ABSTRAK

Yonatan, NIM 4183141062 (2023). Pengembangan E-modul Flip PDF Professional Berbasis Problem Based Learning (PBL) pada Materi Sistem Reproduksi di Kelas XI IPA SMA Negeri 10 Medan

Penelitian dan pengembangan ini dilakukan untuk menghasilkan media pembelajaran berupa e-modul berbasis Problem Based Learning dengan bantuan aplikasi *flip PDF professional* yang memenuhi kategori valid, praktis, dan efektif. Sehingga berguna untuk siswa dalam meningkatkan pemahaman pada materi sistem reproduksi khusunya pada submateri pencemaran lingkungan dan upaya pelestariannya. Instrument penelitian yang dipakai yakni modul ajar, lembar penilaian kelayakan isi dan kelayakan penyajian e-modul, *pretest* dan *posttest*, serta angket penilaian guru dan siswa Hasil penelitian menunjukkan bahwa: (1) E-Modul dalam kriteria valid ditinjau dari aspek kelayakan isi dan kelayakan penyajian e-modul yaitu (88,23% dan 96,90%) dengan kategori sangat layak; (2) E-Modul telah memenuhi nilai kepraktisan dari hasil respon guru dan siswa yaitu (98,40% dan 95,40%) pada kategori sangat praktis; (3) E-Modul memenuhi kriteria efektif. Berdasarkan analisis nilai hasil belajar siswa *pretest* dan *posttest* didapat N-Gain sebesar 0,80 (termasuk dalam kategori tinggi).

Kata kunci : *E-modul, Flip PDF Professional, PBL, Sistem Reproduksi*

ABSTRACT

Yonatan, NIM 4183141062 (2023). Pengembangan E-modul Flip PDF Professional Berbasis Problem Based Learning (PBL) pada Materi Sistem Reproduksi di Kelas XI IPA SMA Negeri 10 Medan

This research and development was carried out to produce learning media in the form of e-modules based on Problem Based Learning with the help of a professional PDF flip application that meets the valid, practical and effective categories. So it is useful for students in increasing their understanding of environmental change material, especially in the sub-material of environmental pollution and conservation efforts. The research instruments used are teaching modules, assessment sheets for the appropriateness of the content and appropriateness of the presentation of the e-module, pretest and posttest, as well as teacher and student assessment questionnaires. The results of the research show that: (1) The e-Module is valid in terms of content and appropriateness criteria. e-module presentation is (88.23% and 96.90%) in the very feasible category; (2) The E-Module has met the practicality value from the results of teacher and student responses, namely (98.40% and 95.40%) in the very practical category; (3) E-Module meets the effective criteria. Based on the analysis of pretest and posttest student learning outcomes, the N-Gain was found to be 0.80 (included in the high category).

Key words : *E-modul, Flip PDF Professional, PBL, Reproduction system*