

## **ABSTRAK**

### **PENGEMBANGAN LEMBAR KERJA SISWA MATERI ENERGI BERBASIS *PREDICT-OBSERVE-EXPLAIN (POE)* UNTUK MENUMBUHKAN KEMAMPUAN ARGUMENTASI ILMIAH SISWA SMP**

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Penelitian ini bertujuan untuk menghasilkan LKS berbasis *Predict-Observe-Explain (POE)* yang efektif menumbuhkan kemampuan argumentasi siswa pada materi Energi dalam Sistem Kehidupan. Desain penelitian dan pengembangan (*Research and Development*) diadaptasi dari model Gall, Gall & Borg (2003) dilakukan dengan cara studi pendahuluan, pengembangan produk dan pengujian produk. Pengembangan LKS berbasis *Predict-Observe-Explain (POE)* diujicobakan pada siswa kelas VII A di SMP Negeri 1 Semaka Tanggamus pada semester genap tahun ajaran 2016/2017. Untuk melihat efektivitas produk digunakan desain kuasi eksperimen dengan *non equivalent control group design*, yaitu dengan melihat perbedaan *pretest* maupun *posttest* antara kelas eksperimen dan kelas kontrol. Metode pengumpulan data yang digunakan adalah angket, observasi dan tes, sedangkan teknik analisis data menggunakan analisis deskriptif kualitatif dan kuantitatif. Hasil penelitian menunjukkan beberapa temuan yaitu karakteristik LKS berbasis *Predict-Observe-Explain (POE)* dikembangkan

menjadi tiga sub terdiri dari pendahuluan, isi dan penutup, sesuai dari hasil validasi uji ahli konstruksi dan ahli materi. LKS berbasis *Predict-Observe-Explain (POE)* dikembangkan memiliki kelayakan yang tinggi berdasarkan aspek kemenarikan, kemudahan dan kemanfaatan. Implementasi pembelajaran menggunakan LKS berbasis *Predict-Observe-Explain (POE)* terlaksana dengan baik sesuai perolehan skor rata-rata sebesar 89,16% sedangkan respon siswa terhadap pembelajaran sangat positif dibuktikan dengan ketertarikan siswa untuk mengikuti pembelajaran dengan senang sesuai perolehan skor rata-rata sebesar 96,71%. Keefektivan LKS dapat dilihat dari hasil penilaian kemampuan argumentasi siswa dibuktikan dengan hasil belajar kelas eksperimen berbeda nyata dibandingkan dengan kelas kontrol dengan perolehan *n-Gain* untuk kelas eksperimen sebesar  $0,45 \pm 0,17$  dan kelas kontrol sebesar  $0,15 \pm 0,16$ .

Kata kunci: LKS, *poe*, argumentasi

## **ABSTRACT**

### **THE DEVELOPMENT OF STUDENT WORKSHEET ENERGY BASED ON *PREDICT OBSERVE EXPLAIN (POE)* TO CULTIVATE STUDENTS' SCIENTIFIC ARGUMENT ABILITY**

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This study aims to produce *Predict-Observe-Explain (POE)* based LKS that effectively fosters students' argumentation abilities on Energy materials in the Life System. Research and development designs adapted from the Gall, Gall & Borg (2003) model are carried out by preliminary study, product development and product testing. The development of *Predict-Observe-Explain (POE)* based LKS was piloted on the students of class VII A at SMP Negeri 1 Semaka Tanggamus in the even semester of the academic year 2016/2017. To see the effectiveness of the product used quasi experimental design with non equivalent control group design that is by looking at the pretest and posttest differences between the experimental class and the control class. Data collection methods used were questionnaires, observations and tests, while data analysis techniques used qualitative and quantitative descriptive analysis. The result of the research shows that the characteristics of LKS based on *Predict-Observe-Explain (POE)* were developed into three subtitles of the introduction, content and cover, in accordance with the results of the validation of the expert test and material expert. *Predict-Observe-*

*Explain (POE)* based LKS is developed to have high feasibility based on the aspect of attractiveness, convenience and expediency. Implementation of learning using *Predict-Observe-Explain (POE)* based LKS performed well according to the average score of 89.16% while the student's response to learning is very positive as evidenced by the interest of students to follow the learning with pleasure according to the average score gain of 96.71%. The effectiveness of the LKS can be seen from the result of the students' argumentation ability assessment as evidenced by the experiment class learning outcomes is significantly different from the control class with *n-Gain* for the experimental class of  $0.45 \pm 0.17$  and the control class of  $0.15 \pm 0.16$ .

Key words: student worksheet, poe, argumentation