

**PENERAPAN MODEL *PROJECT BASED LEARNING* (PjBL)  
DENGAN PENDEKATAN *SCIENCE TECHNOLOGY SOCIETY  
ENVIRONMENT* (STSE) UNTUK MENINGKATKAN LITERASI  
SAINS SISWA SMP PADA TEMA ENERGI ALTERNATIF BIOGAS**

**Abstrak**

Penelitian ini bertujuan untuk memperoleh gambaran peningkatan literasi sains siswa aspek pengetahuan sains, proses sains dan sikap sains melalui analisis penerapan model PjBL dengan pendekatan STSE pada pembelajaran IPA terpadu kelas VII di salah satu SMPN di Kabupaten Tulang Bawang Barat. Penelitian ini menggunakan metode kuasi eksperimen dengan desain penelitian *randomized control group pretest-posttest design*. Teknik pengambilan sampel menggunakan *cluster random sampling* sehingga diperoleh dua kelas berjumlah 52 siswa. Hasil penelitian menunjukkan bahwa keterlaksanaan pembelajaran model PjBL dengan pendekatan STSE hampir seluruhnya terlaksana sesuai dengan RPP dan masuk dalam kategori sangat baik. Berdasarkan uji beda rata-rata, hasil penelitian menunjukkan bahwa penerapan pembelajaran model PjBL dengan pendekatan STSE secara signifikan lebih meningkatkan literasi sains siswa baik aspek pengetahuan sains, proses sains, dan sikap sains dibandingkan dengan pembelajaran melalui pendekatan saintifik. Selain itu, sebagian besar siswa menyatakan respon positif terhadap penerapan pembelajaran model PjBL dengan pendekatan STSE pada pembelajaran IPA tema energi alternatif biogas.

Kata Kunci: Pembelajaran Berbasis Proyek (PjBL), STSE, Literasi Sains, energi alternatif biogas

THE IMPLEMENTATION OF PROJECT-BASED LEARNING MODEL  
WITH SCIENCE TECHNOLOGY SOCIETY ENVIRONMENT  
APPROACH TO IMPROVE MIDDLE SCHOOL STUDENTS'  
SCIENTIFIC LITERACY ON THE BIOGAS ALTERNATIVE ENERGY  
THEME

Abstract:

This research aims to determine the depiction of students' scientific literacy improvement particularly in the knowledge, science process and attitude toward science aspects, through analyzing the implementation of a project-based learning model with science technology society environment approach in the integrated science instruction of a middle school at the Tulang Bawang Barat Regency. A cluster random sampling technique was used to involve 52 seventh-year students divided into two groups in the quasi experimental research method with the randomized control group pretest posttest design. The results showed that the implementation of project-based learning model with science technology society environment approach was almost entirely done in accordance with the lesson plan and got best category. Based on the mean difference test, findings showed that students who had project-based learning model with science technology society environment approach demonstrated significantly higher improvement on the knowledge, science process and attitude toward science aspects of scientific literacy, compared to those who had a learning with scientific approach. Most of the students also gave positive responses toward the implementation of a project-based learning model with science technology society environment approach in the integrated science instruction with biogas alternative energy theme.

**Keywords:** project-based learning, science, technology, society and environment approach, scientific literacy, biogas alternative energy theme