Pengembangan e-Modul Bentuk Molekul Berbasis Model *Project Based Learning (PjBL)*

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ABSTRAK

Penelitian ini bertujuan untuk merancang e-modul berbasis *project based learning* pada pokok bahasan bentuk molekul serta menganalisis kelayakan e-modul berbasis *project based learning* pada pokok bahasan bentuk molekul. Metode dalam penelitian ini menggunakan metode penelitian dan pengembangan atau *Research and Development* yang dibatasi hanya sampai 3 tahap yaitu tahap pengumpulan data dan informasi, tahap perencanaan produk, dan tahap pengembangan produk. Model pengembangan dalam penelitian ini yaitu model ADDIE, terdiri dari tahap analisis *(analysis),* desain *(design),* pengembangan *(development),* implementasi *(Implementation), dan evaluasi (evaluation).* Model ADDIE dipilih karena model ini memiliki langkah-langkah yang jelas, sistematis, efektif dan efisien. Penelitian ini hanya sampai pada tahap pengembengan (*development*). Ini disebabkan oleh keterbatasan waktu untuk melakukan tahap-tahap selanjutnya. Subjek penelitian ini adalah e-modul berbasis *project based learning.* Objek penelitian ini adalah materi bentuk molekul. Produk yang dikembangkan divalidasi oleh validator ahli materi dan validator ahli media. Selain itu juga dilihat respon 2 orang guru kimia dan 10 orang respon siswa. Hasil penelitian menunjukkan bahwa e-modul berbasis *project based learning* pada pokok bahasan bentuk molekul dinyatakan layak setelah dilakukan validasi oleh ahli materi, ahli media, respon guru dan respon siswa. Penilaian ahli materi dengan persentase rata-rata 87,45% dengan kategori valid/layak, ahli media 88,1% dengan katergori valid/layak, respon guru 93,65% dengan kategori sangat menarik, dan respon siswa 84,8% dengan kategori sangat menarik.

Kata Kunci: e-Modul, *Project Based Learning*, Bentuk Molekul, Kelayakan e-Modul

Project Based Learning (PjBL) Based e-Module Molecular Shape Development

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ABSTRACT

This study aims to design an e-module based on project based learning on the subject of molecular form and analyze the feasibility of an e-module based on project based learning on the subject of molecular form. The method in this study uses research and development methods or Research and Development which is limited to 3 stages, namely the data and information collection stage, product planning stage, and product development stage. The development model in this study is the ADDIE model, consisting of the analysis, design, development, implementation, and evaluation stages. The ADDIE model was chosen because this model has clear, systematic, effective and efficient steps. This research has only reached the development stage. This is due to the limited time to carry out the next steps. The subject of this research is an e-module based on project based learning. The object of this research is the material in the form of molecules. The developed product is validated by material expert validators and media expert validators. In addition, the responses of 2 chemistry teachers and 10 students' responses were also seen. The results showed that the e-module based on project based learning on the subject of molecular form was declared feasible after being validated by material experts, media experts, teacher responses and student responses. The assessment of material experts with an average percentage of 87.45% in the valid/feasible category, media experts 88.1% in the valid/decent category, the teacher's response 93,65% in the very interesting category, and 84.8% student responses in the category very interesting.

Keywords: e-Module, Project Based Learning, Moleculer Shape, e-Module Egibility