ABSTRAK

Utami, Ni Made Suci Bhakti Karya, Pengaruh Pembelajaran Multirepresentasi terhadap Penurunan Miskonsepsi dan Penguasaan Konsep Siswa Mengenai Materi Cahaya dan Alat Optik. Tesis, Program Studi S2 Pendidikan IPA, Jurusan Fisika dan Pengajaran IPA, Fakultas Matematika dan Ilmu Pengetahuan Alam, Univeristas Pendidikan Ganesha.

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Kata-kata kunci: *pembelajaran multirepresentasi, penurunan miskonsepsi penguasaan konsep*

Penelitian ini bertujuan mendeskripsikan dan menjelaskan perbedaan penurunan miskonsepsi dan penguasaan konsep siswa yang dibelajarkan dengan pembelajaran multirepresentasi dan pembelajaran konvensional pada materi cahaya dan alat optik. Jenis penelitian ini adalah *quasi experiment* dengan rancangan *pretest-posttest non-equivalent control group design*. Penelitian ini dilaksanakan di SMP Negeri 1 Tabanan dengan populasi sebanyak 378 siswa yang terbagi dalam 10 kelas. Sampel diambil menggunakan teknik *simple random sampling* terhadap kelas sehingga diperoleh satu kelas eksperimen (VIII F) dan satu kelas kontrol (VIII I). Kelas eksperimen diberikan perlakuan dengan pembelajaran multirepresentasi dan kelas kontrol diberi perlakuan pembelajaran konvensional. Data dikumpulkan menggunakan instrumen berupa tes penguasaan konsep. Data dianalisis dengan analisis deskriptif dan hipotesis diuji dengan teknik Manova. Hasil *gain score* ternormalisasi penguasaan konsep siswa yang dibelajarkan dengan pembelajaran multirepresentasi lebih tinggi dibandingkan dengan siswa yang dibelajarkan dengan pembelajaran konvensional. Hasil uji hipotesis menunjukkan bahwa (1) Terdapat perbedaan penurunan miskonsepsi dan penguasaan konsep pada materi cahaya dan alat optik antara kelompok siswa yang belajar dengan pembelajaran multirepresentasi dan pembelajaran konvensional, (2) Terdapat perbedaan penurunan miskonsepsi pada materi cahaya dan alat optik antara kelompok siswa yang belajar dengan pembelajaran multirepresentasi dan pembelajaran konvensional, (3) Terdapat perbedaan penguasaan konsep pada materi cahaya dan alat optik antara kelompok siswa yang belajar dengan pembelajaran multirepresentasi dan pembelajaran konvensional.

ABSTRACT

Utami, Ni Made Suci Bhakti Karya, The Effect of Multi-representation Learning on Students' Misconception Reduction and Concept Mastery on Light and Optics Learning Materials. Thesis, Natural Science Education Master Degree Study Program, Physics and Natural Science Teaching Department, the Faculty of Mathematics and Natural Science, Ganesha University of Education.

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Keywords: multi-representation learning, misconception reduction,concept mastery

This research aimed at describing and explaining the difference between the misconception reduction and the concept mastery of the students who were taught by using multi-representation learning and of the students who were taught by using conventional learning on light and optics learning material. The type of this research was quasi-experimental research utilizing pre-test-post-test non-equivalent control group design. This research was conducted at SMP Negeri 1 Tabanan with the number of population of 378 students, that were divided into 10 classes. The samples were determined by using simple random sampling technique on the classes so that one experimental class (VIII F) and one control class (VIII I) were obtained. The experimental class was treated by using multi-representation learning and the control class was treated by using conventional learning. The data was collected by using an instrument in the form of concept mastery test. The data was analysed by using descriptive analysis and the hypothesis was tested by using Manova technique. The gained normalized concept mastery scoresof the students who were taught by using multi-representation learning were greater than of the students who were taught by using conventional learning. The result of the hypothesis testing showed that:(1) there was a difference on the misconception reduction and the concept mastery on the light and optics learning material between the group of students who were taught by using multi-representation learning and the ones who were taught by using conventional learning, (2) there was a difference on misconception reduction on the light and optics learning material between the group of students who were taught by using multi-representation learning and the ones who were taught by using conventional learning, (3) there was a difference on the concept mastery on the light and optics learning material between the group of students who were taught by using multi-representation learning and the ones who were taught by using conventional learning.