PENGEMBANGAN MODEL BUKU TEKS PELAJARAN BERBASIS REPRESENTASI KIMIA PADA POKOK BAHASAN KELARUTAN DAN HASIL KALI KELARUTAN

Kartika Metafisika

ABSTRAK

Penelitian ini bertujuan untuk mengembangkan model buku teks pelajaran kimia pada pokok bahasan kelarutan dan hasil kali kelarutan. Penelitian yang digunakan adalah *Research & Development* dengan metode deskriptif dan evaluatif. Penelitian dilakukan dengan menganalisis buku teks pelajaran Kimia SMA Kelas XI yang digunakan di kota Bogor dan membuat model buku teks pelajaran yang baru berdasarkan kekurangan dari deskripsi konsep dan penerapan representasi kimia. Pembuatan model buku teks pelajaran dilakukan melalui analisis indikator dan konsep, perumusan representasi kimia berdasarkan hasil analisis indikator dan konsep, pembuatan *outline*, serta penyusunan model buku teks pelajaran. Produk model buku teks pelajaran dinilai oleh ahli berdasarkan kriteria kelayakan buku teks pelajaran serta dihimpun tanggapan siswa dan guru mengenai model buku teks yang dihasilkan. Hasil analisis 3 buah buku teks pelajaran yang beredar menunjukkan adanya ketidaktepatan deskripsi konsep dan berpotensi miskonsepsi. Hasil analisis indikator dan konsep didapatkan 10 indikator dan 15 konsep setelah melalui validasi oleh 4 orang ahli. Dari masing-masing konsep yang telah ditentukan, dibuat deskripsi konsep pada representasi level makro, level submikro, dan level simbolik, serta visualisasi tautan antar level representasi kimia. Hasil penilaian ahli menunjukkan bahwa model buku teks pelajaran yang dihasilkan sudah memenuhi kriteria kelayakan buku teks pelajaran. Khusus untuk keterbacaan buku pada kriteria kelayakan bahasa dengan menggunakan formula Grafik Fry diketahui bahwa teks berada pada tingkat 10, 11, dan 12 sesuai dengan sasaran pembaca yaitu siswa kelas XI sekolah menengah atas. Berdasarkan uji rumpang diketahui bahwa produk memiliki keterbacaan yang tinggi. Hasil tanggapan guru dan siswa menunjukkan bahwa produk model buku teks pelajaran sudah baik.

Kata Kunci: *Model Buku Teks Pelajaran, Representasi Kimia, Kelarutan dan Hasil Kali Kelarutan, Representasi Level Makro, Representasi Level Submikro, dan Representasi Level Simbolik.*

THE DEVELOPMENT OF TEXTBOOK LEARNING MATERIAL MODEL BASED ON CHEMICAL REPRESENTATION OF SOLUBILITY AND SOLUBILITY PRODUCT CONSTANT SUBJECT

Kartika Metafisika

ABSTRACT

This study aims to develop a model of chemistry textbooks learning material on the subject of solubility and solubility product. The research method used is a Research & Development on descriptive and evaluative methods. The study was conducted by analyzing the chemical high school textbooks learning material used in level XI Senior High School in Bogor city and a new textbooks learning material model is made based on the shortcomings of the concept description and application of chemical representation. The making of the textbook model were conducted by analysis of indicators and concepts, formulation chemical representation based on the analysis of indicators and concepts, making an outline , as well as the making of the textbook model. The product is assessed according to criteria of eligibility of textbooks by experts as well as students and teachers gathered responses regarding textbook model produced. The analysis results of 3 textbooks show the potential inaccuracies and misconceptions in concept descriptions. The analysis of indicators and concepts results discovered 10 indicators and 15 concepts after going through expert validation by 4 persons. Of concepts that have been defined, the description on the concept of macro level, submikro level , and the symbolic level of representations, as well as visualization of link between the level of chemical representation was made. The results of expert assesment showed that the textbook model produced have already met the eligibility criteria of textbooks. Special for legibility language criteria of textbook by using the Fry Graph formula note that the text is at level 10 , 11 , and 12 in accordance with the target reader is a class XI student high school. Based on cloze test result is known that the product has a high readability. The results of the teacher and student responses indicate that the product models of textbooks has been done appropriately.

Keyword: *Model of chemistry textbooks learning material, Chemical Representation, Solubility and Solubility Product, Macro Level of Representation, Submicro Level of Representation, Symbolic Level of Representation.*