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Students' Scientific Attitude in Learning Physics With a Cooperative Model Through *the Guided Note Taking* (GNT) Method in Class X6 SMA Negeri 1 Kampar

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ABSTRACT

This study aims to determine and describe students' scientific attitudes in learning physics with a cooperative model through the Guided Note Taking (GNT) method in grade X6 students of SMA Negeri 1 Kampar on the subject matter of electromagnetic waves, in the 2010/2011 academic year. The subjects studied were 10 X6 class students, consisting of 4 men and 6 women. Data collection techniques are direct observations made during the learning process. In analyzing data, descriptive analysis techniques are used. The parameters of this study are students' scientific attitudes and indicators of scientific attitudes. The scientific attitude aspect in this study uses 5 indicators, namely curiosity, working openly, working hard, being responsible, and discipline. Based on data analysis, the results of the study were obtained namely the achievement of scientific attitude indicators of each student and the achievement of students' scientific attitudes in 2 meetings increased from 72% to 88.5% with an average percentage of 80.25%. Thus, the application of the Guided Note Taking (GNT) method with a cooperative model in learning physics on the subject matter of electromagnetic waves in class X6 SMA 1 Kampar is stated to be able to improve students' scientific attitudes on these 5 indicators.

Keywords : *Scientific Attitude, Application of Guided Note Taking Method, Electromagnetic Waves.*

1 Introduction

Physics education is directed at gaining a deeper understanding of the surrounding nature. Therefore, physics education in junior high school is expected to be a vehicle for students to learn about themselves and the environment as well as the prospect of further development in applying it in everyday life based on the scientific method (Trianto, 2007). Physics is part of science, which studies natural phenomena and natural events or phenomena and seeks to uncover all the secrets and laws of the universe scientifically. Physics is one of the means of scientific thinking that can develop logical, systematic, critical and creative thinking skills. In addition, physics is one of the basic sciences that has a strong and clear structure and relationship between concepts and has an important role in the development of science and technology so that physics learning in schools is a priority in educational development (Ministry of National Education in Nuriyanah, 2009).

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In the learning process, efforts need to be made to cultivate a positive learning attitude in students. The positive attitudes in question include scientific attitudes, respectful attitudes between others, democratic attitudes (including appreciating change), responsibility, establishing togetherness, cooperation and daring to express opinions (Ministry of Education and Culture in Nuriyanah, 2009).The tendency of science learning today is that students only learn science as a product, memorizing concepts, theories and laws. This situation is exacerbated by test-oriented learning. As a result, science as a product, attitude and application is not touched in learning (Trianto, 2007).

According to Rusfendi (in Herniati, 2007) students' attitudes towards physics learning are also positively correlated with learning achievement, therefore to achieve better physics learning achievement, students' positive attitudes towards physics learning must be improved. Triandis (in Slameto, 2003) said that in general, the formulation of attitude has an elemental similarity, namely the willingness to respond to a situation. The content of the science curriculum that mandates the education of this aspect is integrated in every learning process. Especially in science subjects, this aspect of attitude is developed with the term scientific attitude, which is an attitude that will lead students to behave wisely, creatively and systematically.

Based on the author's observations and interviews with Physics teachers at SMA Negeri 1 Kampar, it is known that the scientific attitude of grade X6 students in learning physics has not been trained optimally. In the learning process students lack curiosity in learning, cooperation in groups is still not optimal, hard work is less visible in learning, responsibility is still lacking, and discipline is also still lacking.

One method that is seen as activating students in theoretical learning is Guided Note Taking (GNT). Guided Note Taking is a guided note method developed so that the lecture method presented by the teacher gets the attention of students where students are required to be able to reason and understand the material so that high student concentration is needed. Students are expected to be able to define, infer, formulate and think generally. This method is suitable for use in physics lessons, especially on theoretical subjects, including electromagnetic waves. Because on theoretical subjects, mastery of the material is needed, better student activity, and a high level of concentration and understanding of the explanation given by the teacher.

This study aims to describe the scientific attitude of grade X6 students of SMA Negeri 1 Kampar on the subject matter of electromagnetic waves through the Guided Note Taking (GNT) learning method.

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2 Research Methodology

This research was conducted in grade X6 of SMA Negeri 1 Kampar in the even semester of the 2010/2011 academic year. The study time was from April to June 2011. The form of research carried out is descriptive research. This research was conducted in class X6 of SMA Negeri 1 Kampar with the subjects of the study were 10 students consisting of 4 boys and 6 girls.

Data collection techniques are carried out by observing students' scientific attitudes during the learning process by applying a cooperative model through the GNT method using scientific attitude observation sheets in accordance with the aspects set in the available columns. Research instruments in the form of learning tools, namely syllabus and assessment systems, lesson plans (RPP), student assignment sheets (LTS), handouts, and quizzes

3 Results and Discussion

3.1 Descriptive Analysis of Motivation

Table 1. Data on Student Achievement Observations of each Indicator

No	Indicators	Number of Student Achievement Scores per Meeting (%)		Average (%)	Achievement Criteria or Categories
		I	II		
1	Curiosity	50	72,5	61,25	C
2	Work openly same	70	82,5	76,25	B
3	Work hard	72,5	92,5	81,25	B
4	Responsible answer	80	97,5	88,75	B
6	Discipline	87,5	97,5	92,5	B
Average		72	88,5	80,25	

Curiosity Indicators

The scientific attitude of students when viewed in general from the indicator of curiosity tends to increase. The average percentage of curiosity indicators is 61.25%. At the first meeting, the student curiosity indicator was at 50% and increased at the second meeting to 72.5%.

Indicators of Working Openly

For indicators of open cooperation, it can be seen that at the first meeting the percentage of students by 70% due to descriptors asking for opinions for the improvement of work results seemed less prominent in group work. Then at the second meeting the percentage of students rose to 82.5%. The percentage from the first meeting to the second meeting increased by 12.5%, because students have actively discussed in completing the assigned tasks and students began to realize the importance of openly cooperating in groups to achieve good work results.

Hard Work Indicator

For indicators of working hard it can be seen that at the first meeting the percentage of students amounted to 72.5%. This is because there are students who are quite diligent in doing assignments and serious in learning. At the second meeting, the percentage of students' attitudes for the hard work indicator rose to 92.5% because students had followed the lesson more seriously and diligently in doing the task, and did not give up in finding task problem solving. It can be stated that during learning, students' hard work attitude shows a fairly high increase, which is 20%.

Responsible Indicators

For responsible indicators it can be seen that at the first meeting the percentage of students was 80%. In this indicator, the descriptor that is still somewhat less visible is communication between group members due to the allocation of less time to communicate between group members. At the second meeting, the percentage of students' responsible attitude indicators rose to 97.5%.

Discipline Indicators

For discipline indicators, it can be seen that at the first meeting the percentage of students was 87.5%. This percentage that falls into the good category is due to the use of Handouts in the GNT method which requires good time allocation so that students submit assignments on time, are orderly in learning, and do not leave assignments. At the second meeting, the percentage of student discipline rose to 97.5%. The average percentage of discipline indicators is 92.5% and is the indicator with the highest percentage.

Table 2. Data from Observations of Scientific Attitude Achievement of each Student

No	Student Name	Number of Scientific Attitude Scores that appear each Meeting (%)		Average (%)	Achievement Criteria or Categories
		I	II		
1	Student 1	85	95	90	Good
2	Student 2	75	95	85	Good
3	Student 3	50	80	65	Enough
4	Student 4	75	80	77,5	Good
5	Student 5	80	90	85	Good
6	Student 6	75	90	82,5	Good
7	Student 7	70	85	77,5	Good
8	Student 8	80	95	87,5	Good
9	Student 9	50	80	65	Enough
10	Students 10	80	95	87,5	Good
Average		72	88,5	80,25	

From table 2 it can be seen that out of 10 students, 8 of them have been able to display a scientific attitude with a good category and 2 students with a sufficient category in being scientific during learning. At the first meeting, the students' scientific attitude was at 72%. However, at the second meeting, students' scientific attitudes rose to 88.5%, which means that there was an increase in students' scientific attitudes by 16.5% with an average percentage of 80.25%.

4 Conclusion

Based on the results of data analysis in this study, it can be concluded that there was an increase in students' scientific attitudes from the first meeting to the second meeting by 16.5%. Based on the criteria for achieving scientific attitudes, there are no students whose scientific attitudes fall into the category of lacking in electromagnetic wave learning using a cooperative model through this Guided Note Taking method.

This, it can be concluded that learning through the Guided Note Taking method in class X6 SMA Negeri 1 Kampar can improve students' scientific attitudes on 5 identified scientific attitude indicators.

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