ANALYZING OF STUDENTS' MISCONCEPTIONS ON SALT HYDROLYSIS CHEMSITRY AT SENIOR HIGH SCHOOLS IN PADANGSIDEMPUAN

ABSTRACT

Students' misconceptions on learning of salt hydrolysis chemistry at senior high school in Padangsidempuan were investigated in this study. In this study involved 165 of students in grade 11$^{\text{th}}$ from six different schools in Padangsidempuan, namely SMAN 2 Padangsidempuan, SMAS Kesuma Indah Padangsidempuan, SMAN 4 Padangsidempuan, SMAS Muhammadiyah Padangsidempuan, SMAN 3 Padangsidempuan, and SMAS Karya Baru Padangsidempuan. Students' misconceptions were identified by giving a valid test developed by researcher to students in form of Salt Hydrolysis Chemistry Misconceptions Test that containing 20 open-ended multiple choices. The data collected in this study were students' responses in form of students' choices from available options, where in options consist the reasons. The data of students' choices and reasons obtained were processed and converted into students' achievement and understanding, respectively. The data of students' understanding obtained from students' responses were categorized based on the degree of understanding. The data of students' misconceptions from five main concepts that investigated in salt hydrolysis chemistry topic including salt hydrolysis definition concept (26.06%), formation of salt hydrolysis concept (27.07%), determining the pH of salt hydrolysis concept (23.54%), the relation between K_{h} with K_{w}, K_{a}, and K_{b} concepts (29.72%), and salt hydrolysis in daily life concepts (25.76%). From the five concept in hydrolysis that analyze by Salt Hydrolysis Chemistry Misconceptions Test know that most of students have misconceptions in the relation between K_{h} with K_{w}, K_{a}, and K_{b} concepts and the determining of the pH of salt solution. The study also revealed three main students' problems in understanding salt hydrolysis chemistry namely fragmentation of students' understanding, problems with symbols and mathematical formula, and problems in generalization. The results of analysis in students' misconception could be used as references for chemistry teachers for identifying students' misconception in classroom. Considering the importance of students' misconception data, it was recommended to investigate the source of students' misconceptions.