THE IMPLEMENTATION OF PROBLEM BASED LEARNING MODEL BASED ON COLLABORATIVE WITH MACROMEDIA FLASH TO INCREASE STUDENT'S ACHIEVEMENT ON SOLUBILITY AND SOLUBILITY PRODUCT IN SMA

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ABSTRACT

The purpose of this research is determine the students achievement on Solubility and Solublity Product is learned by problem based learning based on collaborative with macromedia flash.The population of this research was all of student in SMA Negeri 10 Medan grade XI Science. The samples were 2 class from student in SMAN 10 Medan by purposive random sampling methods. The experimental class was learned by problem based learning based on collaborative with macromedia flash and control class was learned by direct instructional method. The instruments are using multiple choice test to see the student's achievement. The instrument of research was stardardized by expert validators and empiric validity . Data analysis using Microsoft Excel for Windows 2007. The result of test standardized is 20 items with reliability 0.78. The result data shows that the student's achievement taught by problem based learning based on collaborative with macromedia flash give higher significant difference than taught by direct instructional model. It can be seen from the average of gain and also proved with z-test, the normalized gain in experimental class (0.88±0.10) and control class (0.67±0.09) The statement support the data research result of hypothesis test is z_{count} = 18.363 and z_{table} = 1.645. The calculation shows that Ha is received and Ho is refused, so the student's achievement taught by using PBL based on collaborative with macromedia flash is higher than direct instructional model. In addition, the formation of collaborative group can increase the activity of student to working together in the learning process, it shown from the percentage of observation collaborative which there are 8 indicator of collaborative and the percentage of them is more than 50% of students become active in learning process . And the last is cognitive aspect which improve by implementation of problem based learning based on collaborative is C1, C2, C3, and C4. The most level of cognitive aspect improved are C1 (Knowledge), C2 (Comprehenssion), C3(Application), C4 (Analysis) : C1 is 0.62 (medium score), C2 is 0.87 (High score), C3 is 0.77 (High score), C4 is 0.86 (High score),

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