

Penerapan *Problem Based Learning* pada Materi Pencemaran Lingkungan untuk Meningkatkan Kemampuan Argumentasi Ilmiah Tertulis Siswa Kelas X MIPA

Problem Based Learning Appliance into Enviromental Pollution Main Subject to Improve Written Scientific Argumentation Students at Class X Science

Rahmad Anung Prasetya Wibawa*, Baskoro Adi Prayitno, Marjono

Pendidikan Biologi Fakultas Keguruan dan Ilmu Pendidikan Universitas Sebelas Maret, Surakarta, Indonesia

*Corresponding author: rahmadanung@gmail.com

Abstract : The research aims to improve students written scientific argumentation through the application of problem based learning into enviromental pollution main subject at class X Science. The research was a Classroom Action Research (CAR). It was carried out in two cycles in which each cycle consists of four stages: planning, action, observation, and reflection. The subject of the research was 38 students of X Science. The source of the data came from teacher and students. Technique of collecting data used tests, interviews, and documentation. The main data about students written scientific argumentation covers three aspects, they are: claim, evidence, and reasoning. The technique used to validate this data was triangulation method. The data was analyzed using descriptive analysis technique. The research procedure used eas the spiral method. The reasearch target was improvement of written scientific argumentation increase $\geq 30\%$ from base line. The result showed the application of problem based learning can improve written scientific argumentation students at class X Science. Percentage performance students written scientific argumentation in pre-action is 36,55% with a low category, consists of claim at 50,88% with a medium category, evidence at 35,09% with a low category; and reasoning at 23,68% with a low category. Percentage performance students written scientific argumentation in the first cycle increased to 57,89% with a medium category, consists of claim at 64,91% with a high category, evidence at 56,14% with a medium category; and reasoning at 52,63% with a medium category. Percentage performance students written scientific argumentation in the second cycle increased to 86,55% with a very high category, consists of claim at 97,37% with a very high category, evidence at 85,97% with a very high category; and reasoning at 76,31% with a high category. Data increase written scientific argumentation from pre-action to second cycle has been increased according to the target is $\geq 30\%$.

Key Words: written scientific argumentation, problem based learning, enviromental pollution.

Dipublikasikan di:

BIO-PEDAGOGI: Jurnal Pembelajaran Biologi (Universitas Sebelas Maret) Vol 6, No 2 (Oktober, 2017)
<https://jurnal.uns.ac.id/pdg>

DISKUSI

Gilang Akbar Nugroho – FKIP Universitas Sebelas Maret

Pertanyaan:

Mengapa hanya Argumentasi Ilmiah Tertulis saja?

Jawaban:

Karena Argumentasi Ilmiah Tertulis lebih banyak didapatkan data daripada lisan. Selain itu saat observasi siswa hanya menjawab soal essay \longrightarrow Argumentasi Ilmiah Tertulis. Terdapat beberapa para ahli Argumen Tertulis dapat meningkatkan Argumentasi Ilmiah Lisan. Data observasi argumentasi lisan dalam penelitian merupakan data pendukungnya.