

## ABSTRAK

**PENGEMBANGAN E-MODUL INTERAKTIF BERBASIS *BOOK CREATOR*  
PADA MATERI METABOLISME SEL KELAS XII**

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PJJ merupakan suatu akibat dari salah satu karakteristik belajar peserta didik yang dituntut untuk memiliki kemampuan belajar mandiri yang lebih banyak. Berdasarkan hasil wawancara semua guru biologi menyatakan masih kurangnya pengetahuan mengenai IT khususnya pada guru senior. Hal ini secara tidak langsung berdampak pada kesulitan pendidik dalam pembuatan media pembelajaran yang menarik dan beragam. Berdasarkan analisis kebutuhan kelima sekolah menyatakan bahwa materi metabolisme sel merupakan salah satu materi yang kurang dan sulit untuk dipahami. Materi metabolisme dianggap sulit karena terdapat cukup banyak reaksi kimia dan sulit dikaitkan dengan kehidupan sehari-hari. Penelitian ini bertujuan untuk: (1) pengembangan e-modul interaktif berbasis *book creator* pada materi metabolisme sel dikembangkan dengan model Borg and Gall yang dilakukan sampai tahap revisi produk (2) mengetahui kelayakan produk e-modul interaktif berbasis *Book Creator* pada materi metabolisme sel kelas XII.

Jenis penelitian yang digunakan pada penelitian ini adalah penelitian dan pengembangan (*Research and Development*) atau penelitian *R&D* dengan model *Borg and Gall*. Dalam penelitian ini dilakukan 5 tahap penelitian dari 10 tahap penelitian, yaitu, (1) potensi dan masalah, (2) pengumpulan data, (3) desain produk, (4) validasi desain dan revisi produk. Hasil penelitian menunjukkan skor rata-rata validasi media, yaitu 93,73% dengan kriteria sangat tinggi dan skor rata-rata validasi materi, yaitu 88,66% dengan kriteria sangat tinggi. Berdasarkan skor validasi media dan materi, skor total yang diperoleh, yaitu 91,19% dengan kriteria sangat tinggi. Berdasarkan validasi produk e-modul interaktif berbasis *book creator* pada materi metabolisme sel kelas XII layak untuk diuji cobakan setelah dilakukan perbaikan sesuai dengan saran dari validator.

**Kata Kunci:** Media pembelajaran, R&D, *e-modul*, *book creator*, metabolisme

**ABSTRACT**

**DEVELOPMENT OF INTERACTIVE E-MODULES BASED ON BOOK  
CREATOR ON CELL METABOLISM MATERIALS FOR CLASS XII**

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*PJJ is a result of one of the learning characteristics of students who are required to have more independent learning abilities. Based on the results of interviews, all biology teachers stated that there was still a lack of knowledge about IT, especially for senior teachers. This indirectly has an impact on the difficulty of educators in making interesting and diverse learning media. Based on the needs analysis of the five schools stated that the material on cell metabolism is one of the materials that is lacking and difficult to understand. Metabolic material is considered difficult because there are quite a lot of chemical reactions and it is difficult to relate to daily life. This study aims to: (1) develop an interactive e-module based on book creator on cell metabolism material developed using the Borg and Gall model which was carried out to the product revision stage (2) determine the feasibility of an interactive e-module product based on Book Creator on class cell metabolism material. XII.*

*The type of research used in this study is research and development (Research and Development) or R&D research with the Borg and Gall model. In this study, 5 stages of research were carried out from 10 stages of research, namely, (1) potential and problems, (2) data collection, (3) product design, and (4) design validation and product revision. The results showed the average score of media validation, which was 93.73% with very high criteria, and the average score of material validation, which was 88.66% with very high criteria. Based on the media and material validation scores, the total score obtained was 91.19% with very high criteria. Based on the validation of the book creator-based interactive e-module product on cell metabolism material for class XII, it is feasible to be tested after improvements have been made according to the suggestions from the validator.*

**Keywords:** *Learning media, R&D, e-module, book creator, metabolism*