# ABSTRAK

**Yusi Fridayanti Sigalingging, NIM 4193341014 (2023). Pengembangan E-Modul Biologi BerbasiS Problem Based Learning Berbantuan Kvisoft Flipbook Maker pada Materi Sistem Ekskresi di Kelas XI SMA Swasta Budi Satrya.**

Penelitian ini bertujuan untuk menghasilkan E-Modul Biologi berbasis Problem Based Learning berbantuan Kvisoft Flipbook Maker pada materi Sistem Ekskresi yang dapatditerapkan dalam proses pembelajaran disekolah maupun diluar sekolah, mengetahui respon atau tanggapan guru serta keefektifan produk e-modul yang dapat dilihat dari hasil belajar siswa setelah menggunakan e-modul yang telah dikembangkan. Jenis penelitian ini merupakan penelitian Researh and Development (R&D) dengan menggunakan model 4D oleh Thiagarajan (1974). Subjek penelitian ini adalah 3 orangahli yaitu ahli materi, media dan pembelajaran, 1 orang guru dan 30 siswa kelas XI. Instrumen yangdigunakan dalam penelitian ini terdiri dari angket validasi ahli materi, ahli media, ahli pembelajaran, guru dan instrument tes untuk mengetahui hasil belajar peserta didik terhadap e-modul yang telah dikembangkan untuk melihat keefektifan e-modul. Dari hasil analisis data diperoleh validasi oleh ahli materi sebesar 89,5% dengan kategori sangat layak, hasil validasi oleh ahli media sebesar 74,87% dengan kategori layak, hasil validasi oleh ahli pembelajaran sebesar 85,5% dengan kategori sangat layak, penilain atau respon guru biologi didapat sebesar 95% dengan kategori sangat layak, respon peserta didik sebesar 94% dengan kategori sangat layak. Pada hasil tes peserta didik melakukan pretes dan postessehingga didapatkan nilai N-Gain sebesar 0,75 yang termasuk dalam kategori efektif. Dan dapat disimpulkan E-Modul berbasis Problem Based Learning berbantuan kvisoft flipbook maker pada materi interaksi makhluk hidup dengan lingkungan dinyatakan valid atau layak dan efektif digunakandalam proses pembelajaran.

**Kata Kunci**: E-Modul, Kvisoft Flipbook Maker, Pengembangan, Sistem Eksresi

# ABSTRACT

**Yusi Fridayanti Sigalingging, NIM 4193341014 (2023). Development of Biology E-Module Based on Problem Based Learning Assisted by Kvisoft Flipbook Maker on Excretion System Material in Class XI of Budi Satrya Private High School.**

This study aims to produce Biology E-Modules based on Problem Based Learning assisted by Kvisoft Flipbook Maker on Excretion System material that can be applied in the learning process at school and outside of school, knowing teacher responses or responses and the effectiveness of e-module products which can be seen from student learning outcomes after using the e-module that has been developed. This type of research is Research and Development (R&D) research using the 4D model by Thiagarajan (1974). The subjects of this study were 3 experts, namely material, media and learning experts, 1 teacher and 30 class XI students. The instruments used in this study consisted of validation questionnaires for material experts, media experts, learning experts, teachers and test instruments to determine student learning outcomes for e-modules that have been developed to see the effectiveness of e-modules. The data analysis technique used in this study is percentage. From the results of data analysis, validation by material experts was 89,5% in the very feasible category, validation results by media experts were 74,87% in the feasible category, validation results by learning experts were 85,5% in the very feasible category, the assessment or response of the biology teacher obtained by 95% with very decent category, the respons of students 94% with a very feasible category. On the test results, the students carried out the pre-test and post-test so that the N-Gain value was 0.75 which was included in the effective category. And it can be concluded that E-Modules based on Problem Based Learning assisted by kvisoft flipbook maker on the interaction of living things with the environment are declared valid or feasible and effective for use in the learning process.

**Keywords**:  E-Module, Kvisoft Flipbook Maker, Development, Excretion System