

ABSTRACT

THE INFLUENCE OF GUIDED INQUIRY-BASED LEARNING ASSISTED BY SMARTPHONE SENSORS WITH PHYSICS TOOLBOX SENSOR SUITE APPLICATION ON STUDENTS' MULTIPLE REPRESENTATIONS ABILITY

By

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This research aims to describe the effect of guided inquiry-based learning assisted by Physics Toolbox Sensor Suite on students' multiple representations ability. The population of this study was class X SMA Negeri 7 Bandar Lampung. The sample selection in this research used purposive sampling technique with class X.8 with 35 students as the experimental class and class X.5 with 34 students as the control class. This research design uses Non-Equivalent Control Group Design. The results showed that there was an increase in the ability of multiple representations with an average N-Gain of 0.64 medium category. The results of the Independent Sample T-test obtained that there is a difference in the average value between the experimental class and the control class, which shows the significant effect of treatment on the ability of multiple representations of students. The magnitude of the treatment effect is also indicated by the Cohen's (d) value of 1.44 with a high category. This shows that guided inquiry-based learning assisted by smartphone sensors with Physics Toolbox Sensor Suite media has a major effect on students' multiple representations ability.

Keywords: Guided Inquiry, Multiple Representations, Physics Toolbox Sensor Suite, Smartphone Sensor

ABSTRAK

PENGARUH PEMBELAJARAN BERBASIS INKUIRI TERBIMBING BERBANTUAN SENSOR *SMARTPHONE* DENGAN APLIKASI *PHYSICS TOOLBOX SENSOR SUITE* TERHADAP KEMAMPUAN *MULTIPLE REPRESENTATIONS* PESERTA DIDIK

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Penelitian ini bertujuan untuk mendeskripsikan pengaruh pembelajaran berbasis inkuiri terbimbing berbantuan *Physics Toolbox Sensor Suite* terhadap kemampuan *multiple representations* peserta didik. Populasi penelitian ini adalah kelas X SMA Negeri 7 Bandar Lampung. Pemilihan sampel pada penelitian ini menggunakan teknik *purposive sampling* dengan kelas X.8 yang berjumlah 35 peserta didik sebagai kelas eksperimen dan kelas X.5 yang berjumlah 34 peserta didik sebagai kelas kontrol. Desain penelitian ini menggunakan *Non-Equivalent Control Group Design*. Hasil penelitian menunjukkan terdapat peningkatan kemampuan *multiple representations* dengan rata-rata *N-Gain* sebesar 0,64 kategori sedang. Hasil *Independent Sample T-test* diperoleh bahwa terdapat perbedaan nilai rata-rata antara kelas eksperimen dan kelas kontrol, yang menunjukkan pengaruh *treatment* secara signifikan terhadap kemampuan *multiple representations* peserta didik. Besarnya pengaruh *treatment* juga ditunjukkan oleh nilai *Cohen's (d)* sebesar 1,44 dengan kategori tinggi. Hal ini menunjukkan bahwa pembelajaran berbasis inkuiri terbimbing berbantuan sensor *smartphone* dengan media *Physics Toolbox Sensor Suite* berpengaruh besar terhadap kemampuan *multiple representations* peserta didik.

Kata kunci: Inkuiri Terbimbing, *Multiple Representations*, *Physics Toolbox Sensor Suite*, Sensor *Smartphone*