using the Guided Inquiry learning model. According to Sanjaya (2006:70), competence is a combination of knowledge, skills, values, and attitudes that are reflected in the habits of thinking and acting. In competence as an objective, there are several aspects in it, namely knowledge, understanding, skills, values, attitudes, and interests. According to Gulo (2008:84), guided inquiry is a learning model that involves the maximum ability of students to find and investigate a problem in learning(3).

As according to Hanafiah (2009:77), guided inquiry is the implementation of inquiry carried out on the instructions of the teacher. Both, starting from the core questions, the teacher shows various questions that track, with the aim of directing students to the expected conclusion points. Students conduct experiments to prove the opinions expressed(3). Kuhlthau (2016:147) says guided inquiry helps students to practice in a team, develop competence in research, knowledge, motivation, reading comprehension, language development, writing ability, cooperative learning, and social skills(4).

According to Sanjaya (2006: 196-197), there are several things that become the main characteristics in inquiry learning, namely: 1) Inquiry emphasizes maximum activity of students to search and find. Students not only act as recipients of the lesson through verbal explanation of the teacher in the learning process, but students also play a

role to find their own core of the material itself. 2) All activities undertaken by students are directed to look for and find their own answers and something that is questionable, so that it is expected to foster an attitude of confidence (self-study). 3) The purpose of using inquiry in learning is to develop the ability to think systematically, logically, critically or develop intellectual abilities as part of mental processes(5).

According Kuhlthau (in Nurdyansyah, 2016:148), the use of guided inquiry has several advantages for students, among others:

1. Students can develop language skills, reading and social skills.
2. Students can build their own understanding
3. Students get freedom in doing research.
4. Students can increase learning motivation and develop learning strategies to solve problems(4).

Besides the election appropriate learning models, the role of media in learning as well as theory affect the learning outcome students. Trianto (2010) put forward the term learning media as the delivery of the medium as a message (the carriers of messages) from several sources of channels to the receiver of the message (the receiver of the messages)(2). Learning media can arouse students' motivation to learn and greatly help the effectiveness of the learning process (Suranti et al, 2016). One alternative media that can be used is the student worksheet (LKPD) worksheet.

Advantages of LKPD use in learning will improve efficiency, motivation, as well as facilitate the learning of active experimental, consistent with learning that is centered on students and help to learn better. Student activity sheet can be a guide to practice aspects of the development of cognitive and guidance to develop all aspects of learning disabled in the form of an experiment guide or demonstration (Sahidu, 2013)(2). In line with the opinions Hermansyah et al (2015) which states that the practice of using LKPD or often on call LKS is a collection of materials, sample questions, and exercises about.

According Prastowo (2015) there are four points of interest from the preparation LKS, namely: (1) presenting instructional materials make it easy for learners to interact with materials provided; (2) presents tasks that increase student mastery of the material given; (3) train students' learning independence ; and (4) makes it easy for educators to give assignments to students(2). Research in found pieces of work the participant students a printed instructional materials in the form of sheet-sheet an unbiased issues associated with optic material should be done by learners to undertake activities that the students acquire the knowledge and skills that need to be controlled independently. LKPD contains identity, instructions, important information, rare steps to complete a task, and problems that must be resolved. An assignment that is ordered in the activity sheet must have clear objectives to be achieved. The use LKPD as a tool to help in the learning doing process is expected to improve student learning outcomes IPA.

**2. METHODS**

The research to be carried out is Classroom Action Research. Classroom Action Research (CAR) is research through self-reflection conducted by teachers in the classroom so that it can improve student performance and learning outcomes. (Zainal, Aqib et al, 2011:03)(7). This research involves the actions of participants, where the teacher as a researcher is directly involved/being in full class from the beginning of the research process to the most recent activity, which is reporting the results of the research. Researchers act as designers, planners, implementers, data collectors, data analyzers, and as research reporters. In addition, this study was assisted by two other observers who were teachers who taught at SMP Negeri 6 Padangsidempuan.

This class action research have four stage, namely planning, action, observation, and reflection. The subject of this research were students of class VII-1 Junior High School Negeri 6 Padangsidempuan semester II 2018/2019 school year with a total of 31 students. This research was conducted in two cycles. In cycle I, II, 2 (two) meetings each were observed and assessed cognitive aspects. At the second meeting (2) a daily test was held to determine the level of student understanding of cognitive aspects.

**3. RESULT AND DISCUSSION**

In this study, the stages carried out by researchers in solving research problems are the pre-cycle, cycle I and cycle II stages. Before applying the learning model guided inquiry assisted LKPD, researchers conducted pre-cycle data retrieval. The results obtained from pre-cycle is the value of cognitive competence with an average of 63.5 incomplete categories. Students who completed just 8 of 31 or 25.8%. The rest categories exceeded 6 people (19.3%) and students who did not complete 17 people (54.8 %). These result serves to find out the improvement of student learning outcomes by using guided inquiry assisted by LKPD.

Furthermore, researchers conducted learning using guided inquiry assisted by LKPD. The results obtained after conducting classroom action research in class VII -1 of SMP Negeri 6 Padangsidempuan are data about student learning outcomes in cycle I and cycle II.

**3.1 CYCLE I**

**Cognitive Learning Outcomes**

Cognitive learning outcomes in learning cycle I obtained from the test results at each end of the learning obtained the following results: the acquisition of the average value of students is 69.8. Students who completed as many as 17 people (54.8%), students whose grades exceeded 3 people (9.6%) and students who did not complete 11 people (35.4%) . %. For more details, results of study in the cognitive can be seen on tabel following percentages.

Table 3. Cognitive Learning Outcomes of Students in Cycle I

No	Student Cognitive Learning Outcomes	Total students	Percentage ( % )
1	Complete	17	54,8
2	Exceeded	3	9.6
3	Not complete	11	35,8

Based on the data above, it can be seen that students' cognitive learning outcomes increase when compared with pre-cycle cognitive learning outcomes. In the complete pre-cycle only 8 people increased to 17 people, exceeded 6 people to 3 people and incomplete 17 people to 11 people. This data shows that there has been an increase from before.

**3.2 CYCLE II**

**Cognitive Learning Outcomes**

Cognitive learning outcomes in learning cycle II obtained test results with an average value of students is 79.8. Students who completed as many as 24 people (77.4%), students whose grades exceeded 7 people (22.5%) and no more students who did not complete. For more details competence results cognitive can be seen on T abel follows.

Table 6 Cognitive Learning Outcomes of Cycle II Students

No	Student Cognitive Learning Outcomes	Total students	Percentage ( % )
1	Complete	24	77.4
2	Exceeded	7	22.5

Based on the data table above it can be seen that the cognitive learning outcomes of students increased when compared with cognitive learning outcomes in cycle I. In the first cycle, only 11 people increased to 24 people, exceeded 3 people became 7 people and 17 people did not complete, cycle II nothing else is incomplete. This data shows that there is an increase from the previous cycle in cycle I.

The results showed that there was an increase in student learning outcomes with the application of guided inquiry learning models assisted by LKPD.

#### 4. CONCLUSION

The implementation of guided inquiry learning can improve the science learning competence of Padangsidempuan Public Middle School 6 students. This can be seen from an increase in cognitive learning outcomes, from pre-cycle, cycle I and cycle II.

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