

## CHAPTER I INTRODUCTION

### 1.1. Research Background

Learning is a process that led to the occurrence of a change or renewal of behavior and skills. Learning is basically a process of active business person to get something forming behavior towards a better direction. But in reality, not all learning activities achieved satisfactory results. There are still some students achieve learning outcomes are low and it is this which gives an idea that has not been achieved in the learning and mastery learning as well as a picture of the learning difficulties experienced by the students themselves.

One of the parameters used to measure students' mastery of knowledge and skills of the subject is academic achievement is generally shown in the form of value. Student achievement is assessed cognitive aspect as it relates to the ability of students in knowledge or memory, comprehension, application, analysis, synthesis and evaluation (Sincere Tu'u, 2004)

Based on earlier research, learning difficulties in the subject matter can be identified based on the indicators of learning, in which each of these indicators has a level of difficulty varies. This study aims to determine the difficulties faced by students of class X SMA Negeri 8 Kota Jambi in redox reactions study material for each indicator of learning. The study included descriptive research. Data were obtained from the test results were analyzed student essay perindikator difficulty learning based on the percentage of the criteria is very high, high, medium, low. The results showed that students had difficulty in learning the material redox reactions in class X SMA Negeri 8 Kota Jambi. From the results of this study concluded that students have the highest difficulty redox reactions material that is on the indicator determines the compound according to IUPAC name based on the oxidation state (Utary Marsitta , 2014 ).

The facts show that high school students consider chemistry palajaran eye difficult to learn, so that students have first felt less able to learn (Yusfiani and Situmorang, 2006). On the other hand Haryati (2009) reported the availability of qualified chemistry textbooks is very less. It can be seen from textbooks that are used in many schools still elusive students. The books there is more emphasis on the mission of delivering the knowledge or mere facts. Innovation from the author still very limited so students are often bored in reading the book.

Students' perception of something conceived and desired by the students can be a real reality, so as to encourage students to acquire something dipersepsikannya. So also in the process of learning in the classroom, students will try to elicit learning achievement when students have a positive perception of chemistry.

One of the difficulties students in learning reflected in the declining student learning outcomes. Therefore we need the right solution to overcome learning difficulties that result in low student achievement. This is in line with that expressed by Ahmadi and Supriyono (2004) that learning difficulties are obstacles that come from inside and outside the student.

Barriers include: intelligence, attention, interest, talent, health and disability, while the outer barrier of the students is the family, school and community. The circumstances in which pupils / students can not learn properly should know the cause. Analysis of the students' learning difficulties is the duty of a teacher in teaching and is a tool that can be used as a reference in locating children who require a more detailed analysis of their difficulties. Complex and abstract concepts in chemistry to make students believe that chemistry is a difficult subject. Student difficulties in understanding the concept of buffer solution needs to be analyzed to determine the cause of these difficulties, so that later can be solved (Resti Ana Marsita, 2009).

According Suwarto (in UtaryMarsitta. 2014), the difficulties to be monitored is the difficulty that occurs in the process of learning that is difficult subject matter. That process can not be observed, but it can be known or inferred through student

answers or test questions. Well defined indicator can be used to detect the extent to which learning outcomes can be achieved.

"The difficulty in studying Chemistry students may stem from difficulties in terms, difficulties in understanding chemical concepts and difficulties numbers" (Arifin, 1995). In chemistry class is inseparable from mathematical calculations, where students are required to be skilled in the formulation / math operations. But often encountered students who do not understand the formula. This is because students do not know the basics of good mathematics, students do not memorize mathematical formulas are widely used in chemical calculations, so that students are not skilled in using basic mathematical operations.

Moreover, in general, the students already assume that the chemical subjects daunting and tedious, consequently there is little students who are not even interested in understanding and mastering the basic concepts of chemical materials. There are many students who have ambitious heavily in education, especially in chemistry, but there are students who do not like chemistry lessons. This condition I have found typing writer implementing integrated field experience program (PPLT).

It certainly did not expect because it can affect the success of the learning process chemistry. So that every student can master the chemistry lesson well of course depends not only on teachers' efforts but also takes their interest in learning based on the self-consciousness rather than coercion.

Seeing how important interest in learning for students, researchers are interested in conducting research titled "The Analysis Of Correlation Between Student Learning Difficulties With Student Cognitive Capability In Learning Chemistry Of Class XI High School".

## **1.2. Problem Identification**

From the background the identification problem in this research are:

1. Location of students' learning difficulties in learning chemistry on the subject of Thermochemistry

2. The factors that cause students of SMAN 1 Sidikalang and SMAS Trisakti Medan have difficulty in learning chemistry is mainly subject Thermochemistry
3. The relationship between students' learning difficulties with students' cognitive abilities

### **1.3. Problem Limitation**

To have the matter investigated to a lesser extent, the existing problems should be limited to learning materials Thermochemistry which refers to the education unit level curriculum class XI IPA in second semesters.

### **1.4. Problem Formulation**

As for the formulation of the problem in this research are:

1. Which is learning indicators students' learning difficulties in learning chemistry on the subject of thermochemistry?
2. How cognitive abilities of students in learning chemistry on the subject of acids and bases?
3. What is the relationship between the difficulties students with students' cognitive abilities?

### **1.5. Research Objectives**

1. To know how the student perception about the chemistry topic
2. To identify how the cognitive capability that developed
3. To determine the correlation between learning student difficulties with student cognitive capability
4. To determine how the performance of the student teachers

## 1.6. Research Benefits

The benefits are expected after this research is :

1. For chemistry teacher

The results of this study are expected to provide information to teachers about the chemistry of learning difficulties experienced by students, especially in Thermochemistry learning.

2. For students

This research is expected to help students in finding the problems it faces, especially when studying the acids and bases

3. For other researchers

This research can be used as reference materials and reference for further research

## 1.7. Operational Definition

1. Learning difficulties referred to in this study are the factors - factors that affect students' learning difficulties are characterized by declining results obtained by the student. The usual difficulty comes from within the students, parents, chemistry teacher, school and difficulty in understanding the material being taught. (Syah, 2012)

2. Cognitive abilities in question in this research is the ability possessed by the students in understanding the problems that are tailored to the Taxonomy of the level of knowledge (C1) to analysis (C4). (Arikunto, 1993)

3. Thermochemistry

Thermochemistry is the study of the energy and heat associated with chemical reactions and/or physical transformations. A reaction may release or absorb energy, and a phase change may do the same, such as in melting and boiling. Thermochemistry focuses on these energy changes, particularly on the system's energy exchange with its surroundings.

<https://en.wikipedia.org/wiki/Thermochemistry>