

**THE COMPARISON BETWEEN *FREE DISCOVERY* AND *GUIDED DISCOVERY*
APPROACH ON STUDENTS' COGNITIVE LEARNING OUTCOME AND SCIENCE
PROCESS SKILL ON HUMAN RESPIRATORY
SYSTEM IN CLASS XI IA SMA N 1 BERASTAGI
ACADEMIC YEAR 2012/2013**

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ABSTRACT

This quasy experiment research aims to investigate the comparison of students' cognitive learning outcome and science process skill through the implementation of free discovery and guided discovery approach on human respiratory topic in SMA Negeri 1 Berastagi academic year 2012/2013. The population of this research is all students in SMA Negeri 1 Berastagi (160 students). The sample is taken by using cluster random sampling. 32 students were treated by free discovery approach (XI IPA-2) and another 32 students were treated by guided discovery approach (XI IPA-5). The instrument of the research is student's cognitive learning outcome test of multiple choice (45 questions). The result shows that pre-test in free discovery class (53.15 ± 12.60) and in guided discovery class (49.59 ± 9.38 , post-test in guided discovery class (79.09 ± 6.31) is higher than free discovery class (74.09 ± 7.43). t -test was carried out by using significance degree $\alpha = 0.05$, it was obtained that $t_{\text{calculation}} > t_{\text{table}}$ ($2.82 > 1.99$) and H_0 is rejected. There is significant difference of students' cognitive learning outcome between free discovery and guided discovery approach on human respiratory system in class XI IA SMA N 1 Berastagi academic year 2012/2013. The average of students' science process skill in free discovery approach (78.25) is higher than the guided discovery approach (72.75). Based on this finding, there is no difference between free discovery and guided discovery approach on students' science process skill statistically.

Keyword : *students' cognitive learning outcome, students' science process skill, free discovery approach, guided discovery approach*

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