

ABSTRAK

ANALISIS KESULITAN BELAJAR MURID FASE F KELAS XI PADA MATERI IKATAN KIMIA BERDASARKAN PEMAHAMAN KONFIGURASI ELEKTRON DAN KESTABILAN UNSUR

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Kesulitan belajar murid terhadap materi ikatan kimia masih sering ditemukan. Namun, kesulitan tersebut mengarah pada pemahaman dasar konfigurasi elektron dan kestabilan unsur sebagai materi dasar. Penelitian ini dilakukan dengan menganalisis kesulitan belajar pada materi ikatan kimia berdasarkan pemahaman konfigurasi elektron dan kestabilan unsur untuk murid fase F kelas XI-F1. Lokasi penelitian dilaksanakan di SMA Pangudi Luhur Sedayu. Penelitian ini juga bertujuan untuk merumuskan profil kesulitan belajar tentang materi ikatan kimia. Metode penelitian yang digunakan merupakan metode kualitatif dengan teknik pengambilan sampel secara *nonprobability sampling* dan jenis *purposive sampling* sebagai pertimbangan dalam menentukan data yang digunakan. Sampel yang digunakan dalam penelitian ini adalah 14 murid terpilih dari 33 murid yang telah mengerjakan tes pemahaman konsep. Teknik pengumpulan data yang digunakan meliputi pelaksanaan tes pemahaman konsep, observasi pada pembelajaran, wawancara (semi terstruktur), dan dokumentasi. Wawancara lebih lanjut dilakukan pada 14 murid untuk memperoleh data yang akan dianalisis menggunakan model Miles and Huberman.

Data yang dianalisis melalui pengkodean, kemudian menghasilkan tema kesulitan belajar. Selanjutnya, tema kesulitan tersebut dikategorikan ke dalam profil kesulitan belajar. Masing-masing profil dijelaskan berdasarkan teori konstruktivisme, teori perubahan konseptual, dan teori segitiga kimia Johnstone. Hasil penelitian menunjukkan bahwa murid mengalami kesulitan belajar yang terdiri dari kesulitan menginterpretasikan representasi atom dan konfigurasi elektron, penyederhanaan konsep kimia menjadi aturan praktis yang tidak konseptual, kesulitan membangun hubungan konseptual dalam kimia, dan kesulitan memahami konsep dan mekanisme pembentukan ikatan.

Kata kunci: Ikatan kimia, kestabilan unsur, konfigurasi elektron, profil kesulitan belajar

ABSTRACT

**ANALYSIS OF LEARNING DIFFICULTIES AMONG 11th-GRADE STUDENTS
IN PHASE F ON CHEMICAL BONDING BASED ON THEIR
UNDERSTANDING OF ELECTRON CONFIGURATION AND ELEMENT
STABILITY**

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Students' difficulties in understanding chemical bonding concepts as examined in relation to electron configuration and element stability, are still commonly encountered in chemistry education. This study was conducted by analyzing learning difficulties in chemical bonding based on students' understanding of electron configuration and element stability among 11th-grade students in XI-F1 class. The research was conducted at Pangudi Luhur Sedayu Senior High School. This study also aims to formulate a profile of learning difficulties regarding chemical bonding subject. The research method used was a qualitative method with nonprobability sampling techniques, specifically purposive sampling, as a consideration in determining the data used. The sample used in this study consisted of 14 students selected from 33 students who had taken a test. The data collection techniques used included administering conceptual understanding test, classroom observation, semi-structured interviews, and documentation. Further interviews were conducted with the 14 students to obtain data that would be analyzed using the Miles and Huberman model. The data were analyzed through coding, which yielded themes related to learning difficulties. These themes were then categorized into learning difficulty profiles. Each profile was explained based on constructivism, conceptual changes theory, and Johnstone's chemical triangle theory. The results of the study indicate that students experience learning difficulties consisting of trouble interpreting atomic representations and electron configurations, simplifying chemical concepts into non-conceptual rules of thumb, and difficulty understanding the concepts and mechanisms of bond formation.

Keywords: Chemical bonding, element stability, electron configurations, learning difficulty profile