ABSTRACT

Karmila Dewi. 2024. ***THE INFLUENCE OF THE ARGUMENT-DRIVEN INQUIRY LEARNING MODEL ON STUDENTS' PROBLEM-SOLVING ABILITY IN MECHANICAL WAVE MATERIALS***

This research was motivated by the problem-solving abilities of students at SMA Negeri 3 Garut which were included in the very low category. The efforts made by researchers to overcome this problem are by using the argument-driven inquiry learning model, where this model can trigger students to solve problems in the form of phenomena, in groups. This research aims to determine the effect of the argument-driven inquiry learning model on students' problem-solving abilities in mechanical wave material. This research method uses a quasi-experiment and a posttest-only control group design. The population of this research is all class XI MIPA SMA Negeri 3 Garut 2023/2024 which consists of 7 classes with a total of 254 students. The sampling technique used cluster random sampling to obtain class XI MIPA 1 as the experimental class and class XI MIPA 2 as the control class. Data collection techniques use test instruments. The test carried out was in the form of a posttest with questions given in the form of descriptions based on indicators of problem-solving abilities according to Docktor and Heller. After testing the hypothesis using the t-test at the significance level (α=0.05), it was proven that after applying the argument-driven inquiry model, it was found that $t_{count} > t_{table}$ *then* H_0 *was rejected and* H_a *was accepted. This means that it can be concluded that at the 95% confidence level, there is an influence of the argument-driven inquiry learning model on students' problem-solving abilities in mechanical wave material in class XI of SMA Negeri 3 Garut in the 2023/2024 academic year. Apart from that, the argument-driven inquiry model can train students to identify problems and formulate solutions through explanations, evidence, and reasons.*

Keywords: Argument-Driven Inquiry, Mechanical Wave, Problem-Solving Ability