

## ABSTRAK

Dari, R.K. 2025. Pengaruh Model Pembelajaran *Project Based Learning* Berbasis Etnosains terhadap Keterampilan Proses Sains dan Pemahaman Konsep pada Materi Bioteknologi di SMP. Tesis. Program Magister Pendidikan IPA Universitas Jambi, Pembimbing I. Dr. Afreni Hamidah, S.Pt., M.Si, Pembimbing II. Dr. Dra. Evita Anggereini, M.Si.

Inovasi pembelajaran yang relevan dengan konteks budaya penting untuk meningkatkan kualitas pendidikan, khususnya dalam menghadapi tantangan era modern yang menuntut keterampilan proses sains dan pemahaman konsep yang mendalam. Model PjBL dipilih karena mampu memfasilitasi pembelajaran aktif dan kontekstual melalui proyek nyata, sementara integrasi etnosains dapat menjembatani pengetahuan ilmiah dengan kearifan lokal, menjadikan pembelajaran lebih bermakna dan aplikatif. Penelitian ini bertujuan untuk menganalisis pengaruh model pembelajaran *Project Based Learning* (PjBL) berbasis Etnosains terhadap keterampilan proses sains dan pemahaman konsep pada materi bioteknologi di SMP. Penelitian ini menggunakan metode Quasi Eksperimen dengan desain *nonequivalent control group design*. Sampel diambil secara random sampling dan diambil sebanyak tiga kelas yaitu kelas control, eksperimen 1 dan eksperimen 2. Hasil penelitian pada pada kelas eksperimen 2 keterampilan proses sains didapat hasil rata-rata 2,78, sedangkan untuk pemahaman konsep didapatkan rata-rata 79, hasil tersebut lebih tinggi dari kelas control dan eksperimen 1. Kesimpulannya model pembelajaran PjBL berbasis etnosains efektif dalam meningkatkan keterampilan proses sains dan pemahaman konsep pada materi bioteknologi di SMP. Oleh karena itu, model ini direkomendasikan sebagai alternatif pembelajaran inovatif yang dapat diterapkan untuk meningkatkan mutu pendidikan sains, khususnya di daerah yang memiliki kekayaan etnosains.

**Kata Kunci:** Model *project based learning*, etnosains, keterampilan proses sains, pemahaman konsep.



## ABSTRACT

Dari, R.K. 2025. The Influence of Project Based Learning Model Based on Ethnoscience on Science Process Skills and Concept Understanding in Biotechnology Material in Junior High School. Thesis of Master of Science Education Program, University of Jambi. Supervisor I. Dr. Afreni Hamidah, S.Pt., M.Si, Supervisor II. Dr. Dra. Evita Anggercini, M.Si.

Learning innovations that are relevant to the cultural context are important to improve the quality of education, especially in facing the challenges of the modern era that demand science process skills and in-depth understanding of concepts. The PjBL model was chosen because it is able to facilitate active and contextual learning through real projects, while the integration of ethnoscience can bridge scientific knowledge with local wisdom, making learning more meaningful and applicable. This study aims to analyze the effect of the Project Based Learning (PjBL) learning model based on Ethnoscience on science process skills and conceptual understanding of biotechnology material in junior high schools. This study uses the Quasi Experiment method with a nonequivalent control group design. Samples were taken by random sampling and taken as many as three classes, namely the control class, experiment 1 and experiment 2. The results of the study in the experimental class 2 science process skills obtained an average result of 2.78, while for conceptual understanding an average of 79 was obtained, these results were higher than the control class and experiment 1. In conclusion, the PjBL learning model based on ethnoscience is effective in improving science process skills and conceptual understanding of biotechnology material in junior high schools. Therefore, this model is recommended as an alternative innovative learning that can be applied to improve the quality of educational science, especially in areas that have a wealth of ethnoscience.

**Keywords:** *Project based learning model, ethnoscience, science process skills, conceptual understanding*