

## ABSTRACT

This study entitled “The Effectiveness of Self-Instructional Materials for Senior High School Students on the Subject of Chemical Bonds through Four Stages of Teaching Materials Processing”. The purpose of the study was to describe the treatment process and the effective use of instructional materials on chemical bonds subject. The method used was descriptive method with 15 students from various senior high school in Bandung as the subject of the study. The results show that: 1) the teaching materials on chemical bonds are processed through four stages of teaching materials processing namely selection, structuring, characterization, and didactic reduction through analogy with image, table, explanation with pictures, and generalizations, 2) The readability of teaching materials include readability level, readability of figures and tables, as well as writing the main idea indicate that the legibility of the teaching materials is classified into the high category, 3) The effectiveness of the instructional materials of chemical bonds is classified into the high category based on the ability of students to write down main ideas as well as the differences in the results of the pretest and posttest. Furthermore, similar research on other materials and advanced research by designing the teaching materials in the form of textbooks, handouts, worksheets, and or modules, is needed.

**Keywords:** the effectiveness of teaching materials, self-instructional materials, four stages of teaching materials processing, chemical bonds

## ABSTRAK

Penelitian ini berjudul “Efektivitas Bahan Ajar Mandiri Siswa SMA pada Materi Ikatan Kimia Melalui Empat Tahap Pengolahan Bahan Ajar”. Tujuan dari penelitian ini adalah untuk mendeskripsikan proses pengolahan dan efektivitas penggunaan bahan ajar ikatan kimia. Metode yang digunakan adalah metode deskriptif dengan subjek penelitian sebanyak 15 siswa dari berbagai SMA di Bandung. Hasil penelitian menunjukkan bahwa: 1) Bahan ajar ikatan kimia yang diolah melalui empat tahap pengolahan bahan ajar, yaitu tahapan seleksi, strukturisasi, karakterisasi, dan reduksi didaktik berupa analogi dengan gambar, tabel, penjelasan dengan contoh, contoh dengan gambar, dan generalisasi. 2) Aspek keterbacaan bahan ajar meliputi tingkat keterbacaan bahan ajar, keterbacaan gambar dan tabel, serta penulisan ide pokok menunjukkan bahwa keterbacaan bahan ajar ikatan kimia tergolong ke dalam kategori tinggi. 3) Keefektifan penggunaan bahan ajar ikatan kimia tergolong ke dalam kategori tinggi didasarkan pada kemampuan siswa dalam menuliskan ide pokok serta perbedaan hasil pretes dan postes. Selanjutnya, perlu penelitian sejenis pada materi lain dan penelitian lanjutan dengan membuat bahan ajar tersebut ke dalam bentuk buku teks, *hand-out*, LKS, dan atau modul.

**Kata Kunci:** efektivitas bahan ajar, bahan ajar mandiri siswa, empat tahap pengolahan bahan ajar, ikatan kimia