ABSTRAK

PENGEMBANGAN LEMBAR KERJA SISWA (LKS) BERBASIS ETNOSAINS UNTUK MENUMBUHKAN PEMAHAMAN KONSEP DAN SIKAP ILMIAH SISWA

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Abstrak

Sikap ilmiah dan pemahaman konsep siswa dalam pembelajaran fisika dapat tumbuh melalui proses pembelajaran berbasis lingkungan budaya. Penelitian ini bertujuan untuk menghasilkan sebuah sumber belajar berupa LKS berbasis etnosains untuk menumbuhkan pemahaman konsep dan sikap ilmiah, khususnya materi kesetimbangan benda tegar. Metode penelitian menggunakan desain penelitian pengembangan menurut Gall,et al (2003) yang terdiri atas 10 langkah pengembangan dan disederhanakan menjadi 3 tahap, yaitu pendahuluan, perencanaan dan pengembangan produk, serta uji coba lapangan. Tahap pendahuluan menghasilkan data potensi dan masalah di sekolah yang ditunjukkan dengan analisis angket kebutuhan. Tahap perencanaan dan pengembangan produk menghasilkan LKS berbasis etnosains yang valid secara isi (89%) dan konstruksi (90%). Tahap uji coba lapangan dengan sampel penelitian yaitu siswa kelas XI SMA yang ada di Metro, Lampung. Teknik analisis data menggunakan *N-gain*

analysis, paired sample t-test, independent sample t-test, dan *effect size*. LKS berbasis etnosains efektif dalam menumbuhkan pemahaman konsep dan sikap ilmiah siswa dengan hasil uji *N-gain* pemahaman konsep di kelas eksperimen (g= 0,63) lebih tinggi dibandingkan kelas kontrol (g= 0,32), begitu pula hasil analisis sikap ilmiah siswa di kelas eksperimen (g= 0,4) lebih tinggi dibandingkan kelas kontrol (g= 0,06). Serta, terdapat perbedaan yang signifikan terhadap rata-rata hasil tes pemahaman konsep dan sikap ilmiah siswa ($p< 0.05$) antara kelas eksperimen dan kelas kontrol. Berdasarkan hasil penelitian, dapat dikatakan bahwa LKS berbasis etnosains telah mencapai tujuan penelitian yaitu meningkatkan pemahaman konsep dan sikap ilmiah siswa. Untuk penelitian selanjutnya, peneliti menyarankan supaya LKS berbasis etnosains tidak hanya diterapkan untuk materi kesetimbangan benda tegar, namun dapat diterapkan dengan cabang ilmu lainnya.

Kata kunci: etnosains, LKS, pemahaman konsep, sikap ilmiah.

ABSTRACT

THE DEVELOPMENT OF STUDENT'S WORKSHEET BASED ON ETHNOSCIENCE TO GENERATE STUDENTS' CONCEPTUAL UNDERSTANDING AND SCIENTIFIC ATTITUDE

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Students' conceptual understanding and scientific attitude in the Physics learning can be generated through cultural based learning. This research aims to produce a learning source which is a student worksheet based on ethnoscience to generate conceptual understanding and scientific attitude, especially the topic of equilibrium of rigid body. The research method used the development research design according to Gall, et al (2003) consisting of 10 steps and modified into three stages named introduction, product planning and development – and field trials. The preliminary stage generates potential data and problems in class as indicated by questionnaire needs analysis. The planning and product development stage yields a valid content-based worksheet based on ethnoscience (89%) and construction (90%). The subject of field trials with research sample that were the eleventh grade in Metro, Lampung. Data analysis technique through N-gain analysis, paired t-test, independent t-test, and effect size. The worksheet based on ethnoscience is effective to generate students' scientific attitude and conceptual

understanding. N-gain test result in the experiment class of conceptual understanding (g= 0.63) was higher than the control class (g= 0.32), so as the students' scientific attitude analysis results in the experiment class (g= 0.4) is higher than the control class (g= 0.06). There were a significant difference between the experiment and control class in the conceptual understanding and scientific attitude test result ($p < 0.05$). Based on this research, student worksheet which is based on the ethnoscience has accomplished the research goal which is developing the students' conceptual understanding and scientific attitude. For the next research, we suggest that the student worksheet based on the ethnoscience will not only be used in the equilibrium of rigid body material, but also in other branch of science.

Keywords: ethnoscience, conceptual understanding, scientific attitude, student worksheet.