

ABSTRACT

Marnida Yusfiani: The Analysis and Standarization of High School Chemistry Text Books for Class XII Semester I Based on the Standard Content of KTSP. Thesis. Postgraduate Programme. State University of Medan. 2011.

The analysis and standarization of Senior High School (SHS) chemistry text books for class XII semester I based on the contents standard of KTSP curriculum was described in this study. The aim of research are: (1) to analyse chemistry text book that commonly used in SHS at North Sumatera, (2) to compose a list of suitable and systematic chemistry materials for teaching SHS students class XII semester I based on the KTSP, (3) to determine suitable and proper chemistry materials for teaching SHS students class XII Semester I, (4) to develop a standard chemistry text book for learning and teaching process of SHS students class XII semester I, and (5) to explore the opinion of chemistry teachers about the developed chemistry text books. The study was a descriptive study. The population were: (a) all text books of SHS class XII semester I, and (b) certified SHS chemistry teachers who taught in class XII. The samples were five text books under criteria as follows: the text book should be based on KTSP curriculum, pass the assessment of Pusat Perbukuan Depdiknas, and commonly used in SHS Schools in North Sumatera. The instrument used was questionnaire with category sheet with indicators included, which then identified by percentage of appearance for each book and the categories. The results showed that the percentage of book A, B, C, and D were 78%, 86%, 93%, 94%, and 97% respectively. Listed chemistry materials suitable for teaching SHS students at class XII semester were Colligative properties of solutions: concentration of solutions, vapor pressure lowering, boiling point elevation, freezing point depression, diagram PT, osmotic pressure, and colligative properties of electrolytes; Redox reactions and electrochemistry: redox reactions, Voltaic cells, Voltaic cells applications, corrosion, electrolytic cells, Faraday's law, and electrolytic cells applications, Chemical periodicity: chemical periodicity of main groups and transitions of elements, chemical elements properties, applications and effects of the element utilization; and Nuclear chemistry: radioisotope properties, nuclear reactions, applications and effects of radioisotope. Teachers' opinion revealed that they agree (average 3.49) with the listed chemistry materials. The standard chemistry text book for SHS developed were consisted of Chapter 1. Colligative Properties of Solutions, Chapter 2. Redox Reactions and Electrochemistry, Chapter 3. Chemical Periodicity, and Chapter 4. Nuclear Chemistry. All chapters were supported by illustration, problem-solving, and evaluation. The developed SHS chemistry text book was evaluated by the chemistry teachers to validate the contents of the book as reference materials. The results showed that the respondents were agree (average 3.6) with contents of the text book. It was concluded that SHS chemistry teachers in North Sumatera respond positively to the content, design, illustration and evaluation provided in the textbook developed in this study and it is suitable to be used in teaching and learning chemistry.

ABSTRAK

Marnida Yusfiani: Analisis Dan Standarisasi Buku Kimia Kelas XII Semester I Berdasarkan Standar Isi KTSP. Tesis. Medan. Program Pascasarjana Universitas Negeri Medan. 2011.

Analisis dan standarisasi buku pelajaran kimia sekolah menengah atas (SMA) kelas XII semester I berdasarkan standar isi kurikulum tingkat satuan pendidikan (KTSP) dijelaskan dalam penelitian ini. Penelitian bertujuan untuk: (1) Menganalisis buku ajar kimia yang digunakan di SMA Sumatera Utara, (2) Menyusun urutan materi kimia SMA kelas XII semester I yang sesuai dan sistematis sesuai KTSP, (3) Mengetahui materi kimia apa saja yang layak dan tepat untuk diajarkan di SMA kelas XII semester I agar sistematis dan mudah dipahami siswa dalam pembelajaran, (4) Mengembangkan buku ajar kimia SMA yang standar untuk dipergunakan dalam pengajaran kimia SMA kelas XII semester I, dan (5) Mengetahui pendapat guru kimia SMA terhadap hasil pengembangan buku pelajaran kimia kelas XII semester I. Penelitian ini merupakan penelitian deskriptif. Populasi pada penelitian ini adalah (a) semua buku ajar Kimia SMA kelas XII semester I, dan (b) guru kimia SMA bersertifikasi yang mengajar di kelas XII. Sampel pada penelitian dipilih sebanyak 5 buku ajar kimia dengan kriteria sudah menggunakan KTSP, telah lulus penilaian Pusat Perbukuan, dan tergolong banyak digunakan di sekolah Sumatera Utara. Instrumen penelitian adalah angket dengan lembar kategori yang berisi indikator-indikator yang kemudian diidentifikasi kemunculannya ke dalam persentase untuk masing masing buku dan kategori. Hasil analisis uji kelayakan isi terhadap 5 buku ajar berturut-turut diperoleh untuk buku A, B, C, D, dan E adalah 78%, 86%, 93%, 94% , dan 97%. Hasil penelitian menunjukkan bahwa urutan materi kimia kelas X yang dianggap layak untuk diajarkan pada kelas XII semester I secara berurutan adalah: Sifat koligatif larutan: konsentrasi larutan, penurunan tekanan uap jenuh, diagram PT, tekanan osmosis, dan sifat koligatif larutan nonelektrolit; Reaksi redoks dan elektrokimia: persamaan reaksi redoks, sel Volta, aplikasi sel Volta, korosi, reaksi elektrolisis, hukum Faraday, dan aplikasi sel elektrolisis; Unsur-unsur dalam sistem periodik: unsur-unsur golongan utama dan transisi, aplikasi dan dampak pemanfaatan unsur-unsur; dan Kimia inti: sifat radioisotop, reaksi inti, aplikasi dan dampak pemanfaatan radioisotop. Hasil penilaian guru terhadap materi kimia SMA agar sistematis dan mudah dipahami tergolong sangat setuju (rata-rata 3,49). Buku ajar kimia yang standar telah dikembangkan terdiri dari empat bab terdiri atas: Bab 1. Sifat Koligatif Larutan, Bab 2 Redoks dan Elektrokimia, Bab 3 Unsur-unsur dalam Sistem Periodik, dan Bab 4 Kimia Inti, masing-masing dilengkapi dengan ilustrasi, contoh penyelesaian soal, dan evaluasi. Komponen isi materi buku standar yang telah diujicobakan kepada guru-guru kimia untuk mengetahui kelayakan isi buku, dan diperoleh hasil bahwa responden sangat setuju (rata-rata 3,6) terhadap isi buku ajar. Dari hasil tersebut menunjukkan bahwa guru-guru yang ada di Sumatera Utara memberikan tanggapan yang positif terhadap isi, disain, ilustrasi dan evaluasi yang terdapat di dalam buku ajar hasil pengembangan dalam penelitian ini dan buku ini dinyatakan layak untuk digunakan dalam pembelajaran kimia.