

ABSTRACT

Lamtiur Paronauli Silaban, IDN 4203131048 (2024). Analysis Of Student Misconceptions Using A Web-Based Diagnostic Test On Redox Material.

This study aims to determine the presence of student misconceptions in redox material, misconceptions in each concept of redox material, and factors causing student misconceptions in redox material in class XII MIA SMA N 2 Percut Sei Tuan. This research is a quantitative descriptive research. The sampling technique in this study used purposive sampling technique. The samples in this study were 32 students of class XII MIA 1 who were selected based on the recommendation of the chemistry teacher. Data collection techniques were carried out using a web-based three-tier diagnostic test, misconception questionnaire, and in-depth interviews (teachers and students). The results showed that the misconceptions identified using the web-based three tier diagnostic test on the redox concept as a whole was 31.718%, while students who experience incomprehension of the concept is 54.687%, students who understand the concept is 13.906% and understand the concept is not sure 1.25%. Students' misconceptions on each concept of redox material are highest on the concept of compound names at 43.8% and the lowest on the concept of equalizing redox reactions with the oxidation number method and the $\frac{1}{2}$ reaction/ion electron method at 26.6%. Based on the results of questionnaires and interviews, each factor has an influence on misconceptions, the biggest misconceptions are teacher factors and teaching methods, namely 21.32% and 21.28%.

Keywords : Causes Misconceptions, Misconceptions, Redox, Web-Based Three Tier Diagnostic Test