

**PENGEMBANGAN BUKU AJAR BERBASIS TIGA LEVEL
REPRESENTASI KIMIA PADA MATERI TITRASI ASAM BASA**

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan dan menjelaskan karakteristik, validitas, serta keterbacaan buku ajar berbasis tiga level representasi kimia pada materi titrasi asam basa yang dihasilkan. Penelitian ini tergolong penelitian dan pengembangan dengan menggunakan model Borg dan Gall yang telah disesuaikan. Tahapan yang dilakukan dalam penelitian ini adalah (1) analisis kebutuhan, (2) perencanaan, dan (3) pengembangan produk awal yang meliputi pengembangan produk, uji validasi, revisi, dan uji keterbacaan produk. Karakteristik buku ajar yang dikembangkan adalah materi diuraikan dengan menggunakan ketiga level representasi kimia, terdiri atas level makroskopis, submikroskopis, dan simbolik. Hasil penelitian menunjukkan bahwa buku ajar yang dikembangkan memenuhi kriteria validitas isi, bahasa, dan media. Hasil validasi ahli menunjukkan bahwa rata-rata persentase aspek kesesuaian isi, bahasa, dan media berturut-turut sebesar 92,70%; 96,15%, dan 96,42% dengan kategori sangat baik. Tanggapan siswa pada aspek keterbacaan sebesar 60,76% menyatakan jelas dan 39,24% menyatakan sangat jelas. Berdasarkan hal tersebut, produk yang dihasilkan dari penelitian ini tergolong valid dan layak dari sisi keterbacaan untuk digunakan sebagai alternatif sumber belajar.

Kata Kunci: buku ajar, tiga level representasi kimia, titrasi asam basa.

UNDIKSHA

**DEVELOPMENT OF LEARNING BOOK BASED ON THREE LEVELS
OF CHEMICAL REPRESENTATION ON ACID BASE TITRATION
TOPIC**

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ABSTRACT

This study aims to describe and explain the characteristics, validity, and readability of the resulting learning book based on three levels of chemical representation on acid base titration topic. This study is development research using the adapted Borg and Gall model. The stages carried out in this study are (1) needs analysis, (2) planning, and (3) initial product development that includes product development, validation test, revision, and product readability test. The characteristics of the learning book produced in this study are the material delivered using three levels of chemical representation, macroscopic, submicroscopic, and symbolic levels. The results showed that the developed book met the criteria for content, language, and graphic validity. The validation results show that the average percentage of the suitability of content, language, and graphic aspects is 92.70%; 96.15%, and 96.42%, which are categorized as very good. Student responses to the readability aspect were 60.76% stated it was clear and 39.24% stated it was very clear. Based on these results, it can be concluded that the developed learning book is worthy of use as an alternative source of learning.

Key words: learning book, three levels of chemical representation, acid base titration.