

**THE EFFECT OF MIND MAP ON STUDENTS' LEARNING OUTCOMES  
FOR HUMAN CIRCULATORY SYSTEM, GRADE ELEVEN  
SCIENCE PROGRAM SMA NEGERI 1 BERASTAGI  
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**ABSTRACT**

This quasy experiment research aims to investigate the effect of Technique Mind Map on the student's Learning Outcome in Human Circulatory System topic. The research was conducted in class XI IPA SMA Negeri 1 Berastagi academic year 2012/2013. The population of this research is 160 students and samples are purposive sampled consisting of 32 students as an experimental class (XI-IPA 1) and 32 students of control class (XI-IPA 3). 30 items of multiple choice test were used, and validated before they were applied. The result shows that pretest in experimental and control class are  $(34.53 \pm 10.30)$  and  $(29.84 \pm 9.51)$ .  $t$  test reveals  $t_{obs} (1.95) < t_{table} (2)$ ;  $\alpha = 0,05$ . Pretest has no significant effect in the student's preliminary knowledge. In the contrary, posttest shows different result (experimental class :  $60.47 \pm 17.17$ ; control class:  $48.91 \pm 11.28$ ).  $t$  test reveals that  $t_{obs} (3.32) > t_{table} (1.16)$ . This findings states that treatments has signnificant effects on the student's learning outcome in Biology. It is advisable that Technique Mind Map is incorporated in the learning process especially in teaching Biology.

*Keyword : Mind Map, Biology, Circulatory System, Learning outcomes.*

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