

ABSTRAK

Grasia, Eufrasia. 2018. Efektivitas Penerapan Metode Eksperimen Berbantu *Mind Mapping* Terhadap Pengetahuan, Motivasi dan Gotong Royong Siswa Kelas XI MIPA Pada Pokok Bahasan Gelombang Cahaya Di SMAN 1 Mlati. Skripsi. Yogyakarta: Program Studi Pendidikan Fisika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma Yogyakarta.

Penelitian ini bertujuan untuk mengetahui efektivitas penerapan metode eksperimen berbantu *mind mapping* terhadap peningkatan pengetahuan, motivasi belajar dan sikap gotong royong siswa kelas XI MIPA SMAN 1 Mlati pada materi gelombang cahaya.

Jenis penelitian ini adalah eksperimen kuantitatif dan kualitatif, dengan subyek penelitian adalah siswa kelas XI MIPA SMA Negeri 1 Mlati. Penelitian ini menggunakan satu kelas yang diberikan *treatment* yaitu dengan pembelajaran menggunakan metode eksperimen berbantu *mind mapping* dan satu kelas dengan menggunakan metode ceramah aktif. Instrumen yang digunakan untuk pengambilan data adalah tes tertulis (*pretest* dan *posttest*), kuesioner motivasi belajar siswa dan observasi gotong royong. Hasil tes tertulis dan kuesioner motivasi belajar siswa dianalisis menggunakan program SPSS 20, sedangkan sikap gotong royong siswa dianalisis secara kualitatif berdasarkan hasil rekaman video kegiatan siswa dan catatan peneliti selama proses pembelajaran.

Hasil penelitian menunjukkan bahwa: Metode eksperimen berbantu *mind mapping* meningkatkan pengetahuan siswa pada materi gelombang cahaya, ada perbedaan peningkatan motivasi belajar siswa dimana berdasarkan *mean* peningkatan motivasi belajar di kelas eksperimen lebih tinggi dibanding kelas kontrol. Sikap gotong royong siswa kelas eksperimen berbantu *mind mapping* dan kelas kontrol dapat dikatakan baik. Sikap ini ditunjukkan pada aspek aktif dalam kelompok, membantu sesama, saling mendengarkan dan menolong teman

Kata kunci: metode eksperimen, *mind mapping*, pengetahuan, motivasi, gotong royong

ABSTRACT

Grasia, Eufrasia. 2018. Effectiveness of the Application of Experimental Methods Assisted by Mind Mapping on Knowledge, Motivation and Mutual Cooperation of Class XI Students of Mathematics and Natural Sciences in the Subject of Light Wave at SMAN 1 Mlati. Essay. Yogyakarta: Physics Education Study Program, Department of Mathematics and Natural Sciences Education, Teacher Training and Education Faculty, Sanata Dharma University Yogyakarta.

This study aims to determine the effectiveness of the application of mind mapping assisted methods to increase knowledge, learning motivation and mutual cooperation attitude of students of class XI MIPA SMAN 1 Mlati in light wave material.

This type of research is quantitative and qualitative experiments, with the research subjects being students of class XI MIPA SMA Negeri 1 Mlati. This study uses one class given treatment, namely by learning using mind mapping assisted experimental methods and one class using active lecture methods. The instruments used for data collection were written tests (pretest and posttest), student learning motivation questionnaires and mutual cooperation observation. The results of written tests and student motivation questionnaires were analyzed using the SPSS 20 program, while students' mutual cooperation attitudes were analyzed qualitatively based on the video recordings of student activities and researchers' notes during the learning process.

The results showed that: The mind mapping assisted experimental method increased students' knowledge of light wave material, there were differences in the increase in student learning motivation which was based on the mean increase in learning motivation in the experimental class higher than the control class. As for the mutual cooperation attitude of the two classes based on the indicators used, they showed a good mutual cooperation attitude. This attitude is shown in the active aspects of the grup, helping others, listening to each other and helping friends.

Keywords: experimental method, mind mapping, knowledge, motivation, mutual cooperation.