

# CHAPTER I INTRODUCTION

## 1.1. Research Background

Education is all situations in life that affect a person's growth. Education is defined as the overall learning experience of everyone throughout his life. Judging from the form of his activities, education has a scope that extends from informal forms that are not planned to arrive at forms of formal education programmed. Is school or schooling. Schools as formal education institutions are one of the results of engineering from human civilization, in addition to family, work, state, and religious institutions. Schools as a result of human engineering are created to carry out education, and their creation is closely related to the mastery of written language in society, which develops more systematically and increases. One of the subjects taught in school, especially secondary schools is physics. Physics subjects are subjects that see to educate students not only knowledge but also superior skills, train to conduct research according to the scientific process, have the nature of discipline, be honest, responsible, able to cooperate in a group, and be able to apply their knowledge in real life. This is what makes the process skills approach very necessary because it emphasizes scientific activities, namely the skill of gaining knowledge and communicating the results. This ability is developed through direct experience by conducting investigations or experiments in the laboratory or class, so that physics lessons are one of the interesting subjects because they are directly related to real events and can also be applied in daily life (Rumahorbo & Sihombing, 2016).

But this physics lesson is also a lesson that always has a low value and is most feared by students. This fact is in accordance with the observations of researchers by conducting interviews and giving questionnaires to one of the physics teachers of SMA Negeri 1 Perbaungan, showing that student learning outcomes are still low, due teachers who use a learning model that is less varied, the teacher uses a cooperative learning model, but in practice it is still conventional and teacher-centered and still uses the dominant method of direct

and assignment and does not use an approach, thus making students feel bored and bored with the lesson. The lack of availability of laboratory equipment at SMA Negeri 1 Perbaungan also makes a bad effect on students, because students become less trained in scientific investigations in the form of experiments. The results of the questionnaire were given to 36 students who were observed, 16,6% (7 students) thought that physics was an easy and fun lesson, 44,4% (16 students) thought that physics was a difficult and less interesting lesson, 22,2%(8 students) thought physics was ordinary, and 13,8% (5 students) think lesson physics is boring and the student thought that they rarely do lab work. The results of the observations were obtained by students' physics learning outcomes which were generally still low at an average of 50 while the Minimum Completion Criteria (KKM) to be achieved was 76, so that the average score of students did not reach the expected criteria. This is because students consider physics as a difficult, tedious lesson, lack of student understanding and mastery of subject matter as well as misconceptions in subject matter so that students find it difficult to solve problems.

Based on the reasons above, efforts that can be made so that active students during the learning process are teachers creating a conducive classroom atmosphere, namely by designing learning by utilizing interesting and varied learning models according to the character of students, so students are motivated in learning learning process. One model and learning approach to overcome this problem is to use the Inquiry Training learning model.

According Joyce, et al, (2011) the inquiry training learning model is designed to bring students directly into the scientific process through exercises that can condense the scientific process into a short period of time. The aim is to help students develop discipline and develop the intellectual skills needed to ask questions and find answers based on their curiosity. Through this learning model students are expected to be able to actively ask questions why something happened and then search, collect and process data logically to further develop intellectual strategies that can be used to find answers to these questions. The inquiry training learning model begins with presenting events that contain puzzles

to students. Teachers can use this opportunity to teach assessment procedures in accordance with the steps of the inquiry training learning model.

The inquiry training model is important for developing students' values and attitudes and scientific thinking, such as, the skill of observing, gathering and organizing data, including formulating and testing hypotheses and explaining phenomena, learning independence, expressing skills verbally, the ability to think logically and awareness that science is dynamic and tentative. The inquiry training learning model has five main steps, namely: (1) facing problems: explaining research procedures, presenting conflicting situations, (2) finding problems: examining the nature of objects and conditions encountered, examining the appearance of problems, (3) assessing data and experimentation: isolating appropriate variables, formulating hypotheses, (4) communicating, formulating and explaining, and (5) analyzing the research process to obtain more effective procedures (Amdani & Suryadi, 2015).

The results of Sirait (2010) the study obtained the average pretest 4,29 after being given treatment that is with the inquiry training learning model, the student learning outcomes increased with an average value of 6,29. Based on the suggestions found in Sirait's study (2010), researchers found weaknesses in this study is less able to manage classes when conducting group discussions so that there are students who are not serious in participating in group discussions. Researchers also have difficulty when guiding students to conduct their own experiments and look for relevant facts because students are less accustomed to conducting experiments independently (Makmur & Kristin, 2014).

Seeing the positive results of the previous research on learning model *inquiry training*, this research will be applied learning model *inquiry training* to see the effects toward to student's learning outcome on the topic Work and Energy.

## 1.2. Problem Identification

1. Students learning outcomes in physics subjects are still low.
2. Lack of students interest in studying physics.
3. The assumption of students that physics is a difficult and bored lesson.
4. The teacher has not applied a varied learning model.
5. Students are seldom doing experiments.

## 1.3. Problem Limitation

1. Learning model used is the Inquiry Training learning model on the experimental class and conventional learning on the control class.
2. The research subjects studied were senior high school students of class X in SMA Negeri 1 Perbaungan A.Y 2018/2019.
3. The results of learning physics in the topic of Work and Energy.

## 1.4. Problem Formulation

1. How the student's learning outcomes using inquiry training learning model on topic Work and Energy ?
2. How the student's learning outcomes using conventional learning on topic Work and Energy?
3. How the student's activity based on learning outcomes indicator during the learning process using the learning model?
4. How the effect of inquiry training learning model on student's learning outcomes on the topic Work and Energy?

## 1.5. Research Objectives

The objectives derived from this research are:

1. Knowing student's learning outcomes using *Inquiry Training* learning model on the topic Work and Energy.
2. Knowing student's learning outcomes using conventional learning on topic Work and Energy.

3. Knowing the student's activity based on learning outcomes indicator during the learning process using the inquiry training learning model.
4. Knowing the effect of inquiry training learning model on student's learning outcomes on the topic Work and Energy.

#### **1.6. Research Benefits**

1. For information on student learning outcomes by applying the Inquiry Training learning model on topic Work and Energy.
2. As an alternative information topic in the selection of learning models in schools.
3. As a reference for further researchers relating to the inquiry learning training model.

#### **1.7. Definition Operational**

1. The learning model is a series of approaches, strategies, methods, techniques, and learning tactics. The learning model is basically a form that is drawn from the beginning to the end which is presented specifically by the teacher. In other words the learning model is a wrapper or frame from the application of an approach, strategy, method, and learning technique (Sutirman, 2013).
2. Inquiry Training learning model is a model that emphasizes the development of values and attitudes and scientific thinking of students, such as the skill of observing, gathering and organizing data, including formulating and testing hypotheses and explaining phenomena, learning independence, verbal expressing skills, thinking skills logical and awareness that science is dynamic and tentative (Amdani and Achmad, 2015).
3. Scientific approach is a learning approach that requires students to be active and think critically and creatively in learning because the scientific approach in learning all subjects includes digging up information through

the process of observing, asking, trying, associating and communicating (Sari, R.A, 2011).

4. According Faturrohman (Istarani, 2011). Methods are ways that can be used to implement the strategy. The method literally means "way". In general usage, the method is meant as a method or procedure used to achieve a certain goal. The word "teaching" means teaching



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