

ABSTRACT

Nora Damanik, NIM 4202451004. The Effect of Ethnoscience Integrated Phenomenon-Based Learning on Scientific Literacy and Argumentation on Temperature, Heat, and Expansion Material.

This study aims to determine the effect of the implementation of the ethnoscience integrated phenomenon-based learning on students' scientific literacy and scientific argumentation on temperature, heat and expansion material. This type of research is a quasi experiment with two-group pretest-posttest design. The population of this study was all grade VII students of SMP Negeri 18 Medan consisting of 352 students. The research sample was taken by simple random sampling technique consisting of two classes, namely class VII-1 as an experimental class and class VII-5 as a control class, each class consisting of 32 students. The research instrument is a multiple-choice test with four options to measure scientific literacy and a description test to measure scientific argumentation. Data analysis using manova, correlation, and normalized-gain tests (N-gain). Based on the result of the manova test, it was found that ethnoscience integrated phenomenon-based learning has a significant effect on scientific literacy and argumentation on temperature, heat, and expansion material. The percentage increase in N-gain in scientific literacy in the experimental class was 74% (high category) and in the control class was 41% (medium category). The percentage increase in N-gain scientific argumentation in the experimental class was 55% (medium category) and in the control class was 19% (low category). The results of the correlation test showed that there was a relationship between scientific literacy and scientific argumentation of 0.751 in the experimental class, meaning that there was a high correlation between scientific literacy and scientific argumentation with ethnoscience integrated phenomenon-based learning in class VII natural science learning on temperature, heat, and expansion material.

Keywords: Ethnoscience, phenomenon-based learning, scientific literacy, scientific argumentation