

## CHAPTER I

### INTRODUCTION

#### 1.1. Research Background

There are two main components that have big role in learning and teaching process they are student and teacher. In this process, there is the goal to achieve. To get the best achievement in teaching and learning process needs a coordination between students and teacher by applying some rule of education or study theory. This coordination is used to be interactive and educative between students and teacher, so that students can build the knowledge actively and the learning process is hold interactively, inspiratively, delightly, also can motivate the students to achieve the competence. Because the competence and ability of a teacher is very needed to create the learning strategies to stimulate students thinking skill. In the reality, many of teacher holds the learning process and force students to memorize information without understanding the information and connect to real life. As the result, when the students gradutae from school, they are smart in theoretical but low in application (Tohri, 2011)

Special in chemistry, chemistry is one of required for Natural Science Class in Senior High School. Because of many materials are in concept which the fact connects each other. Therefore, some of students assume that chemistry is a confusing material and difficult to be understood (Hidayatullah, Copriady, & Herdini 2015). Beside that, Many students still do not know about the fact of chemistry in daily life especially in acid and base pH. Where, the function in learning chemistry in Senior High School is to give the basic chemistry concept to develop the knowledge in University and also as the lifeskill in society, and enhance the creativity in daily life.

In learning and teaching process, the methode variation is used by teacher still unvariative tend to conventional one. So that, the students still do not have more time to explore their creative thinking in learning process. Because, needed thinking and creative idea in making (formulating) and solving the problem in daily life, also interpreting a solution of a problem. The creative thinking will arise and develop if

the learning process in class use the true strategy of learning.(Saefuddin, 2012). By creative thinking skills can be guided by a model that includes reflective judgement, attitudes, idea generation and self regulations.so that, the creative thinking skills are essential in learning process (Baum, 2010). This is caused Basically, every person was born with the creative skills. The surrounding of the person will be the factor that can influenced the creativity of a person. If the creative skills does not build, it will not develop and will be hidden skill at the end. In education, the creativity skill is developed through the learning process that activates mentality and physically of students, such as through assessment, that consist of complex thinking skills (Panjaitan, 2011).

The core of creativity is creative thinking. That is why, now we have to focus on how to improve creative thinking ability. In creative thinking, the process of thinking will change essentially, it will utilize the extensive analysis, conjugation, entailment and relevance. Leads to mindset breakthrough, thinking of divergent (Chena. et al, 2015). Creative thinking is as combination of logical and divergent thinking based on intuition. Therefore, creative thinking involves logic and intuition. This thing is useful for producing new things. The new things are the indication of creative thinking (Saefuddin, 2015). Creative thinking skill, is one of important higher-order thinking skill to be developed. When students enter the higher education in intuitions, they will need to accelerate development and build on the basic to develop their creativity (Songkram,2015).

Thinking Skills Enhancement Learning Strategy (SPPKB) is a learning strategy that focus on thinking skills of students. In Thinking Skills Enhancement Learning Strategy (SPPKB), the teacher will guide the students to find the concept of problems through the dialogic process continuously so the students will find the answer of the problems by thinking logically. So that, students will not only know the material but they can develop their idea and creativity through language ability verbally. By this strategy can teach the students to think deeply, and develop their creative thinking skills. From the previous research can be seen that 80% students got

increasing in thinking skills to solve the problem, and got 80,2% as the other results. (Nurohman, 2014)

Computer technology develops very fast and many of application in this world especially in educational world as learning media. By computer media, teacher will be easier to explain the material that is abstract and difficult to be imagined by students (Copriady, 2014). The useful of technology in education is to attract student interested in learning the difficult concept. The ability of teacher in mastering the technology can affect to the students. E-learning is a common media to deliver the subject material in education, beside that many intuitions make the training for this. The students can construct the knowledge of students through media (Mafenya, 2013). This model of e-learning is very important to enhance the creative thinking of students by including the implementation of teaching strategies, and teaching methods (songkram, 2015). The media that can be used is *eXe learning*, from the other reaserach that we could know the *eXe learning* can be enhanced the students achievement in teaching Hydrocarbon subject matter where the data got  $t_{table}$  1,66 while  $t_{calculation}$  4,29 ( $t_{table} < t_{calculation}$ ) (Hidayatullah. et all, 2015)

The students and teacher interraction, between students and students interraction also has part to achieve the competence. Many of students can not interreact well each other. Some of them feel that they have more knowledge than other friends, so to build the coordination skills between students also needs the right strategy because the students learning activity is the main factor to achieve the competence.

The collaborative learning can be classified as less-structured form of cooperative learning and has short term task. Students working in a group, work together on a some task nto achieve the learning competence. The task is arranged so that the students can work and discuss each other in a group also make a contribution each other. (Cooper, 2008). By studying in collaborative form can encourage and help students to get the new for life and continue as a student in University. (Brownie, 1999). The main goal of collaborative learning is to develop learning progression on teaching chemistry. Learning chemistry is the reason and practices in applying

chemistry knowledge to address the authentic problems. Example when determining the quality of water in real life, the students will need the creative thinking to solve about this (Stzeinberg. et al, 2014).

The other learning environment can be created based on differences in learning styles. One of this learning style is, replace the traditional learning style by implementing the traditional one to be the innovative one used the e-Learning (Ozyurt & Ozyurt, 2015). Through the e-learning collaborative students is more capable to communicate with the other students to solve the problem in collaborative way (Al-Rahmi,2016). The learning based on technology combined with collaborative give chance to students to produce the projects by coordinating and sharing each other(Ozdamlia, Bicem,Ercag,et al . 2010).

Based on the problems above, the writer decides to make the research entitled **“Effect Of Thinking Skills Enhancement Learning StrategyBased On Collaborative Using eXe LearningAndCreative Thinking Skills Towards Students Achievement In Acid and Base Topic”**

## **1.2. Problem Identification**

As the direction that is used as the reference in this research, the writer identifies the problems as follows

1. Passive interaction between students and teacher in learning process
2. The strategy that is used by teacher in teaching chemistry is still not suitable to build the chemistry concept understanding of students
3. Less of social interaction between students in learning process
4. Students still have low creative way in solving problem of chemistry
5. There is difference of students achievement that is taught by Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning with Direct Instruction
6. There is difference of students achievement between High Creative thinking skills with low creative thinking skills

7. There is interaction of Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning and Direct Instruction with creative thinking skill
8. There is relation between students creative thinking skills towards students achievement

### **1.3. Problem Limitation**

The writer makes the problem limitation as following :

1. Passive interaction between students and teacher in learning process
2. The strategy that is used by teacher in teaching chemistry is still not suitable to build the chemistry concept understanding of students
3. Less of social interaction between students in learning process
4. Students still have low creative way in solving problem of chemistry

### **1.4. Problem Statement**

Based on the problem limitation above, so the problem statements in this research are :

1. Is there difference of students achievement that is taught by Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning with Direct Instruction?
2. Is there difference of students achievement between High Creative thinking skills with low creative thinking skill?
3. Is There interaction of Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning and Direct Instruction with creative thinking skill ?
4. Is there relation between students creative thinking skills towards students achievement?

### 1.5. Research Objectives

The reasearch objective is to know the best teaching methodein teaching acid and base. Specific objectives of the study were :

1. To know whether there is difference of students achievement that is taught by Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning with Direct Instruction?
2. To know whether there is difference of students achievement between High Creative thinking skills with low creative thinking skill
9. To know whether t\*here is interaction of Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning and Direct Instruction with creative thinking skill
3. To know whether there is relation between students creative thinking skills towards students achievement

### 1.6. Research Benefits

This research is expected can give benefits to some parts either directly or indirectly, as following :

1. As one of strategy for chemistry teacher to produce the learning situation actively and creatively
2. As one of strategy for chemistry teacher to make students creative in using computer technology one of them is using the eXe Learning
3. Can be used as learning media to practise studets creative thinking skill

### 1.7. Operational Definition

1. Thinking Skills Enhancement Learning Strategy is a learning model that focus on thinking skills development of students through fact study or students

experience as the material for solving the problem that is formulated (Sanjaya, 2007)

2. Collaborative learning is a situation in which two or more people learn or attempt to learn something together. Collaborative learning is based on the model that knowledge can be created within a population where members actively interact by sharing experiences and take on asymmetry roles (Al-Rahmi, 2016)
3. Creative thinking is as the cognitive activities entire set that is used by individuals according to a specific object, problem and condition, or a type of effort toward a particular event and the problem based on the capacity of the individuals (Birgili, 2015).
4. Students achievement is The result that is achieved in the form of number or scores after giving the test of learning in every ending of learning process. The score of students is as the reference to see the students understanding the topic in learning process (Dimiyati dan Mudjiono. 2006)
5. Direct instruction model is one of teaching method that is designed special for supporting the students learning process that related with declarative and procedural knowledge that structured well that can be taught by activity pattern step by step (Trianto, 2009).