

**ANALISIS *MENTAL STATE* SISWA PADA PEMBELAJARAN KIMIA KELAS X PADA MATERI KONSEP MOL DAN STOIKIOMETRI REAKSI**

***MENTAL STATE ANALYSIS OF X GRADE STUDENTS IN LEARNING CHEMISTRY ON MOLE CONCEPT AND STOICHIOMETRY REACTION***  
(2016)

**LIE FONG FONG**  
**ABSTRACT**

The aims of this study to determine : (1) X grade students' *mental state* in learning chemistry on mole concept and stoichiometry reaction (2) the relationship between students' *mental state* and their score in mole concept and stoichiometry reaction. In doing this study, mixed method was applied. The study involved X grade science students from 2015-2016 academic year, who learnt on mole concept and the stoichiometry reaction. The participants of this study were 71 students. There were 2 instruments used in this study : The first instruments was adapted MSCLI (Mental State Conceptual Learning Inventory) for mole concept and stoichiometry reaction, and the second was students' scores obtained from 25 numbers of multiple choices questions about mole concept and 15 numbers of multiple choices questions about stoichiometry reaction.

In the learning process of mole concept and stoichiometry reaction, students' emotion and interests affect the learning process itself. It also found students' internal mental representation which was misconception between atom and molecule when they were learning mole concept. While students' internal mental representation in stoichiometry reaction was students' difficulties in solving moles ratio in multi level or continuous reaction. In learning mole concept and stoichiometry reaction, students showed good external mental representative. It was proven by students' ability to applied it in their daily lives. The students' *mental state* in learning chemistry influence the students' understanding the mole concept and stoichiometry reaction. The finding of the study showed that students' *mental state* influence students' achievement in mole concept and stoichiometry reaction. Thus there is a relationship between students' *mental state* and students' score. It was proven by  $r_{hitung} > r_{tabel}$  at significance level of ( ) 0,05 resulted mole concept  $r_{hitung}$  0,411  $> r_{tabel}$  0,235; while stoichiometry reaction resulted  $r_{hitung}$  0,297  $> r_{tabel}$  0,235. Students with positive *mental state* will obtain high score, whereas students with negative *mental state* will obtain low score. Therefore, students will be able to understand the material well when they have good *mental state*.

**Key word : *Mental State*, Chemistry Achievement, Mole Concept , Stoichiometry Reaction**