

**THE DIFFERENCE OF STUDENTS LEARNING OUTCOME AND
RETENTION BETWEEN MIND MAP AND NOTES WRITE AND
STACKING (NWS) TECHNIQUES AT ECOSYSTEM**

TOPIC GRADE X SMAN 11 MEDAN

ACADEMIC YEAR 2014/2015

Siti Fatimah Siregar/ 4113342014

ABSTRACT

The objectives of this study are to know the differences of students learning outcome and memory retention between mind maps and notes write and stacking (NWS) techniques at ecosystem topic grade X SMAN 11 Medan Academic year 2014/2015. The type of this research is quasai experimental research. The population was all students grade X of SMAN 11 Medan, consist of eight classes. The technique of sampling was random sampling. Thus the research samples were class X-7 and X-8 consists of 38 students and 37 students. The result of hypothesis testing using t-test on post-test data about the differences of students learning outcome between mind maps and notes write and stacking (NWS) showed that $t_{count} (2.1) > t_{table} (1.991)$, it means that H_{01} was rejected and H_{a1} accepted. It can be concluded that there was significant difference of student learning outcomes in using mind maps and notes write and stacking techniques at topic ecosystem in academic year 2014/2015, and the results of hypothesis testing using t-test on retention data showed that $t_{count} (3.62) > t_{table} (1.991)$, it means that H_{02} was rejected and H_{a2} accepted. It can be concluded that there was significant difference of students' retention using mind maps and notes write and stacking techniques at topic ecosystem academic year 2014/2015.

Keywords: Mind Map , Notes Write and Stacking (NWS) , Students' Learning Outcome , Students' Retention