

## ABSTRAK

**Sovranita, NIM 4203351025 (2024). Pengaruh *Problem Based Learning* Terhadap Kemampuan Kognitif dan Sikap Ilmiah Siswa Pada Materi Zat Aditif dan Zat Adiktif Kelas VIII SMP T.P 2023/2024.**

Penelitian ini bertujuan untuk mengetahui Pengaruh penerapan model *Problem Based Learning* Terhadap Kemampuan Kognitif dan Sikap Ilmiah Siswa Pada Materi Zat Aditif dan Zat Adiktif Kelas VIII SMP T.P 2023/2024. Penelitian ini merupakan jenis penelitian eksperimen semu (*quasi eksperimen*) menggunakan desain *Pretest Posttest Nonequivalent Control Group Design*. Populasi dalam penelitian ini adalah keseluruhan siswa kelas VIII SMP Negeri 1 STM Hilir. Sampel yang digunakan diambil secara *cluster random sampling* sebanyak 59 siswa dengan kelas VIII-C sebagai kelompok eksperimen yang diajar dengan model PBL dan kelas VIII-B sebagai kelas kontrol diajar dengan model pembelajaran konvensional (*direct instruction*). Pengumpulan data pada penelitian ini menggunakan tes pilihan berganda untuk mengetahui kemampuan kognitif siswa dan lembar angket untuk mengetahui sikap ilmiah siswa. Data diolah secara deskriptif dengan *IBM SPSS statistic 29 for windows*. Hasil uji hipotesis diperoleh bahwa kemampuan kognitif siswa dalam pembelajaran dengan model PBL diperoleh  $t_{hitung} > t_{Tabel}$  ( $5,350 > 1,672$ ) dan sikap ilmiah  $0,01 < 0,05$ , yang berarti  $H_0$  ditolak dan  $H_a$  diterima, artinya bahwa penerapan model pembelajaran PBL berpengaruh signifikan terhadap kemampuan kognitif dan sikap ilmiah siswa pada materi zat aditif dan zat adiktif Kelas VIII Tahun Ajaran 2023/2024. Uji hipotesis korelasi menunjukkan bahwa  $r_{hitung} > r_{Tabel}$   $0,712 > 0,361$  yang berarti  $H_0$  ditolak dan  $H_a$  diterima, artinya bahwa terdapat korelasi kemampuan kognitif terhadap sikap ilmiah siswa pada materi zat aditif dan zat adiktif Kelas VIII Tahun Ajaran 2023/2024 dengan nilai  $r$  0,712 termasuk dalam kriteria berkorelasi tinggi.

**Kata Kunci :** *Problem Based Learning*, Kemampuan Kognitif, Sikap Ilmiah, Zat Aditif dan Zat Adiktif

## ABSRTACT

**Sovranita, NIM 4203351025 (2024). The Influence of *Problem Based Learning* on Students' Cognitive Abilities and Scientific Attitudes in Material on Additives and Addictive Substances for Class VIII SMP T.P 2023/2024.**

This research aims to determine the effect of applying the *Problem Based Learning* model on students' cognitive abilities and scientific attitudes regarding additives and addictive substances in Class VIII SMP T.P 2023/2024. This research is a type of quasi-experimental research using a *Pretest Posttest Nonequivalent Control Group Design*. The population in this study were all students in class VIII of SMP Negeri 1 STM Hilir. The sample used was taken by cluster random sampling as many as 59 students with class VIII-C as the experimental group taught using the PBL model and class VIII-B as the control class taught using the conventional learning model (direct instruction). Data collection in this research used multiple choice tests to determine students' cognitive abilities and questionnaires to determine students' scientific attitudes. The samples were processed descriptively with IBM SPSS statistics 29 for windows. The results of hypothesis testing showed that students' cognitive abilities in learning with the PBL model obtained  $t_{count} > t_{Table}$  ( $5.350 > 1.672$ ) and scientific attitude  $0.01 < 0.05$ , which means  $H_0$  is rejected and  $H_a$  is accepted, meaning that the application of the PBL learning model has a significant effect on students' cognitive abilities and scientific attitudes regarding additives and addictive substances in Class VIII for the 2023/2024 academic year. The correlation hypothesis test shows that  $r_{count} > r_{Table}$   $0.712 > 0.361$ , which means that  $H_0$  is rejected and  $H_a$  is accepted, meaning that there is a correlation between cognitive abilities and students' scientific attitudes in the material on additives and addictive substances in Class VIII for the 2023/2024 academic year with an  $r$  value of 0.712, which is included in the criteria. highly correlated.

**Keywords:** *Problem Based Learning*, Cognitive Ability, Scientific Attitude, Additives and Addictive Substances