

# THE EFFECTIVENESS OF LEARNING MODULE TO INCREASE STUDENT'S ACHIEVEMENT ON THE TEACHING OF THERMOCHEMISTRY

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## ABSTRACT

The aim of this research is the effectiveness of learning module to increase student's achievement on the teaching of thermochemistry. The population of this research are all students grade XI SMA Negeri 1 Tebing Tinggi, SMA Plus Darul Ilmi Murni, SMA Pesantren Rhaudhatul Hasanah, Chemistry lecturers, chemistry teachers and chemistry books. The samples that were chosen from two classes those are homogenize, and distributed normally. There two kinds of research instruments, those are questionnaire for standardization of chemistry learning module, and 15 multiple choice those were validated by expert valuator and students, with its  $r_{\text{calculation}} 0.548 > r_{\text{table}} 0.344$ , stated that it was reliable. Questionnaire was done in standardized chemistry learning module by chemistry lecturers and chemistry teachers called as expert judgment. Trial for module have done, by giving pretest, teaching and learning activities by using module as media (in experiment class), and by using chemistry book as a media (in control class), giving posttest-I, and next two weeks is giving posttest-II. The result of this research can be shown as the average percentage in High Group (HG) using module 46.45% is higher than using book 44.59%, with  $t_{\text{count}} = \dots$ . While  $t_{\text{table}}$  at  $\alpha = 0.05$  is 1.319, and the average percentage in Low Group (LG), using module 75.50% is less than using book 70.83%, with  $t_{\text{account}} = \dots$  while  $t_{\text{table}}$  at  $\alpha = 0.05$  is 1.319. It could be conclude that chemistry learning module is able to increase student's achievement in HG. The affectivity of chemistry learning module can be analyzed by using data Posttest II. Total affectivity percentage using module 98.46% is higher than 95.07%. The standardization of chemistry learning module have assessed by lecturer (3.52), assessed by chemistry teacher (3.47), and the total average (3.49), it means that chemistry learning module is valid and don't need revision.