ABSTRAK

Soraya Alya Br. Bangun, NIM 4191141014 (2024). Pengembangan Modul Berbasis *Project Based Learning* (PjBL) untuk Meningkatkan Keterampilan Berpikir Kritis, Pemecahan Masalah, dan Hasil Belajar Kognitif Mahasiswa pada Materi Metamorfosis, Determinasi Seks, dan Kelainan Perkembangan.

Penelitian ini bertujuan untuk mengembangkan modul berbasis *project based learning* (PjBL) pada topik metamorfosis, determinasi seks, dan kelainan perkembangan yang efektif dalam meningkatkan keterampilan berpikir kritis (KBK), keterampilan pemecahan masalah (KPM), dan hasil belajar kognitif (HBK) mahasiswa, dan mengetahui keefektifan modul yang dikembangkan berdasarkan hasil *pre-test post-test* mahasiswa, validasi oleh tiga validator (ahli materi, ahli desain, dan ahli pembelajaran) serta respon mahasiswa. Hasil validasi menunjukkan bahwa modul dikategorikan "sangat layak" baik dari aspek materi (97,22%), aspek desain (86,6%), serta aspek pembelajaran (94,53%). Respon mahasiswa terhadap modul yang dikembangkan juga dikategorikan "sangat baik" yakni 89,1%. Setelah implementasi modul, hasil uji-t independen menunjukkan adanya perbedaan yang signifikan pada KBK (t hitung = 3,537; p = 0,001; df = 48), KPM (t hitung = 4,436; p = 0,001; df = 48), dan HBK (t hitung = 4,499; p = 0,001; df = 48) antara hasil *post-test* kelas kontrol dan eksperimen. Dengan demikian, modul berbasis PjBL yang dikembangkan efektif dalam meningkatkan keterampilan berpikir kritis, keterampilan pemecahan masalah, dan hasil belajar kognitif mahasiswa pada materi metamorfosis, determinasi seks, dan kelainan perkembangan.

Kata Kunci: Modul berbasis proyek, Keterampilan berpikir kritis, Keterampilan pemecahan masalah, Hasil belajar kognitif

ABSTRACT

Soraya Alya Br. Bangun, NIM 4191141014 (2024). Development of Project Based Learning (PjBL) Module to Improve Critical Thinking Skills, Problem-Solving, and Cognitive Learning Outcomes of Students on Metamorphosis, Sex Determination, and Developmental Abnormalities.

This study aims to develop a module based on project-based learning (PjBL) on the topic of metamorphosis, sex determination, and developmental abnormalities that are effective in improving critical thinking skills (CTS), problem-solving skills (PSS), and cognitive learning outcomes (CLO) of students, and determine the effectiveness of the developed module based on the results of student pre-test post-test, validation by three validators (material experts, design experts, and learning experts) and student responses. The validation results showed that the module was categorized as "very feasible" both from the material aspect (97.22%), design aspect (86.6%), and learning aspect (94.53%). Student response to the developed module was also categorized as "very good" at 89.1%. After the implementation of the module, the independent t-test results showed a significant difference in KBK (t count = 3.537; p = 0.001; df = 48), KPM (t count = 4.436; p = 0.001; df = 48), and HBK (t count = 4.499; p = 0.001; df = 48) between the control and experimental class post-test results. Thus, the developed PjBL-based module is effective in improving critical thinking skills, problem-solving skills, and cognitive learning outcomes of students on metamorphosis, sex determination, and developmental abnormalities.

Keywords: Project-based module, Critical thinking skills, Problem-solving skills, Cognitive learning outcomes.