

CHAPTER I

PRELIMINARY

1.1 Background of the Problem

The current education system in Indonesia is national education. Education is one of the influential means in shaping quality and responsible human beings. As in Law No. 20 of 2003 concerning national education article 1 explained that education is a conscious effort to create a learning atmosphere so that students can develop their potential actively through the learning process. Through education, it is hoped that students can have a smart, noble personality, and also have skills for themselves or the surrounding community (Fitri, 2021).

The purpose of education in general is to educate the nation's life which is stated in the 1945 Constitution contained in the 4th paragraph. Another goal of education contained in Law number 20 of 2003 article 3 is to develop the potential of students to become faithful and devoted to God Almighty, noble, healthy, knowledgeable, capable, creative, independent and become democratic citizens as well as responsible (Pristiwanti, 2022).

The achievement of educational goals is largely determined by the learning activities that take place at school. The learning process requires several components, namely learning materials, methods, tools/media, learning resources and also evaluation. When teaching a particular subject matter (material), a learning model must be chosen that is most suitable for the objectives to be achieved and in choosing a learning model must have considerations, such as learning material, students' cognitive development level, available facilities or facilities, so that the learning objectives that have been set are achieved (Al-Tabany, 2017).

According to Hijriani and H. Amiruddin (2021) learning difficulties are influenced by two factors, namely internal factors and external factors. Internal factors are influenced by students' interests, talents, motivation, intelligence, and external factors are influenced by inappropriate learning schedules, and the teacher's delivery method.

According to Subawa et al (2018) problems that often occur during the learning process, namely during the learning process students feel bored, when the teacher explains the material students are not focused, students often leave the room, students who come late to class, students who often skip school, students who do not do homework, disturb friends who are learning, students play during learning, students who are lazy to record learning material, students who are not active during the discussion process, kirang actively ask if there is material that has not been understood and many other examples. These problems cause low student learning outcomes. Therefore, as a teacher, you must be good at choosing the method or model used during the learning process that provides broad opportunities.

Physics is a compulsory subject for Senior High School students in the 2013 curriculum majoring in Natural Sciences. According to Nurwahyuningsih, et al (2019), one of the branches of science is physics, which is the study of nature and its conditions and the changes that occur in it. Natural Science is a science that discusses natural knowledge broadly and systematically. Learning physics does not only discuss physics concepts, in the physics learning process, students must be active, and often do practice questions, discuss, and ask questions (Paradima, 2019).

Based on the results of preliminary observations, the results of tests given to 32 students previously according to the physics teacher of SMA N 1 Tanah Pinem, obtained that the average student score was low at 20.95. Based on interviews with physics teachers at SMA Negeri 1 Tanah Pinem, information was obtained that students' understanding of physics lessons, especially class X MIPA is very low due to student readiness in the learning process 25%. In addition, based on preliminary observations made, the physics learning process in the classroom is still teacher-centered by providing physics concepts and then discussing problems, emphasizing students by memorizing formulas and learning at school still tends to be conventional with lecture and question and answer methods. In physics learning, teachers tend to be informative or transfer knowledge from teachers to students so that students are not actively involved in the learning process, the quality of student involvement in the teaching and

learning process is still lacking which causes interest in the lesson to decrease and there is no renewal of the teacher's teaching method either from the model, method, or media used so that students experience limitations in student problem solving skills, collaborative skills and communication skills in providing information among students. This shows that the learning process carried out has not reached the target, as a result student learning outcomes have not been achieved. Mardatila et al, (2019) said that physics learning seems monotonous because students are only taught a collection of formulas without understanding the concept.

Overcoming this requires the teacher's ability to operate interesting learning and be able to deliver physics concepts into a more real and meaningful form so that students are able to be faced with problems related to physics problems, overcome the problem of low activity and learning outcomes and educational improvement efforts made lead to student-centered learning (student centered, learning oriented). The right model is the Problem Based Learning (PBL) model. The problem-based learning model integrated with guided inquiry has a very positive impact on students with low learning outcomes. Authentic learning aims to make students accustomed to learning in groups in order to solve problems or work on assignments (Puspitasari et al., 2022).

Problem Based Learning (PBL) is a model that presents contextual problems and provides authentic experiences to students that encourage students to train students' abilities and skills in solving problems, for students to learn actively, and learn in real life naturally and develop critical thinking skills, problem solving abilities and students' intellectual skills (Furqan et al., 2019). The use of the Problem Based Learning (PBL) model is supported by researchers Helyandari et al, (2020) stating that the Problem Based Learning (PBL) model affects the physics learning outcomes of students. The learning outcomes for experimental and control classes before being given treatment (pretest) had a very low average value, namely the experimental class of 40.28 and the control class of 26.47, and after being given treatment (posttest) the average value obtained by experimental class students was 70.00 and the average value in the control class was 61.18.

Furthermore, researchers conducted by Wulandari dkk, (2018) that the data on the learning outcomes of ipa using the Discovery Learning learning model on Work and Energy material obtained the highest score of 27.00, the lowest score of 12.00, an average of 21.22 and a standard deviation of 4.33. The use of teaching materials in the form of Problem Based Learning is suitable for teaching.

Therefore, through the explanation above, the problem-based learning model is expected to improve student learning outcomes in the learning process, so that students no longer feel bored and can participate in learning actively and make the learning atmosphere more effective. So that this research is formulated with the title "The Effect of Problem Based Learning Model on Student Learning Outcomes in the Material of Work and Energy Class X of Senior High School N 1 Tanah Pinem"

1.2 Problem Identification

Based on the description in the background of the problem, it can be seen the identification of the problem, as follows:

1. There are still many teacher-centered learning processes, preferably student-centered learning.
2. The learning model that is still used in physics learning at SMA Negeri 1 Tanah Pinem is generally the lecture learning model, so that the teaching and learning process is still monotonous and students tend to be passive.
3. These learning activities can be achieved with a variety of learning models.
4. The learning process with the Problem Based Learning model is student-centered learning model so it is necessary to do research on its effect on improving students learning outcomes.
5. Lack of student activity and enthusiasm in the learning process.
6. Students experience difficulties when expressing opinion or answering question.

1.3 Scope of Problem

The scope of the problems discussed in this study is the Effect of the problem based Learning Outcomes material work and energy.

1.4 Problem Limitation

This research is limited to the following matters:

1. The object of research is students of class X MIPA SMA Negeri 1 Tanah Pinem
2. The learning model used Problem Based Learning (PBL) and Giving Answers. The researcher chose PBL because the condition of the students and classes at SMA Negeri 1 Tanah Pinem really supports the learning process with the PBL model.
3. Learning materials are limited only to work and Energy instruments.

1.5 Problem Formulation

Based on the identification of the problem and the limitation of the problem above, the formulation of the problem in this research is "Is there an influence of Problem Based Learning Outcomes in Work and Energy Topic at SMA N 1 Tanah Pinem?".

1.6 Research Objectives

In accordance with the formulation of the problem above, the goal to be achieved in this study is to determine the effect of the Problem Based Learning outcomes in Work and Energy topic at SMA N 1 Tanah Pinem.

1.7 Research Benefits

1. As information on student learning outcomes with the application of the Problem Based Learning model on Work and Energy material.
2. As an alternative information material in the selection of learning models at school.
3. As a comparison and reference for other researchers in conducting further research