

## CHAPTER I INTRODUCTION

### 1.1. Background

Education is one of efforts to develop the intellectual life of the nation and to improve the quality of human resources (HR). Therefore, education plays an important role towards the progress of a nation. This has been recognized both by the government where so many efforts have been undertaken to improve the quality of education in Indonesia. Such as curriculum improvement, teacher quality improvement, provisioning the International/ Bilingual schools that have the ability to competing and so forth.

Therefore, researchers and other educators give the considerable time to do a study on improving the quality of education, particularly in improving the quality of teachers. As Slameto (2010) states that "the role of teachers has increased from as a teacher, became a director of learning process. As director of learning process, duties and responsibilities of teachers are more increase, including increasing the function of teachers as lesson planning, learning managers, appraisers learning outcomes, learning motivator, and as a mentor".

Chemistry is one of the most important subjects to be understood by students, where this knowledge has an important role in the development of technology and everyday life. Chemistry itself is composed of many materials and concepts that are interconnected with each other. But apparently the result of observation of students' understanding in chemistry topics is still low, it seen from the lack of involvement of student in teaching and learning process in class and the ability of student in answer the questions that given (interview with teacher in SMA N 1 Lubukpakam).

According to the results of interviews and observations during the researcher running the PPL (Experience Field Program) in SMA N 1 Matauli Pandan, the student considers that the chemical was "a scary" lesson. This means that students are worried that chemistry will make them not exhaustive and does not enter science classes for class X, and for class XII students, they worried if it be the obstacle to enter the favorite higher education. According to them,

chemistry is hard to understand, complicated, too much rote, a lot of material, dull and uninterested. From that, seen that a gap between teachers and students, the teacher as a teacher only to deliver the material without seeing aspects of the students, such as interest, understanding, difficulty, and so forth. And from the students, they see the teacher as an addition to the burden for them, even as the enemy. Of course students do not have a strong interest and motivation to learn the material being taught, so do not be surprised if they have low achievement of chores and daily tests. According to Bandura (1988) in Bobby De Porter (1999) "The Beliefs of someone about his/her ability was very influential on the ability itself."

That condition above demands hard work from various parties, especially the teachers as educators who deal directly with students. Teachers are required in designing creative learning process, the selection of learning resources, media and learning methods that appropriate to the topic being taught. This is supported by Sagala (2003) that "Teachers should be able to maintain student interest in learning, steady their motivation and lead the process of learning occurs naturally follow from the experience. So that teachers have to be wise and creative in determining the appropriate model for learning, so that learning process can take place effectively and efficiently ". Thus the thing that we often encounter in which the students as a generation of country feel very tired, not interested, and under estimate in chemical class can be overcome.

A teacher has the right to determine the model and methods of learning, learning media and allowed his class to design freely, provided that the learning process can be carried out effectively and efficiently. Be aware that the problems mentioned above could have been caused by the atmosphere of learning that is not exciting and fun for students, the lack of interest media, the tedious method of learning, so that it result the gap between the teacher and the students. In Arsyad (2009), there is two very important elements in the process of learning that is method of teaching and learning media. The selection of teaching methods will affect the appropriate of media, the media itself greatly helped the effectiveness of the learning process and delivery of messages and content at the time, arouse

students' motivation and interests, enhance understanding, the present data with interesting and reliable. This is supported by Hamalik (1986), when students are less interested in following the lesson one the caused is the method that used by teachers may not be appropriate. He added also (Hamalik: 2003) that the use of instructional media in teaching and learning can rise the new desire and interest, rise the motivation and learning stimulation, and even bring psychological effects on students. Therefore, the teacher must be observant and creative in designing classroom and the learning process.

Quantum Teaching as learning model with use multimedia can be a solution and a bright spot for teachers and students, especially for Bilingual School (RSBI) where the school facilities are adequate. This model is one of selectable learning model that can be used so that the learning process be effective, efficient and enjoyable.

Learning model that developed by Bobbi De Porter based on "Bring their world into our world and deliver our world into their world". Where the teacher must first enter the world of students and attract students to understand their belief that this is something important and interesting, and also easy. Thus will arise the spirit, motivation and the passion of students in learning. According to the results of interviews conducted of students, that the main reason there is no interest in learning because the student thought that teacher doesn't understand them (Porter, 1990). This learning model also known with 5 steps, that are: Encourage, Experience, Name, Demonstrate, Repeat, and Celebrate. This steps will create the curiosity and motivation in students, so students will be more active, make the lesson more meaningful because students will be invited to experience its own.

The using of multimedia in this learning process is to make the effective learning process and to make easier in transfer the message, rise the motivation and the interest of students (Arsyad, 2007). Moreover with using the multimedia the students could learn independently with reply the topic out of time school. the Bilingual School or RSBI is one school that has the ability to compete with other school, in academic field, information, facility, teacher quality, and also the quality of alumnus and others (PP No 17, Tahun 2010, Pasal 1 dan 143).

Therefore, the teachers have to prepare their self and have to able to use all the available facilities maximally to reach the aim of teaching and learning process. The multimedia that used in in this research is software of microsoft power point, that has the ability to design text, color, picture and is combined with macromedia flash that suitable with the producer.

Hydrocarbon is a chemical material that learn in the first grade in senior high school. There is so many abstrac concept in Hydrocarbon topic, so it need the appropriate the teaching model and using of appropriate media so that the students can master the lesson well.

Quantum Teaching Learning model is also give a positive impact on teaching and learning activities which in a study conducted by "Romian" (2010) on the subject of Salt Hydrolysis, Dini Anggraini (2007) in topic Atomic Structure, Manik (2010) on the subject of Newton's Laws, Tumanggor (2011) in topic rate reaction And in using of multimedia also give the positive impact that has proved by Gultom (2010) in teaching Colligative Properties topic, Butar-Butar in teaching Hydrocarbon topic, and also Leonardo (2008) in teaching hydrocarbon topic.

Based on above explanation, the researcher interests to combine Quantum Teaching model with multimedia to improve students achievement by conducting research by the title **“ The Effectiveness of Quantum Teaching Model with Multimedia to Increase Student’s Achievement on Topic Hydrocarbon in Bilingual School (RSBI)”**.

## 1.2. Problem Identification:

To give the direction of this research, the problem statements in this research are as follows:

1. The low of student achievement on chemistry topic
2. There is the gap between teacher world and student world
3. The teaching and learning process not grow the enthusiasm from students

## 1.3. Scope of Research

In order to keep this research become more focused and directed, the researcher limit the problems as the following:

1. The learning model that used in this research are Quantum Teaching model with multimedia and expository method.
2. This study will limited from the grouping of Hydrocarbon compounds, nomenclature of Hydrocarbon, physical properties of Hydrocarbon and isomer of Hydrocarbon.
3. The research subject is class X in SMA Negeri I Lubukpakam as Bilingual School (RSBI).

## 1.4. Problem Statement

The problem statement of this research are:

1. Is the student's achievement in Hydrocarbon topic with using quantum teaching model with multimedia significant higher than expository learning method?
2. Which is cognitive aspect will be improved by implementation quantum teaching model with multimedia in teaching of Hydrocarbon topic?

## 1.5. Research Objectives

The objectives of this research are:

1. To know the better method in teaching Hydrocarbon topic to get the best student's achievement.

2. To know the cognitive aspect that will be improved by implementation quantum teaching model with multimedia in teaching of Hydrocarbon topic.

### **1.6. Research Significance**

The significance that will be gotten in this research are the following:

1. Getting the learning models that can increase student achievement in Hydrocarbon topic
2. Quantum Learning model with media in this research can bridge a gap between teacher and student
3. The result of this research can be used and implemented as a learning model for other chemistry topic in the high school curriculum.

### **1.7. Operational Definition**

1. Learning model is a pattern of overall approach used by a teacher for designs the learning process (Nasution in Peronika, 2011).
2. Quantum Teaching is one model of teaching for effective learning and enjoyable by using elements that exist in students and their learning environment through the interactions that occur in the classroom (Porter, 1999).
3. Learning media is media that bring the messages or information that has instructional aim or consist of the aim of learning process. Multimedia interpreted with various combination of graphic, texts, sound, video and animation , where together present information, messages, and the content of lesson (Arsyad, 2009).