CHAPTER I
INTRODUCTION

1.1. Background of Study

Generally, learning process is the transformation of knowledge (cognitive), attitude (affective), and skill (psychomotor) which involves the interaction between teacher and students, student among the students, and also students with learning resources. Teacher has a responsibility to design a learning process, so that students can actively find new knowledge. Teacher also responsible as a facilitator who helps the students to access all the existing learning resources especially in biology.

As a discipline that constantly evolved, biology learning in school emphasis on the natural phenomenon and its aplication in life. Cardiovascular system is one of biology topics which is learned in XI grade. In high school level, this topic is expected to not only become concept, but also become attitude for students to be more aware to their own body and surrounding environment. Sari and Djulia (2018) showed that students can mention functions of cardiovascular organs and diseases of cardiovascular system, but less understand about cardiovascular organs structure and kinds of circulatory mechanism in this topic.

Based on the observation in MAN Kabanjahe, curriculum 2013 has been implemented since 2015. In cardiovascular learning, teacher has completed learning media with video and power point presentation, which attracked student attention and students are simply to understand the subject matter. Then, teacher preserves a condusive condition during the lesson. In the last meeting, teacher is often giving students test to know the learning favourable goals.

The learning process is not always done-well. There are several problems, that is faced during the lesson. The lack of variation in the learning model appear as the main cause. It makes students become bored and less concentrated to the lesson. Students are less participate in the learning activities, and less in ask question. The studends are tend to be passive during the lesson. It impacts the students' learning achievement on cardiovascular topic the achivement was below of criteria of minimum completeness. Whereas, in the curriculum 2013 students are expected to interact with wider environtment, actively participate in the

learning activities, and be creative to solve problem. Curriculum 2013 arise to change teachered-centered paradigm become student-centered which revealed by scientific approach that composts by scientific activities such as observing, questioning, experimenting, associating, and communicating.

Understanding of students' interest is also important in supporting their achievement toward a particular discipline. When pupils are interested in science, they pay attention long enough for learning to take place. They are likely to take advanced study of science and scientific careers in the future. Student's interest toward science have been extensively studied. Interest in science contribute to the overall learning outcomes of students (Agbaje and Alake, 2014). Chang and Chang (2008) investigated the relationship between the learning outcomes of science and Science interest in students. A positive relationship was found between these two variables. Meanwhile research by Srivastava (2015) stated that Science interest emerged as one of the best predictor in increasing student learning outcomes.

Based on the background described above, in order to achieve the optimal learning objectives result, one solution to overcome this problem is applying appropriate learning model which is student-centered, the cooperative learning. In the cooperative learning, students play a direct role, both individually and in groups to explore the concepts and principles for learning activities, while the teacher in charge of directing the learning process and checking it.

In the cooperative learning model, the students work together to achieve a common goal such as mastery a concept, solution of problem, or accompishment of an academic task, and in doing so, they will maximize their own and each other's learning. Mutual cooperation (cooperative) is required to equip students later when they pluged in the community. To establish a cooperative spirit in students, it can be started in class by implementing cooperative learning and teaching activities. By applying cooperative learning, students actively participate in learning and teaching process. Students have chances to give their opinion and ask question, which is can improve their social skill.

Two stay two stray (TSTS) as the type of cooperative learning can be applied in all of the subject matter in each school level. Students are able to take

part in the learning process, it is designed for students to work in small group which is consist of four persons and present their result to the class members. This learning model is developed by Spencer Kagan in 1992, and it was improved from Kagan's one stay three stray. In TSTS, two members stay in group to share their information to the guests from other groups, while two other members act as guests to the other to gather extra informations. Then all members stick together to discuss their work and share the result to the class.

Two stay two stray was selected by consideration to change teacher-centered paradigm become student-centered. In order students can be more creative and active to interact with their environment and friends during the lesson. Two stay two stray can improve learning outcomes, it is supported by research that conducted by Wardhani et al (2012) and Hasanah (2015) whose are stated that two stay two stray learning give impact on incresing students'learning outcome. In other hand, Sari et al (2014) conclude that students' learning outcome using two stay two stray learning model is greater than conventional learning.

Based on the background described above, the author interested to conduct research with title **The Effect of Cooperative Learning Model of Two Stay Two Stray Toward Students' Biology Interest and Learning Outcome on Cardiovascular System Topic in Grade XI Science MAN Kabanjahe Academic Year 2017/2018.**

1.2. Problem Identification

Based on the background of the study above, the problem identifications of this study are as follows:

1. Student's biology learning outcome in grade XI MIA MAN Kabanjahe is still low, below criteria of minimum completeness.
2. Lack of variation applied in teaching and learning process , it does not attrack the students' enthusiatic to the biology class.
3. The lack of students' participation in questioning and expressing their opinion.

1.3. Problem Scooping

By regarding the extent identified problems therefore in this research, the scope of study is limited in:

1. This research was held in MAN Kabanjahe in class XI Science academic year 2017/2018.
2. The learning process use cooperative learning model of two stay two stray.
3. Student's biology interest is measured by using questionnaire.
4. Learning outcomes that is measured in this study is domain of knowledge (cognitive) from C1-C5 levels in order to measure the low and high order thinking by using multiple choice questions.
5. Learning material is restricted to cardiovascular system.

1.4. Research Questions

In this study, to provide guidance that can be used as a refference in the research there are two research questions as follows:

1. Is there any significant effect of cooperative learning model of two stay two stray toward students' cognitive learning outcome of class XI MIA MAN Kabanjahe on the cardiovascular system topic?
2. Is there any significant effect of cooperative learning model of two stay two stray toward students' biology interest of class XI MIA MAN Kabanjahe on the cardiovascular system topic?

1.5. Research Objectives

Based on research questions above, the objectives of this study are:

1. To know significant effect of cooperative learning model of two stay two stray toward students' cognitive learning outcome of class XI MIA MAN Kabanjahe on the cardiovascular system topic.
2. To know significant effect of cooperative learning model of two stay two stray toward students' biology interest of class XI MIA MAN Kabanjahe on the cardiovascular system topic.

1.6. Research Benefits

The benefits expected from the results of this research generally described as follows:

1. For teacher, this study can be used as an alternative in the form of teaching for better learning.
2. For students, two stay two stray can improve students' learning outcome in form of cognitive, affective, and psychomotor domain. Students learn effectively because learning focused in students centered learning.
3. For school, understanding of the learning activities using two stay two stray and science interest can encourage innovation in biology learning especially in MAN Kabanjahe, thus contributing to improve the quality of learning in MAN Kabanjahe.
4. For researcher, applying pedagogic study, as the scientific references and input for further research to improve teaching and learning process and to develop students' biology interest.

1.7. Operational Definition

To get same perception and avoid the difference of interpretation of some terms in this research, it will be necessary to explain some terms that are used.

1. In this research TSTS is selected to overcome the learning problems. There are five stages to fullfill the complete learning process, there are: preparation, teacher presentation, group activities, formalization, group evaluation and reward. It is composed in five meetings during lessons (10x45min).
2. Biology interest is a feeling of curiosity or concern about biology that makes attention turn towards science, to calculate the students biology interest, it is measured by using biology interest questionnaire.
3. Learning outcome is the abilities of students after they get their learning experience. In this reasearch, cognitive learning outcome is choosen to measure students ability to mastery concepts. Test Instrument in form of multiple choice with five choosen answer in five levels of cognitive based on Bloom's Taxonomy Revision.