

ABSTRAK

Prakoso, Muhammad Insannul Adi. 2022. *Pengembangan E-Modul Materi Struktur dan Fungsi Jaringan Tumbuhan untuk Kelas XI MIPA SMA*. Skripsi, Program Studi Pendidikan Biologi. Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Jember. Pembimbing: (1) Novy Eurika, S.Si, M.Pd. (2) Ali Usman, S.Pd, M.Pd.

Kata Kunci : E-Modul, Kevalidan, Kepraktisan, Keefektifan

Proses pembelajaran online selama masa pandemi covid-19 membutuhkan dukungan sumber belajar yang sesuai dengan situasi dan kondisi yang ada. Berdasarkan hasil analisis kebutuhan bahan ajar yang dilakukan di SMAN 1 Pangkalan Bun diketahui bahwa variasi bahan ajar yang digunakan guru dan siswa dalam pembelajaran biologi pada materi struktur dan fungsi jaringan tumbuhan adalah LKS (Lembar Kerja Siswa), buku teks, dan buku paket. Guru dan siswa belum pernah menggunakan bahan ajar digital seperti e-modul. Dengan bahan ajar yang tersedia sebanyak 47% siswa masih kesulitan untuk memahami materi. Oleh karena itu diperlukan alternatif bahan ajar yang sesuai dengan kebutuhan tersebut.

Penelitian ini bertujuan untuk mengetahui kevalidan, kepraktisan, dan keefektifan e-modul materi struktur dan fungsi jaringan tumbuhan untuk kelas XI MIPA SMA.

Penelitian ini dilaksanakan di SMAN 1 Pangkalan Bun. Jenis penelitian ini adalah penelitian pengembangan model *4D* yang hanya sampai tahap pengembangan saja. Data penelitian yang digunakan adalah data kuantitatif dan data kualitatif. Instrumen pengumpulan data yang digunakan yakni angket validasi ahli, angket validasi guru, angket respon siswa, dan angket kebutuhan siswa dan guru. Teknik pengumpulan data diperoleh dari angket kebutuhan, dokumentasi, tes, dan angket uji validasi. Teknik analisis data menggunakan analisis angket kebutuhan, analisis angket uji validasi, analisis angket respon siswa, dan analisis keefektifan e-modul.

Hasil analisis data penilaian ahli materi dan ahli media dan bahasa diperoleh sebanyak 90% dan 82,22% dengan kriteria sangat valid, dan penilaian ahli pengguna diperoleh persentase rata-rata sebanyak 96,43% dengan kriteria sangat valid. Hasil uji coba skala kecil diperoleh persentase rata-rata sebanyak 83,08% dengan kategori sangat praktis, dan hasil uji coba skala besar diperoleh persentase rata-rata sebanyak 79,04% dengan kategori praktis dan *N-Gain* siswa diperoleh sebanyak 0,91 dengan kriteria sangat efektif.

Berdasarkan hasil tersebut, simpulan dari penelitian ini adalah e-modul materi struktur dan fungsi jaringan tumbuhan sangat valid, praktis dan sangat efektif untuk membantu pembelajaran yang dilakukan oleh guru maupun siswa.

ABSTRACT

Prakoso, Muhammad Insannul Adi. 2022. *Development of an E-Module on the Structure and Function of Plant Tissues for Class XI MIPA SMA*. Thesis, Biology Education Study Program. Faculty of Teacher Training and Education, University of Muhammadiyah Jember. Supervisors: (1) Novy Eurika, S.Si, M.Pd. (2) Ali Usman, S.Pd, M.Pd.

Keywords: E-Module, Validity, Practicality, Effectiveness

The online learning process during the COVID-19 pandemic requires the support of learning resources that are in accordance with the existing situation and conditions. Based on the results of the analysis of the need for teaching materials conducted at SMAN 1 Pangkalan Bun, it is known that the variations of teaching materials used by teachers and students in learning biology on the material structure and function of plant tissue are LKS (Student Worksheet), textbooks, and textbooks. Teachers and students have never used digital teaching materials such as e-modules. With the available teaching materials as many as 47% of students still have difficulty understanding the material. Therefore, alternative teaching materials are needed according to these needs.

This study aims to determine the validity, practicality, and effectiveness of the e-module material on the structure and function of plant tissue for class XI MIPA SMA.

This research was conducted at SMAN 1 Pangkalan Bun. This type of research is a 4D which only reaches the development stage. The research data used are quantitative data and qualitative data. The data collection instruments used were expert validation questionnaires, teacher validation questionnaires, student response questionnaires, and student and teacher needs questionnaires. Data collection techniques were obtained from a needs questionnaire, documentation, tests, and validation test questionnaires. The data analysis technique used a needs questionnaire analysis, validation test questionnaire analysis, student response questionnaire analysis, and analysis of the effectiveness of e-modules.

The results of the data analysis on the assessment of material experts and media and language experts were obtained as much as 90% and 82.22% with very valid criteria, and user expert assessments obtained an average percentage of 96.43% with very valid criteria. The results of small-scale trials obtained an average percentage of 83.08% in the very practical category, and the results of large-scale trials obtained an average percentage of 79.04% in the practical category and 'N-Gain' was obtained as much as 0.91 with very effective criteria.

Based on these results, the conclusion of this study is that the e-module material on the structure and function of plant tissue is very valid, practical and very effective to assist learning carried out by teachers and students.