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The Application of the Guided Note Taking (GNT) Learning Method in the Cooperative Learning Model to Increase Student Motivation in Physics Class X6 of SMA Negeri 1 Kampar

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ABSTRACT

This study aims to describe the level of motivation to learn physics students and to determine the significant differences in students' motivation to learn physics before and after learning using the *Guided Note Taking* (GNT) learning method in the cooperative learning model in grade X6 SMA Negeri 1 Kampar, on the subject matter of electromagnetic waves. This research was conducted in the even semester of the 2010/2011 academic year. The subjects studied were 43 grade X6 students. The data collection instrument used in this study was in the form of a learning motivation questionnaire. In analyzing data, descriptive analysis and inferential analysis are used. From the results of descriptive analysis, it was obtained that student learning motivation for the interest category increased by 8.7%, the relevance category increased by 6.9%, the expectation category increased by 4.5%, and for the outcome category increased by 6.9%. From the results of inferential analysis, a value of P<0.05 was obtained, which means that the research hypothesis is accepted, namely that there is a significant difference in students' motivation to learn physics before and after applying *the Guided Note Taking* (GNT) learning method in the cooperative learning model in grade X6 SMA N 1 Kampar on the subject matter of electromagnetic waves with a confidence level of 95%.

Keywords : *Learning Motivation, Cooperative Learning, Guided Note Taking.*

1 Intoduction

Education is a process in an effort to enlighten human life that can create an active learning atmosphere and learning process so that one's potential can develop. Self-potential that can develop includes intelligence, noble character, spirituality, self-development and skills needed by himself, society, nation, and State.

Teachers have various roles including as teachers who provide knowledge and skills to students, as facilitators, discussion partners in learning, encouraging the courage to think alternatively in problem solving, and as motivators.

Motivation has something to do with learning. Learning actions will succeed if they are based on motivation in students. Students may be forced to do a deed, but students may not be forced to live out that deed as it should. So it is the duty of the teacher to strive so that students have the motivation to learn continuously.

Motivation can be interpreted as an impulse that causes someone to want to do something. In the process of learning science, of course, motivation is intended as an encouragement to want to learn science. The drive can come from the essential needs of humans which are called intrinsic motivation (Irianti, 2006).

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According to Sardiman (2001) extrinsic motivation can be stimulated by the use of appropriate learning strategies, where teachers are required to master varied presentation techniques commonly called teaching methods. With the existence of varied teaching methods, it is hoped that gradually self-motivation will grow in students to maintain perseverance and release their learning potential well so that maximum learning results are obtained.

According to Winkel (1991) providing motivation to students means moving students to do something, so that in the initial stage it will cause students to feel there is a need and desire to do a learning activity. If students already have the desire to do something or have been motivated, then the student will prepare earlier for learning than students who are not motivated to learn.

Based on the author's observations and interviews with physics teachers at SMA Negeri 1 Kampar, it is known that the physics learning outcomes of grade X6 students of SMA Negeri 1 Kampar are still low when compared to the KKM (63) set by the school. In the midterm exams held last year covering the subject matter of electromagnetic waves, only 50% of students achieved learning completion. This is also triggered by the number of students who experience difficulties in learning, lack of interest and mastery of students towards physics concepts, and the teaching and learning process that tends to be dominated by teachers. Therefore, teachers are expected to be able to choose how to teach so that they can activate students. Teachers are required to choose the use of the right learning model, method, strategy, or approach so that the subject matter delivered can be easily understood by students and an optimal teaching and learning process is expected.

Students can be active if given the right learning strategies. Active learning is a way to optimize all the potential possessed by students so that they can achieve satisfactory learning outcomes (Hartono, 2007). In addition, active learning is also intended to keep students' attention focused on the learning process.

One method that is seen as activating students in theoretical learning is Guided Note Taking (GNT). Guided Note Taking (GNT) 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 subject matter, including electromagnetic waves. Because the theoretical subject matter requires mastery of the material, better student activity and a high level of concentration and understanding of the explanation given by the teacher.

In this method, students are given handouts from teaching materials delivered by the lecture method to students and in the handouts empty some important points so that there are blank parts in the handout. During the lecture, students are asked to fill in the blanks, which aims to keep students concentrated on following the lesson.

Based on the description above, the author is interested in conducting research entitled "Application of Guided Note Taking (GNT) Learning Method in Cooperative Learning Model to Increase Student Learning Motivation in Class X6 Physics Lessons of SMA Negeri 1 Kampar.".

2 Research Methodology

2.1 Forms of Research

The research carried out is pre-experimental research. This study provides treatment to the subjects studied through the application of the Guided Note Taking (GNT) learning method in grade X6 SMA Negeri 1 Kampar.

2.2 Research Subjects

The subjects in this study were grade X6 students of SMA Negeri 1 Kampar totaling 43 students, with 26 female students and 17 male students.

2.3 Research Design

In this study, One Group Pretest-Posttest Design was used, where this design was used by one group of subjects (Nazir, 2005). In accordance with the formulation of the problem that has been stated in the research, where the implementation stage of this research includes the application of the Guided Note Taking (GNT) learning method in the cooperative learning model.

The design of One Group Pretest-Posttest Design can be described as follows:

Where:

Pretest	*Treatment*	*Posttest*
T_1	x	T_2

Figure 1 : One Group Pretest-Posttest Design

T1 = Motivational questionnaire given to students before the application of learning methods.

X = Treatment through the application of learning strategies with the Guided Note Taking (GNT) method.

T2 = Motivation questionnaire given to students after the application of the learning method.

2.4 Research Instruments

The learning tools used in this study consisted of syllabus and assessment systems, lesson plans, LTS, handouts, and quizzes.

2.5 Data Collection Instruments

The data collection instrument in this study was used a learning motivation questionnaire developed by Tanjung (in Ningsih, 2003) which was compiled based on indicators that are characteristics of someone having high learning motivation. The questionnaire has been provided by researchers consisting of 34 statements as in appendix 7 and appendix 8. Student learning motivation questionnaires consist of four categories, namely interest, relevance, expectations and results. Furthermore, the statement items are modified by identifying student motivation instrument statement items in electromagnetic wave learning.

2.6 Data Collection Techniques

Data collection technique is a questionnaire technique given to research subjects. The initial motivation data was taken by distributing questionnaires to research subjects before treatment, while the final motivation was taken by distributing questionnaires after treatment through the application of the Guided Note Taking (GNT) learning method in the cooperative learning model.

2.7 Data Analysis Techniques

The data analysis techniques used in this study are descriptive and inferential analysis, which uses hypothesis tests to see significant differences in students' physics learning motivation before and after applying the Guided Note Taking (GNT) learning method in the cooperative learning model.

3 Results and Discussion

3.1 Results of Descriptive Analysis of Student Learning Motivation

Student Learning Motivation Level

Based on the results of data analysis, the level of student motivation on the subject matter of electromagnetic waves was obtained by applying the Guided Note Taking (GNT) learning method in the cooperative learning model. For more details can be seen in Table 1 below:

Table 1. Learning Motivation Level of Class X6 Students of SMA Negeri 1 Kampar

Komponen Motivasi Belajar		SR		R		T		ST		Rata-Rata	
		Jml	%	Jml	%	Jml	%	Jml	%		
Minat	Awal	0	0,0	2	4,7	31	72,1	10	23,3	3,0	T
	Akhir	0	0,0	0	0,0	22	51,2	21	48,8	3,2	T
Relevansi	Awal	0	0,0	3	7,0	29	67,4	11	25,6	3,0	T
	Akhir	0	0,0	0	0,0	24	55,8	19	44,2	3,2	T
Harapan	Awal	0	0,0	2	4,7	23	53,5	18	41,9	3,1	T
	Akhir	0	0,0	0	0,0	15	34,9	28	65,1	3,3	ST
Hasil	Awal	0	0,0	5	11,6	26	60,5	12	27,9	2,9	T
	Akhir	0	0,0	1	2,3	27	62,8	15	34,9	3,2	T
Rata-rata	Awal	0	0,0	2	4,7	32	74,4	9	20,9	3,0	T
	Akhir	0	0,0	0	0,0	21	48,8	22	51,2	3,2	T

Table 1 shows that in the interest component, the initial motivation level score was 3.0 (high category) and the final motivation was 3.2 (high category), which means an increase of 0.2. In the relevance component, the initial motivation level score was 3.0 (high category), and the average final motivation score was 3.2 (high category), thus the interest component increased by 0.2.

For the expectation component, motivation before using cooperative learning by applying the Guided Note Taking (GNT) learning method in the cooperative learning model score was 3.1 (high category). After the treatment, his motivation score increased by 0.2 to 3.3 (very high category).

In the outcome component, the initial motivation score was 2.9 (high category) and motivation eventually increased by 0.3 to 3.2 (high category), and overall the average motivation score was initially 3.0 (high category) and increased by 0.2 to 3.2 (high category).

Although the percentage of student motivation is different at the beginning and the end, the level of learning motivation of grade X6 students at SMA Negeri 1 Kampar is both in the high category.

Changes in Student Learning Motivation

Based on the results of data analysis, information can be obtained about changes in student learning motivation on the subject matter of electromagnetic waves by applying the Guided Note Taking (GNT) learning method in the cooperative learning model. For more details can be seen in table 2 below.

Table 2. Changes in Motivation of Class X6 Students of SMA Negeri 1 Kampar

No	Perubahan	Komponen Motivasi Belajar Siswa								Rata-rata	
		Minat		Relevansi		Harapan		Hasil			
		Jml	%	Jml	%	Jml	%	Jml	%	Jml	%
1	Meningkat	31	72	29	67	24	56	25	58	30	70
2	Tetap	5	12	5	12	8	19	10	23	10	23
3	Menurun	7	16	9	21	11	26	8	19	3	7
Jumlah		43	100	43	100	43	100	43	100	43	100
Rata-rata perubahan motivasi belajar		8,7% Meningkat		6,9% Meningkat		4,5% Meningkat		6,9% Meningkat		6,7% Meningkat	

Based on Table 2, it can be seen that all components of student learning motivation have increased, both components of interest, relevance, expectations and results. Of the four components, it can be seen that the interest component experienced a considerable increase of 8.7%, while the component that experienced the smallest increase was the expectation component at 4.5%. The average change in students' physics learning motivation based on table 10 overall increased by 6.7%.

3.2 Inferential Analysis Results

To see whether changes in student motivation to learn Physics using the Guided Note Taking (GNT) learning method in the cooperative learning model are meaningful enough, it needs to be analyzed using a sign test denoted by Z in the appendix.

Based on the results of data analysis, a positive sign (+) = 35, a negative sign (-) = 8, then a price of Z = 3.93 was obtained. So the probability of P can be seen from the normal distribution table that is P = 2(0.000042) = 0.000084, meaning P<0.05. Thus, Ho was rejected and H1 was accepted, meaning that there was a difference in students' motivation to learn physics before and after applying the Guided Note Taking (GNT) learning method in the cooperative learning model in grade X6 of SMA Negeri 1 Kampar at a confidence level of 95%.

4 Conclusion

Based on the results of the analysis that has been carried out on students' physics learning motivation, there is a level of student learning motivation with an average score of learning physics before the application of the Guided Note Taking (GNT) learning method in the cooperative learning model of 3.0 with a high category. For the average value of students' physics learning motivation after the application of the Guided Note Taking (GNT) learning method in the cooperative learning model of 3.2 with a high category.

There was a significant difference in students' motivation to learn physics before and after applying the Guided Note Taking (GNT) learning method in the cooperative learning model with an average change in learning motivation of 6.7% in grade X6 SMA Negeri 1 Kampar with a confidence level of 95%.

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