ABSTRAK

Dika Ramadhana, NIM. 4172131012, Analisis Miskonsepsi Siswa Dengan *Certainty of Response Index* (CRI) Materi Ikatan Kimia Kelas X MIA MAN 2 Model Medan

Penelitian ini merupakan penelitian deskriptif kualitatif yang bertujuan (1) mendeskripsikan persentase miskonsepsi siswa pada materi ikatan kimia berdasarkan *Certainty of Response Index* (CRI), dan (2) mendeskripsikan konsep-konsep yang mengalami miskonsepsi pada materi ikatan kimia. Data dikumpulkan menggunakan tes diagnostik pilihan berganda dengan alasan terbuka yang dilengkapi dengan *Certainty of Response Index* (CRI), wawancara, dan analisis dokumen siswa. Hasil penelitian menunjukkan bahwa Miskonsepsi yang dialami siswa yaitu pada sub materi kestabilan unsur sebesar 52%, sub materi ikatan pada indikator menentukan sifat senyawa berikatan ion sebesar 60%, sub materi ikatan kovalen pada indikator menentukan ikatan kovalen rangkap dua pada suatu senyawa sebesar 48%, sub materi ikatan kovalen pada indikator menentukan ikatan kovalen rangkap tiga pada suatu senyawa sebesar 40%, sub materi ikatan kovalen pada indikator menentukan ikatan kovalen koordinasi dari struktur lewis suatu molekul sebesar 44%, indikator memprediksi jenis ikatan berdasarkan sifat zat sebesar 48%, sub materi kepolaran senyawa sebesar 44%, sub materi pasangan elektron sebesar 44%, sub materi bentuk molekul sebesar 64%, sub materi ikatan logam pada indikator menentukan sifat logam sebesar 36%, dan sub materi ikatan hidrogen sebesar 72%. Diperoleh rata-rata miskonsepsi pada siswa dari keseluruhan indikator soal sebesar 40,6% dengan rincian kestabilan unsur sebesar 4,73%, ikatan ion sebesar 3,03%, ikatan kovalen sebesar 3,06%, ikatan kovalen koordinasi sebesar 3,64%, memprediksi jenis ikatan sebesar 4,36%, kepolaran suatu senyawa sebesar 4,00%, menentukan pasangan elektron sebesar 4,00%, bentuk molekul sebesar 5,82%, hibridisasi sebesar 4,00%, ikatan logam sebesar 2,91%, ikatan hidrogen sebesar 6,55%.

Kata Kunci: Miskonsepsi, *Certainty of Response Index* (CRI), ikatan kimia

ABSTRACT

Dika Ramadhana, NIM. 4172131012, Analysis Students Misconceptions with *Certainty of Response Index* (CRI) Chemical Bond Topic Class X MIA   MAN 2 Medan Model

This study is a qualitative descriptive study that aims to (1) describe the percentage of misconceptions of students in chemical bonding materials based on Certainty of Response Index (CRI), and (2) describe concepts that have misconceptions in chemical bonding materials. Data is collected using multiple-choice diagnostic tests with open grounds equipped with Certainty of Response Index (CRI), interviews, and analysis of student documents. The results showed that the misconceptions experienced by the learners were in the element stability sub material by 52%, the bonding sub matter on the indicator determined the nature of the ion bonded compound by 60%, the covalent bonding sub-material on the indicator determined the double covalent bond in a compound by 48%, the covalent bond sub-material on the indicator determined the triple covalent bond in a compound by 40%, the covalent bond sub matter in the indicator determines the covalent coordination bond of the lewis structure of a molecule by 44%, the indicator predicts the type of bond based on the properties of the substance by 48%, the compound polarity sub-material by 44%, the electron pair sub-material by 44%, the molecular form sub-material by 64%, the metal bonding sub-material on the indicator determines the metal properties by 36%, and the hydrogen bond sub-material by 72%. Dobtained an average of misconceptions in students from the overall question indicator of 40.6% with details of element stability of 4.73%, ion bond of 3.03%, covalent bond of 3.06%, covalent coordination bond by 3.64%, predicting bond type by 4.36%, polarity of a compound by 4.00%, determining electron pair by 4.00%, molecular shape by 5.82%, hybridization by 4.00%, metal bond by 2.91%, hydrogen bond by 6.55%.

Keywords: *Misconception, Certainty of Response Index (CRI), chemical bonds*