

Sirilak Wittaya. (2012). *Development of Chemistry Activity Packages on "Petroleum and Alternative Energy" Using Problem-Based Learning for High School Students.*

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The study aimed to develop and evaluate the efficiency of the chemistry activity packages on "petroleum and alternative energy" using problem-based learning method for high school students. The method comprises of four steps including problem identification, analysis, production and verification of the outcome. The quality of the equipment was evaluated by five experts and was ranked in high score level. The reliabilities of the achievement tests in petroleum and alternative energy, a solving science problem test and a scientific reasoning test were 0.89, 0.84 and 0.80, respectively. The trial study indicated that the package efficiency was 92.25/90.33 which was higher than the criteria of 80/80. The assessment with 40 students in Mattayomsuksa four in the first semester of the academic year 2011 at Trimitwittayalai school revealed a statistically significant difference at the .05 level after using the activity packages.