

ABSTRAK

PENGARUH MODEL *PROJECT BASED LEARNING* (PjBL) BERBASIS ETNOSAINS TERHADAP LITERASI SAINS DAN KOLABORASI PESERTA DIDIK PADA MATERI BIOTEKNOLOGI

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Penelitian ini bertujuan untuk menganalisis pengaruh penerapan model *Project Based Learning* (PjBL) berbasis etnosains terhadap kemampuan literasi sains dan keterampilan kolaborasi peserta didik pada materi bioteknologi. Sampel penelitian ditentukan menggunakan teknik *purposive sampling*, yang terdiri atas 30 peserta didik kelas IX.D sebagai kelas eksperimen dan 30 peserta didik kelas IX.C sebagai kelas kontrol. Penelitian ini menggunakan desain *quasi eksperimen* dengan jenis *pretest-posttest non-equivalent control group design*. Data yang digunakan dalam penelitian yaitu data kuantitatif yang diperoleh dari tes untuk mengukur kemampuan literasi sains serta data kualitatif dari lembar observasi untuk menilai keterampilan kolaborasi peserta didik. Berdasarkan hasil uji sample *Independent t-Test* diperoleh nilai *Sig. (2-tailed)* $0,00 < 0,05$, sehingga berpengaruh signifikan dalam meningkatkan kemampuan literasi sains peserta didik. Hal tersebut didukung nilai rata-rata *N-gain* pada kelas eksperimen sebesar 0,38 yang termasuk dalam kategori sedang. Kemudian hasil uji *effect size* yang bertujuan untuk mengetahui besarnya pengaruh, menunjukkan nilai sebesar 1,22 yang termasuk dalam kategori besar. Hasil analisis keterampilan kolaborasi pada kelas eksperimen menunjukkan rata-rata dikelas eksperimen sebesar 61,3 dengan katagori baik. Kemudian hasil analisis angket tanggapan peserta didik memiliki rata-rata sebesar 73,34 dengan katagori baik. Dengan demikian hasil penelitian menunjukkan penerapan model PjBL berbasis etnosains memberikan pengaruh yang signifikan terhadap peningkatan kemampuan literasi sains dan keterampilan kolaborasi.

Kata Kunci: Etnosains, Kolaborasi, Literasi Sains, *Project Based Learning*

ABSTRACT

THE EFFECT OF THE PROJECT BASED LEARNING (PjBL) BASED ETHNOSCIENCE MODEL ON STUDENTS' SCIENCE LITERACY AND COLLABORATION ON BIOTECHNOLOGY MATERIALS

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This study aims to analyze the effect of the implementation of the ethnoscience-based Project Based Learning (PjBL) model on students' scientific literacy and collaboration skills in biotechnology material. The research sample was determined using a purposive sampling technique, consisting of 30 students of class IX.D as the experimental class and 30 students of class IX.C as the control class. This study used a quasi-experimental design with a pretest-post-test non-equivalent control group design. The data used in the study were quantitative data obtained from tests to measure scientific literacy skills and qualitative data from observation sheets to assess students' collaboration skills. Based on the results of the Independent sample t-Test, the Sig. (2-tailed) value was obtained at $0.00 < 0.05$, so it had a significant effect in improving students' scientific literacy skills. This was supported by the average N-gain value in the experimental class of 0.38 which was included in the medium category. Then the results of the effect size test which aimed to determine the magnitude of the effect showed a value of 1.22 which was included in the large category. The results of the collaborative skills analysis in the experimental class showed an average of 61.3 in the experimental class, which is categorized as good. Furthermore, the results of the student questionnaire response analysis showed an average of 73.34 in the good category. Thus, the results of the study indicate that the implementation of the ethnoscience-based PjBL model has a significant impact on improving scientific literacy and collaboration skills.

Keywords: *Collaboration, Ethnoscience, Project Based Learning, Scientific Literacy*