

**PERBEDAAN HASIL BELAJAR SISWA MENGGUNAKAN MODEL  
PROJECT BASED LEARNING DENGAN PROBLEM BASED  
LEARNING PADA MATERI PENCEMARAN DAN  
PELESTARIAN LINGKUNGAN HIDUP  
DI KELAS XSMA PRAYATNA  
MEDAN T.P. 2015/2016**

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**ABSTRAK**

Penelitian ini bertujuan untuk mengetahui perbedaan hasil belajar siswa menggunakan model *Project Based Learning* dengan *Problem Based Learning* pada materi pencemaran dan pelestarian lingkungan hidup di kelas X SMA Prayatna Medan T.P. 2015/2016. Populasi yang digunakan dalam penelitian ini adalah seluruh siswa kelas X SMA Prayatna Medan T.P. 2015/2016, yaitu sebanyak 6 kelas dengan jumlah siswa 246 orang siswa. Sampel diambil secara acak (*rondom sampling*) sebanyak 2 kelas yaitu kelas X<sub>2</sub> sebagai kelas yang diajar menggunakan model *Project Based Learning* dan X<sub>3</sub> sebagai kelas yang diajar menggunakan model *Problem Based Learning*, masing-masing berjumlah 39 dan 40 orang siswa. Sehingga jumlah sampel dalam penelitian ini sebanyak 79 orang siswa. Jenis penelitian yang dilakukan ini adalah eksperimen. Hasil penelitian menunjukkan bahwa hasil belajar siswa yang diajar menggunakan model *Project Based Learning* adalah 80,00 dengan standart deviasi 8,65 sedangkan hasil belajar siswa yang diajar menggunakan model *Problem Based Learning* adalah 76,30 Dengan standart deviasi 7,86. Adanya perbedaan hasil belajar siswa pada kedua kelas penelitian tersebut dibuktikan melalui pengujian hipotesis dengan menggunakan uji-t dan taraf kepercayaan  $\alpha = 0,05$ , dimana kriteria pengujian adalah terima H<sub>0</sub> jika  $-t_{1-1/2\alpha} < t < t_{1-1/2\alpha}$  atau jika  $t_{hitung}$  terletak antara -1,995 dan 1,995. Dari penelitian didapat  $t_{hitung} = 2,021$  dan ini berada diluar daerah penerimaan. Hal ini berarti H<sub>0</sub> ditolak sekaligus menerima H<sub>a</sub>. Jadi dapat disimpulkan bahwa ada perbedaan yang signifikan antara hasil belajar biologi siswa yang menggunakan model *Project Based Learning* dengan model *Problem Based Learning* pada materi pencemaran dan pelestarian lingkungan hidup di kelas X SMA Prayatna Medan T.P. 2015/2016.

*Kata kunci* : Hasil Belajar, Project Based Learning, Problem Based Learning

**THE DIFFERENTIATION OF STUDENT'S LEARNING ACHIEVEMENT  
BY USING PROJECT BASED LEARNING MODEL AND PROBLEM  
BASED LEARNING MODEL ON TOPIC OF POLLUTION AND  
CONSERVATION OF THE ENVIRONMENT IN CLASS X SMA  
PRAYATNA MEDAN LEARNING YEAR 2015/2016**

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**ABSTRACT**

This research aims to determine the differences of student's learning outcomes using *Project Based Learning* model and *Problem Based Learning* model on topic of pollution and conservation of the environment in class X SMA Prayatna Medan Learning year 2015/2016. The population used in this research were all students of class X SMA Prayatna Medan Learning year 2015/2016, as many as six classes with the number of students 246 students. Samples are taken randomly (random sampling) of two classes, namely of class X<sub>2</sub> as teaching classes in using *Project Based Learning* model and X<sub>3</sub> using *Problem Based Learning* model, and each classes numbered 39 and 40 students. So the number of samples in this research were 79 students. Type of research is experimental. The results showed that the learning outcomes of students who are taught using *Project Based Learning* model is 80.00 with a standard deviation of 8.65 while the learning outcomes of students who were taught using *Problem Based Learning* model is 76.30 with standard deviation of 7.86. The difference in student learning outcomes in both research class is proved by testing the hypothesis by using t-test at  $\alpha = 0.05$ , where the testing criteria is received H<sub>0</sub> if  $-t_{1-1/2\alpha} < t < t_{1-1/2\alpha}$  or if  $t_{count}$  located between -1,995 and 1,995. From research  $t_{observed} = 2.021$ , and this is outside the reception area. This means that H<sub>0</sub> is rejected at once receive H<sub>a</sub>. So we can conclude that there is a difference of significant between the results of studying biology student using *Project Based Learning* model and *Problem Based Learning* model on topic of pollution and conservation of the environment in class X SMA Prayatna Medan Learning year. 2015/2016.

*Keywords: Learning Outcomes, Project Based Learning, Problem Based Learning*