

**THE DEVELOPMENT OF INNOVATIVE STUDENT WORKSHEET
WITH PROBLEM BASED LEARNING TO IMPROVE STUDENT
LEARNING OUTCOME ON TOPIC OF SOLUBILITY AND
SOLUBILITY PRODUCT**

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ABSTRACT

The development innovative of student worksheet with problem based learning to improve student learning outcome on topic solubility and solubility product is explained. The aimed of this research, the first getting innovative student worksheet with PBL who have met the eligibility Criteria presentation standards BSNP perception of teacher and expert validation, the second to improving the student learning outcome on topic of solubility and solubility product, the third to know increasing of student learning outcome using innovative student worksheet with PBL compare student worksheet the already exist in school. the research was done in SMA N Sidikalang on second semester. The population was all of the students in grade XI at the second semester academic year 2015/2016. The class divide into two classes; experiment class and the control class. Instrument that used is validated 20 multiple choice questions by empirical validity and construct validity and all question are reliable. From 20 items, 1 difficult items, 17 medium items, 2 easy items. From 20 items, 3 good items, 12 enough items, and 5 poor items. The reability is r_{count} is $0.7350 > r_{table}$ is 0.361 . . The first time, same pretest is given to both of class. In experiment class was used problem based learning model using concept map and in control class was used conventional model. The last, same post-test is given for each of class after teaching treatment. Test result stated that the sample is distributed normally and homogeneity. Based on the result, the post-test of experiment class (87.5 ± 9.07) is higher than control class (82.83 ± 66.6). The normalized gain experiment class is 10.8 ± 11.07 higher than control class 6.5 ± 11.07 . The hypothesis testing show that value of t_{count} (2.23) while t_{table} (1.672), $t_{count} > t_{table}$ so H_a is accepted and H_0 is refused. It proved that student learning outcome was taught by PBL model using student worksheet is higher than conventional model. Base on trials on learning outcomes obtained results of studying chemistry student taught using innovative student worksheet (LKS) higher compared with the result of studying chemistry student taught by conventional, where the result of the t_{count} right parties obtained $t_{count} = 2.27$ greater than $t_{table} = 1.672$. $t_{count} > t_{table}$ ($2.26 > 1.672$) at $\alpha = 0.05$ in which the increase of 37.81%.

Keywords: PBL, Innovative Student Worksheet, Solubility and Solubility Product