

ABSTRACT

Putri Amalia, Reg. Number 4201121004 (2024). The Effect Of TPACK Based Differentiated Inquiry Learning Model To increase Motivation and Physics Problem Solving Ability in MAN 2 Model Medan.

This research aims to see the motivation and problem solving ability of students using the TPACK-based differentiated inquiry learning model in light waves material in class XI at MAN 2 Model Medan. This type of research is a quasi experiment that uses 35 students from class XI F1 A as the experimental class and 35 students from class XI F1 C as the control class. Sampling was done using cluster random sampling technique. The instrument used is a test instrument for students' problem solving skills. The results of the pretest test of the two groups using SPSS for windows obtained the significance value > 0.05 in the experimental class and control class, which indicates that H_0 is accepted, indicating that the initial test results of students in the experimental and control groups are the same. Furthermore, Different experiments were conducted on both groups, resulting in higher average posttest scores for the experimental group than the average results for the control group. Results of the posttest normality and homogeneity checks showed that both data had a normal and homogeneous distribution. Furthermore, hypothesis testing revealed several findings, namely: a significant difference in problem solving ability between students taught with the TPACK-based Differentiated Inquiry model and those who received conventional teaching, with $t_{count} > t_{table}$, there is a significant difference between students who have high and low motivation, with $t_{count} > t_{table}$, there is an interaction between the TPACK-based guided inquiry learning model and student motivation with $F_{count (AB)} > F_{table}$ and $sig < 0,05$.

Keywords : TPACK-based Differentiated Inquiry Model, Motivation, Problem Solving Ability, Light Wave

