

ABSTRAK

Khoiruni Muthmainnah. 2023. **PENGARUH MODEL PEMBELAJARAN INVESTIGATION BASED MULTIPLE REPRESENTATION (IBMR) BERBANTUAN CROCODILE PHYSICS TERHADAP KEMAMPUAN PEMECAHAN MASALAH PESERTA DIDIK PADA MATERI MOMENTUM, IMPULS, DAN TUMBUKAN**

Penelitian ini dilatarbelakangi oleh rendahnya kemampuan pemecahan masalah peserta didik pada pelajaran Fisika karena sulitnya menentukan rumus yang tepat dan kurangnya kebaruan model pembelajaran yang digunakan. Oleh karena itu diperlukan sebuah model pembelajaran *Investigation Based Multiple Representation* (IBMR) berbantuan *Crocodile Physics* terhadap kemampuan pemecahan masalah. Berdasarkan hal tersebut, tujuan penelitian ini untuk mengetahui pengaruh model pembelajaran *Investigation Based Multiple Representation* (IBMR) berbantuan *Crocodile Physics* terhadap kemampuan pemecahan masalah peserta didik pada materi momentum, impuls, dan tumbukan. Metode penelitian yang digunakan adalah *quasi experiment* dengan desain penelitian *nonequivalent control group design*. Populasi penelitian ini yaitu seluruh kelas X MIPA di SMA Negeri 3 Tasikmalaya tahun ajaran 2022/2023 sebanyak 8 kelas. Teknik *sampling* yang digunakan ialah *cluster random sampling* yang diambil secara acak dua kelas eksperimen dan dua kelas kontrol. Tes kemampuan pemecahan masalah dilakukan melalui *pretest* dan *posttest* berbentuk *essay*. Hasil pengujian hipotesis dengan uji t menunjukkan bahwa $t_{hitung} > t_{tabel}$ yang berarti H_0 ditolak dan H_a diterima, t_{hitung} sebesar 3,55 dan t_{tabel} sebesar 1,67. Maka dapat disimpulkan bahwa pengaruh model pembelajaran IBMR berbantuan *Crocodile Physics* berpengaruh signifikan terhadap kemampuan pemecahan masalah peserta didik pada materi momentum, impuls, dan tumbukan di kelas X MIPA SMA Negeri 3 Tasikmalaya tahun ajaran 2022/2023.

Kata kunci: *crocodile physics*, kemampuan pemecahan masalah, model pembelajaran IBMR, momentum, impuls, dan tumbukan.

ABSTRACT

Khoiruni Muthmainnah, 2023. THE INFLUENCE OF THE CROCODILE PHYSICS ASSISTED INVESTIGATION BASED MULTIPLE REPRESENTATION (IBMR) LEARNING MODEL ON THE PROBLEM-SOLVING ABILITY OF PARTICIPANTS WAS EDUCATED IN MOMENTUM, IMPULSE, AND PUNCH MATERIAL

This research was motivated by the low problem-solving ability of students in Physics lessons due to the difficulty of determining the right formula and the lack of novelty of the learning model used. Therefore, an Investigation Based Multiple Representation (IBMR) learning model assisted by Crocodile Physics is needed for problem solving abilities. Based on this, the purpose of this study is to determine the effect of the Investigation Based Multiple Representation (IBMR) learning model assisted by Crocodile Physics on the problem-solving ability of students on momentum, impulse, and collision material. The research method used was a quasi experiment with a nonequivalent control group design research design. The population of this study is the entire class X MIPA at SMA Negeri 3 Tasikmalaya for the 2022/2023 school year as many as 8 classes. The sampling technique used is cluster random sampling which is taken randomly two experimental classes and two control classes. Problem-solving ability tests are carried out through pretest and posttest in the form of essays. The results of the hypothesis analysis with the t test show that $t_{hitung} > t_{tabel}$ which means H_0 rejected and H_a accepted, t_{hitung} by 3,55 and t_{tabel} by 1,67. So it can be concluded that the influence of the IBMR learning model assisted by Crocodile Physics has a significant effect on student's problem-solving ability on momentum, impulse, and collision material in class X MIPA SMA Negeri 3 Tasikmalaya for the 2022/2023 academic year.

Keywords: crocodile physics, problem-solving ability, IBMR learning model, momentum, impulse, and collision.