

CHAPTER I

INTRODUCTION

1.1. Research Background

Education is a way that can express ideas and new values and have the considerable impact on people's lives. Education is a conscious and deliberate effort to create an atmosphere of teaching and process so that students are actively developing their potential to have spiritual strength of religious, self-control, personality, intelligence, noble character and skills indeed and society. Learning innovation and integrated character education will be given the opportunity to improve the quality of education and develop accordance with the national character of culture in Indonesia (Situmorang, 2013).

Realizing that, the study has a curriculum program, which will be updated to improve the quality of human resources. Renewal of the current from education unit level curriculum (KTSP) into the curriculum in 2013, which requires changes in the model of learning that focus on teachers become focused on student learning.

Curriculum 2013 is a curriculum based character that promotes the understanding, skill and character education, in which students are required to understand the above materials, active in the process of discussions and presentations as well as having good manners and discipline is high. Curriculum in 2013 there was the scientific approach that imparts scientific attitude on students which has three aspects: knowledge, skills aspects, and aspects of attitudes and behavior.

Chemistry is one of the most important branches of science; it enables learners to understand what happened to the student. Because chemistry topics are generally related to or based on the structure of matter, chemistry proves a difficult subject for many students. Chemistry curricula commonly incorporate many abstract concepts, which are central to further learning in both chemistry and other sciences. These abstract concepts are important because further chemistry/science concepts or theories cannot be easily understood if these underpinning concepts are not sufficiently grasped by the student.(Sakti, 2014). According to Jahro (2009), chemistry is an experimental science, can not be

learned only through reading, writing or listening only. Studied chemistry not only master the body of knowledge in the form of facts, concepts, principles, but also a process of discovery and mastery of procedures or the scientific method.

Based on the author's experience when field experience program (PPL) in SMA N 1 Matauli Pandan, many students who score below the completeness criteria (KKM). The lowest value was 46.67, while the value of completeness is 75. For each class there are 30 students and 10 of them have a value below the KKM. During an interview with students, many say that the chemistry is complex, monotonous and not real. It was submitted in accordance with Sanjaya (2008) that learning process especially chemistry that is monotonous and less interest had become one of the problems that cause low of learning result on students. Besides it is monotonous, mostly according to students, the materials in chemistry are also cognitive and abstract. During an interview with the subjects chemistry teacher at the school, said that students have first afraid receive material especially those of class X, so many students who are not active. This led to low yields of learning and skill of students.

Teachers should be known to teach the learning material by used method combined with media compatible. The teachers need to be more creative and innovative in teaching, especially in the learning chemistry topic. Education without technological advances is boring. The tendency of a teacher in delivering subject matter using the same method in chemistry courses asked students to read and memorize the learning materials make students feel bored, annoyed and less active. (Hamalik,2008).

The facts are often found is a learning that is often used by teachers is the conventional model. In this model, the teacher lecturing while students just sit down, take notes and listen to what is presented teacher. Sometimes teachers give students the opportunity to ask if there are things that not understood in the subject matter described. However, this is not strong enough to stimulate the students in improving its activity following the learning process. This condition is one-factor causing low student learning outcomes. Therefore, teachers need to develop learning that can improve the character and student learning outcomes

with the use of appropriate learning strategies. One model of learning that can be used is the cooperative learning model.

A cooperative learning model is a learning approach that focuses on the use of small groups to work together with the maximize the learning conditions for achieving the goal (Muhammad, 2010). The cooperative learning model is the method that can be done because it can improve learning progress; makes positives attitudes of students; increases motivation and confidence of students (Slavin, 1995).

Cooperative learning model has several types with different steps include learning Types STAD (Student Teams Achievement Division), NHT (Numbered Head Together), and Jigsaw. Where all three of these methods are equally divided the students into groups of heterogeneous and students work together with the group, so that students can exchange information and learning experiences.

Students Team Achievement Divison (STAD) is a cooperative learning model for mixed-ability groupings involving team recognition and group responsibility for individual learning. The STAD cooperative learning model is one of the simplest models of cooperative learning and is an appropriate model for starters for teachers who use cooperative approach. On STAD learning model teachers prepare and develop the concept of the material before learning begins is a good step and precise enough to be able to support the learning process.

While cooperative learning model NHT (Numbered Head Together) is a teaching and learning techniques developed by Spencer to engage students in studying the material covered in the lesson and check their understanding of the lesson content. NHT is a cooperative learning designed to meet students' interaction patterns and as an alternative to the traditional classroom structure (Trianto, 2009)

Cooperative learning model Jigsaw is one type of cooperative learning where students from the group responsible for the material assigned student teachers then teach it to the other members of the group. The concept of the jigsaw is peer tutoring learning. Learning jigsaw expected to improve the students to be responsible for the assignment. (Lie,1993)

According to Arsyad (2010), says that the media is an integral part of the learning process for the achievement of educational goals and learning objectives in school. The development of science and technology are encouraging to renewal efforts as results utilize of technology in teaching learning process. Teachers are required to be able to use the tools that can be provided in schools, and it is also possible that the tools are in accordance with the development and the demands of the times. Teacher at least be able to use cheap and efficient tool. Besides being able to use the tools that are available, teachers are required to being able for developing media and their skills who it can be used when the media is not available yet. One of the media that can be used for helping the learning activities is a computer media. The computer can work as maximal as possible because it has a flash software/flash program. Its Software that can be applied in teaching, for example in multimedia learning, Microsoft office, Film editing and Macromedia flash. Learning with the third model would be more attractive if presented with the computer media. One of computer media that can be used is Macromedia Flash (Munandi, 2010).

One of subject in chemistry that interesting to discuss and study is Salt Hydrolysis. The subject topic is a challenging one for chemistry teacher because high school students are difficult to understand both in conceptual theory (Blanchard, 2011). The purpose of the research planning are to investigate the differences of students' learning outcomes through implementation of cooperative learning model types in Salt Hydrolysis. The study is conducted to all students of class XI IPA SMAN in the academic year 2016/2017 using the curriculum 2013.

Based on description above, researcher wants to apply various types of cooperative learning model is about on learning outcomes, so researcher interested research with the title **“The Differences of Students’ Learning Outcomes through Implementation of Cooperative Learning Model Types Integrated of Media in Salt Hydrolysis Topic.”**

1.2 Scopes of The Study

Based on the background above, this research is focused to all students of class XI IPA SMAN in the academic year 2016/2017 using the curriculum 2013. To know the increasing of student achievement with cooperative learning types of STAD, NHT, and Jigsaw integrated of animation media. So, the scopes of study in this research are the differences of students' learning outcomes through implementation of cooperative learning model types integrated of media in Salt Hydrolysis Topic.

1.3 Problem Identification

Based on the background above, so problem identification in this research are:

1. Learning model that used to familiarize students to be more active in teaching and learning process.
2. Character and learning outcomes of students on learning of chemistry
3. Use of media in the delivery of materials to maximize students' understanding of the material presented by teachers.
4. Application of cooperative learning model type of STAD, cooperative learning model type of NHT and cooperative learning model type of jigsaw in learning.

1.4 Problem Formulation

1. Is there any difference of students' learning outcomes from students on learning salt hydrolysis among the cooperative learning types of STAD, NHT, and Jigsaw integrated of animation media ?
2. Is there any influence students' characters from students on learning salt hydrolysis among the cooperative learning types of STAD, NHT, and Jigsaw integrated of animation media?
3. Is there any improvement of students' learning outcomes who taught by cooperative learning model types of STAD, NHT and Jigsaw integrated of animation media ?

1.5. Problem Limitation

1. Learning activities will be conducted through implementation of cooperative learning model types Student Achievement Division (STAD), Numbered Head Together (NHT) and Jigsaw.
2. The media that used is Macromedia Flash.
3. The subject matter is Salt Hydrolysis Topic.

1.6 Research Objectives

The researches Objective of this research are:

1. To know there is differences of students' learning outcomes between the Cooperative Learning Types STAD, NHT, and Jigsaw integrated of media classes on the salt hydrolysis topic.
2. To know the characters of students who taught by cooperative learning model types STAD, NHT and Jigsaw integrated of media classes.
3. To know the increasing of students' learning outcomes who taught by cooperative learning types STAD, NHT, and Jigsaw integrated of media classes.

1.6 Research Benefit

The Benefits expected from the result of this Research are:

1. For Researchers/Students, the results of the research will add knowledge, ability and experience to improve their competence as a teacher candidate.
2. For Chemistry Teacher, the results of research will provide input on the use of cooperative learning model types STAD, NHT, and Jigsaw in teaching of chemistry, especially Salt Hydrolysis.
3. For Students, this research is expected to increase the knowledge and experience of student learning.
4. For Schools, this research is expected to contribute to improving student achievement in schools so as to improve the quality of teaching chemistry at SMAN 3 Medan.
5. For the Next Researcher, this Research can be used as a reference in conducting further research.

1.7 Operational Definition

The operational definitions in this study are:

1. STAD cooperative learning model is a cooperative learning method for mixed ability grouping involving the recognition of team and responsibility for individual learning group members. Membership according to the level of achievement, gender, ethnicity and 4-5 people in one group.
2. The type of cooperative learning model NHT is a learning model that provides the opportunity for students to exchange ideas. This model consists of four steps: numbering, asking questions, thinking together and giving answers.
3. Jigsaw cooperative learning model is one type of cooperative learning where students from group responsible for the material assigned student teachers then teach it to the other members of the group. The concept of the jigsaw is peer tutoring learning. Learning jigsaw expected to improve the students to be responsible for the assignment. It consists of 4-6 people per group member.
4. Media is an integral part of the learning process in order to achieve the goals of education in general and the purpose of teaching in schools in particular. The development of science and technology increasingly encourages reform efforts in use the results of technology in the learning process.
5. Hydrolysis is a reaction involving the breaking of a bond in a molecule using water. The reaction mainly occurs between an ion and water molecules and often changes the pH of a solution. In chemistry, there are three main types of hydrolysis: salt hydrolysis, acid hydrolysis, and base hydrolysis.