

CHAPTER I

INTRODUCTION

1.1 The Background of Study

Basically the development and progress of a nation is influenced by the quality of education of the nation itself. Education is a strategic tool and a vehicle for human resource development. Therefore, education should receive serious attention and handling. On the other hand the manager of education has taken great care to increase the quality of education to improve student achievement by optimizing the educational resources available.

One of the main factors that determine the quality of education of a nation is a teacher. Current assignment and the teacher's role is getting harder, along with the development of science and technology. Teachers which is at the forefront of creating quality human resources. Teachers face to face with the learners in the classroom through the learning process. In the other hand teachers will be generated qualified students, both academically, skill (skills), emotional maturity, and moral and spiritual.

Learning is an active process, and what students do with facts and ideas with which they have been presented depends to a very high degree on what they already think and believe. Being able to recognize and work with these student-held ideas and conceptions is thus a key component of an effective educational strategy (Mulford and Robinson, 2002).

When learning science at school students sometimes relate their prior knowledge to what teacher explain innappropriately, and hence the meanings or concepts they construct are incorrect, incomplete or ineffective to explain the scientific phenomena (Osborne and Wittrock, 1983, cited in Pinarbasi et all, 2009).

In essence, the success in the learning process is not only determined by the accuracy of teachers in choosing the method used, the independence of students in their learning also has a very large role. Independent learning does not mean learning alone but learning that relies on the activities and responsibilities of the student to achieve learning success. Independence of the student in question is the attitude of students to not depend on others for every problem facing learning. Students are required to be able to resolve an issue with the ability to learn and their own efforts so that students with high self-reliance can obtain better performance.

Chemistry is sometimes viewed as a difficult subject. It requires students to go between (1) macroscopic representations that describe properties of tangible and visible phenomena in the everyday experiences of learners, (2) submicroscopic (or molecular) representations that provide explanations at the particulate level in which matter is described as being composed of atoms, molecules and ions, and (3) symbolic (or ionic) representations that involve the use of chemical symbols, formulas and equations, as well as every media that symbolize matter (chandrasedgaran et al, 2007).

Most chemistry teaching operates at the macro (or laboratory) level and the symbolic level, but it's known that many misconceptions in chemistry stem from an inability to visualize structures and processes at the submicroscopic level (Tasker and Dalton).

According to Fask et al (in Wiseman, 1981:41) that largely concepts in chemistry is the abstract concept and generally is the get ladder concepts which develop from the simple to complex (Sastrawijaya, 1988:45). The learning result that expected based on the aims is the students can understanding the concepts that was learn correctly and concern the concept that was have before and can apply that concepts in daily life and also in technology. To get the aims, sometimes the students feel a lot of obstruction. Students try to interpreted or create self concepts based on their experience that sometimes not appropriate with

the true concept, so cause the wrong concept in students thinking, the wrong concepts called as misconceptions by Fisher (Griffith).

Students that through misconceptions not realise that their was through misconception, because the students look the concept which was have is a true concept. This case will effect to understanding the students in the future where in a material will effect learning handicap in other material. Because every concept has the relevance with other concept.

Identifying misconception of students is the first step for preventing misconceptions in chemistry. The identification of the students' understandings and misconceptions has been the goal of many of the studies carried out over the last years (Ozmen, 2004). Some of the conceptual areas in which most studies have been conducted are chemical equilibrium (Erdemir et al., 2000; Sendur et al., 2010; Husseini, 2011), acid-base (Ross and Munby, 1991; Kousathana et al., 2005; Sheppard, 2006), chemical bonding (Peterson et al., 1986; Coll and Taylor, 2002; Ozmen, 2004; Smith and Nakhleh, 2011), nuclear chemistry (Nakibog̃Lu and Tekin, 2006), atomic orbital and hybridization (Nakiboglu, 2003), buffersolution (Orgil and Sutherland, 2008), solutions and their components (Çalık and Ayas, 2005; Pinarbasi and Canpolat, 2003), colligative properties (Pinarbasi et al., 2009), thermochemistry (Azliandry, 2007) and electrochemistry (Sanger and Greenbowe, 1999; Huddle and White, 2000) (Zainuddin Muchtar and Harizal, 2012). Actually, the basic of a research education is a curriculum, because from the curriculum is the basic of education. All of the teaching and learning process is based on the curriculum. From this curriculum we can know the matter, and then make a syllabus of the matter, the teaching and learning process in classroom be guided by syllabus, so that from them we can know the some problem that had been around by students. Because of that, in this research the writer showed the Concept Analysis in Salt Hydrolysis (Appendix 1).

As has already been worded above, there are several topic in chemical one is hard to be understood by student. There is even one of topic which intended is

hydrolysis. Topic from hydrolysis constitutes one of topic which need comprehension and integration of there are many chemical introduction knowledge. Hydrolysis is one of topic that can work out the misconception. Because some students can't differrent which one hydrolysis and which one the buffer solution. Two of them if we glanced it closed resemblance, so that some of students can do some misconception in this topic. Usually student gets to get new science after they study it without understands it. This case can make a misconceptions.

Therefore, in this case the researcher chose the research entitled **Analyzing of Students' Misconception on Salt Hydrolysis Chemistry at Senior High School in Padangsidempuan**. This research aims to investigate the students' misconceptions about hydrolysis at senior high school in Padangsidempuan.

1.2 The Problem Identifications

Based on the background above, the identification of problem formulated as follows:

1. Most students have some difficulties in understanding chemistry concept especially for Salt Hydrolysis.
2. There are incompatibilities between students' concepts and true concepts.

1.3 Scope of the research

The scopes of this research are:

1. In this study is limited to investigate the misconception of senior high school students.
2. The sample is limited to students' year XI.
3. The matter is limited to "Salt Hydrolysis "

1.4 Problem Statements

The problem statements of this research are:

1. What are the type of subconcept in hydrolysis that make students' misconceptions?
2. What is the percentage of students' misconception about Salt Hydrolysis?

1.5 Research Objectives

The objectives of this research are:

1. To identify the types of subconcept in hydrolysis that make students' misconceptions.
2. To identify the percentage of students' misconception about Salt Hydrolysis.

1.6 Research Significances

This study is expected as follows:

1. To be an information about students' misconception about Salt Hydrolysis.
2. To be an input to improve the quality teaching and learning chemistry especially about Salt Hydrolysis in senior high school.
3. For researcher through this research expected can be an experience to know students' misconception.