ABSTRAK

Eli Seteviani Br Perangin-angin, NIM 4193341008 (2024). Pengembangan Modul Berbasis *Project Based Learning* (PjBL) untuk Mendukung Keterampilan Berpikir Kritis, Pemecahan Masalah dan Hasil Belajar Mahasiswa pada Materi Organogenesis.

Penelitian ini bertujuan untuk mengembangkan modul berbasis *project based learning* (PjBL) yang efektif dalam mendukung keterampilan berpikir kritis, pemecahan masalah dan hasil belajar mahasiswa pada materi organogenesis, dan mengetahui keefektifan modul yang dikembangkan berdasarkan hasil *pre-test post-test* mahasiswa, validasi oleh tiga validator (ahli materi, ahli pembelajaran, dan ahli desain) serta respon mahasiswa. Hasil validasi menunjukkan bahwa modul dikategorikan "sangat layak" baik ahli materi (87,5%), aspek pembelajaran (96,42%), serta aspek desain (90,47%). Respon mahasiswa terhadap modul yang dikembangkan juga dikategorikan "sangat baik" yakni 88,89%. Setelah implementasi modul, hasil uji-t independent menunjukkan menunjukkan adanya perbedaan yang signifikan pada hasil keterampilan berpikir kritis (t hitung = 7,718; p = 0,000; df = 48) pemecahan masalah (t hitung = 7,466; p = 0,000; df = 48) dan hasil belajar mahasiswa (t hitung = 7,934; p = 0,000; df = 48) antara hasil *post-test* kelas kontrol dan eksperimen. Dengan demikian, modul berbasis proyek efektif dalam mendukung hasil belajar mahasiswa siswa, berpikir kritis, dan kemampuan pemecahan masalah pada materi organogenesis mata kuliah Pengembangan Hewan.

Kata kunci: Berpikir kritis; kemampuan memecahkan masalah; Hasil belajar; Modul berbasis proyek

ABSTRACT

Eli Seteviani Br Perangin-angin, NIM 4193341008 (2024). Development of Project Based Learning (PjBL) Modules to Support Critical Thinking, Problem-Solving and Learning Outcomes of Students on Organogenesis Material.

This research aims to develop project based learning (PjBL) based modules that are effective in supporting critical thinking skills, problem solving and student learning outcomes on organogenesis material, and determine the effectiveness of the modules developed based on student pre-test and post-test results, validated by three validators (material expert, learning expert, and design expert) and student responses. The validation results show that the module is categorized as "very appropriate" for both material experts (87.5%), learning aspects (96.42%), and design aspects (90.47%). Student responses to the modules developed were also assessed as "very good" namely 88.89%. After the implementation module, the results of the independent t-test showed that there were significant differences in the results of critical thinking skills ($t = 7.718$; $p = 0.000$; $df = 48$) problem solving ($t = 7.466$; $p = 0.000$; $df = 48$) and Student learning outcomes ($t_{count} = 7.934$; $p = 0.000$; $df = 48$) between the post-test results of the control and experimental classes. Thus, project-based modules are effective in supporting student learning outcomes, critical thinking, and problem-solving abilities in the organogenesis material in the Animal Development course.

Keywords: Learning outcomes; Project based module