

**THE COMPARISON OF STUDENT LEARNING OUTCOMES AND  
RETENTION THROUGH IMPLEMENTING WORD SQUARE AND  
CROSSWORD PUZZLE MODEL ON PLANT MOVEMENTS  
IN CLASS VIII SMP NEGERI 1 TEBING TINGGI  
(ACADEMIC YEAR 2011/2012)**

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**ABSTRACT**

This quasy experiment research aims to investegate the comparison of student learning outcome and retention through implementing word square and crossword puzzle model on plant movements in class VIII SMP Negeri 1 Tebing Tinggi Academic year 2011/2012.

The population of this research was all students in class VIII RSBI SMP Negeri 1 Tebing Tinggi totaling 119 students. The sample was taken by using random sampling and was obtained the sample for 28 students of word square class (VIII-3) and 28 students of crossword puzzle class (VIII-1). The instrument of research was student's learning outcome test in multiple choise form with 25 questions which had been validated by expert.

The result of data analysis showed that pretest in word square class ( $60,71 \pm 16,26$ ) and pretest in crossword puzzle class ( $57,14 \pm 14,84$ ). After t test was carried out by using significance degree  $\alpha = 0,05$ , it was obtained that  $t_{obs} = 0,85 < t_{table} = 2,006$ , so it can be known both classes had not significant difference of student's learning outcomes before implemation. Post-test in word square class ( $78,29 \pm 9,39$ ) has significant different compare with postest in crossword puzzle class ( $75,14 \pm 12,57$ ). it was obtained that  $t_{table} = 2,006 > t_{obs} = 1,05$ , define student's learning outcomes of biology in word square class higher than crossword puzzle class. Then, post test II (retention) in word square class ( $61,21 \pm 13,19$ ) has no significant different compare with postest II (retention) in crossword puzzle class ( $60,29 \pm 16,86$ ) it was obtained that  $t_{table} = 2,006 > t_{obs} = 0,85$  ( $\alpha = 0.05$ ). The result of study implies success of teaching word square model that on the main subject plant movements can increase the learning outcome and retention.

Keyword : *student learning outcomes, retention, word square model, crossword puzzle model*