

# CHAPTER I

## INTRODUCTION

### 1.1 Research Background

The education process takes place in a process called learning. The learning process that takes place in schools, students have diverse potential and characteristics. In order to develop self-potential, each student has different ability. There are students who can achieve it without difficulty, but not a few students had a lot of difficulties. The difficulty of students in the learning process is called learning difficulties. According to Amerudin (2013) and Ismail (2016), Learning difficulties are circumstances in which a student can not learn properly due to certain disturbances in the learning process so that students can not achieve the expected learning outcomes.

Students' learning difficulties can be seen through the results of students learning or test scores and student learning in the classroom. Difficulties students receive lessons given by teachers, difficulty memorizing lessons and difficulty learning the lessons are characterized by learning outcomes are low, slow in doing learning tasks assigned by the teacher, and learning outcomes are achieved is not balanced with the efforts made. Those problems can be an indication that students have learning difficulties due to obstacles in the learning process. Learning difficulties are influenced by factors that are external and internal factors.

Learning difficulties or constraints experienced by students can be caused by internal and external factors. Internal factors are factors originating from within the students, such as health, talent interests, motivation, intelligences and so on. External factors are factors that come from outside the student, for example from the environment of the school, family, and community (Susiatty,2017).

Learning difficulties if not handled properly will cause various forms of emotional disorders (psychiatric) and student achievement that would be bad for students. (Darjiani, et al., 2015) stated that the difficulty of learning a particular condition characterized by the presence of obstacles in the activities of achieving the goal, so it requires more active effort to be able to cope. In addition, not all

students can solve their own learning difficulties and a good way to solve their own problems.

Teachers contribute to help solve the problems faced by student's, the teacher's role is needed by learners, diagnoses aims to determine where the learning difficulties faced by the students as well as to find solutions. If the learning difficulties of the students are left behind, then the learning objectives will not be achieved properly. To overcome these difficulties, students need help, both in digesting the teaching topics and in overcoming other obstacles. Students' learning difficulties should be identified and can be addressed as early as possible so that the goal can be achieved with good instructional. It is, therefore, necessary to make a diagnosis of the implementation of this diagnosis helps students to obtain optimal learning outcomes.

In diagnosing or analyzing learning difficulties, indications are needed that indicate students have learning difficulties. According to Satria (2013) and Ismail (2016) an indication that shows students experiencing learning difficulties such as; (1) Conditions in which the student can not master the topic being taught so that students can not reach the limit of the KKM has been determined. (2) Students' learning difficulties are measured through the students' ability to solve correct items, which can then be calculated by dividing the wrong student sub-score score divided by the ideal scores achieved. (3) Learning difficulties encountered during the identification process will be classified into types of trouble understanding the kind of topic facts, concepts, principles, and procedures.

According to Ikhsan (2013) Biology as one of the disciplines includes many concepts and processes of an abstract event. So many students are unable to develop their understanding of the particular biology concept for the acquisition of knowledge about the process that is abstract and difficult to observe so do not allow students to grasp the meaning and concept of a biology topic with a flexible.

Biology learning in high school has many difficulties. One of them can be caused by the topic characteristics contained in the biology subject. Many students have difficulty understanding biology primarily to understand abstract physiological concepts. One of the subjects in Biology lessons in high school that

are abstract so difficult in the implementation of learning is the topic of the human excretory system.

According to Michael (2007) in Rafikah (2017), there are some things that can cause the physiological topic is considered difficult, namely the character of the biological topic to be studied, how to teach the topic and the initial capital of students who will study the topic. The excretory system has the characteristics of the abstract and complicated matter because they related to physicals and chemical mechanisms are complex. Based on important physiological principles, the excretory system topic has four important principles: causal mechanisms, relationships between structure and function, information flow and homeostasis. Learning human excretory system in high school, has a basic competence where students are able to explain the relationship between structure, function and process and abnormalities/diseases that can occur in excretory system (Khairunnisa, 2016) The concept of human excretory system in Biology subjects in SMA a concept that is quite complicated, because in it discussed the relationship between an organ with other organs so as to create a system of work on the excretory system, both physically and functionally. According to Susilana, 2006 in Khairunnisa (2016) Basic competence as a minimum standard that must be mastered by students in the excretory system is that students are able to explain the linkage between structure, function, and process as well as abnormalities/diseases that can occur in the excretory system in humans and animals. So that required a learning process that encourages creative situation, innovative, and meaningful. The excretory system has a conceptual structure that combines conceptual abstraction, the interrelationship between an organ and other organs, so it is necessary to model the learning model in accordance with the character of the concept.

Research of Rahmayani (2016) says difficulty in understanding this topic can be described with students who are not complete on the excretory system topic. Based on the results of direct interviews to students and biology teachers at SMA Negeri 4 Pontianak academic year 2014/2015 on February 17, students stated that biology is often regarded as a rote lesson, cannot be seen directly in the process and many theories, scientific name names that are hard to understand so

they lack understanding of concepts. Then based on the teacher's statement, it is known that the teacher has used effective methods such as discussions and demonstrations in teaching. However, students still have difficulty understanding the concept. From this it is known that students before attending the learning process at school have brought in the initial concepts not appropriate, thus indicating the difficulty of learning. The possibility of learning difficulties can be seen from the results of biology study on the topic excretory system is still low and has not reached the value of Minimum Exhaustiveness Criteria (KKM) is 75 set at SMA Negeri 4 Pontianak.

Based on the description of research related to the study, the students' learning difficulties can occur in learning biology. Students are not able to easily understand the topic presented by the teacher because according to students the topic is too difficult to understand easily. This is due to extensive biological topics and uses many foreign language terms, especially Latin, as well as many biological topics that are difficult to observe, especially the topic of the excretory system.

This is similar to what is perceived by biology teachers who feel less can optimally convey abstract topic. Therefore need to find another alternative to be able to overcome these problems, so that high school students get a good stock in understanding the topic. From the above problems, it would require a proper analysis of learning difficulties that can help in overcoming learning difficulties in the school topic excretory system. Analysis of the learning difficulties is expected to contribute positively to the implementation of the biology of learning.

Looking at the facts found in the field, it seems there are similarities to the topic that is considered difficult in class XI at SMA Dharma Pancasila Medan is the concept of the excretory system. Based on observations and interviews with one of the biology teachers in SMA Dharma Pancasila Medan who teaches in the class XI Science which says that the topic excretory system is one of the topics is difficult to understand by students. The difficulties posed include: (1) Excretory system topic difficult to understand students is evidenced by the existence of students who get the results of study or exam scores under KKM (Minimum Exhaustiveness Criteria) is the value 70. (2) Excretory system topic has a

considerable amount of topic discussion and various sub-chapters of discussion that are difficult to understand by students. (3) Excretory system Topic has a lot of topics that must be remembered by using foreign language especially Latin language. (4) The props and media supporting the topic of the excretory system are difficult to display to support learning like picture or figure that support understanding of the topic. (5) This makes the excretory system topic abstract and difficult to observe.

This is the problem that wants to be raised in this study based on data and the results of initial observations that have been done and based on research that has been done before so this research will be done to analyze what difficulties experienced by students on the topic of excretory system in cognitive and indicators and factors that affect student learning difficulties where the research is titled "**Analysis of Students' Learning Difficulties on Excretory System Topic in Grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018**".

## **1.2 Problem Identification**

Based on the background explanation can be identified the problem, namely:

1. The difficulties of learning biology in grade XI Science at SMA Dharma Pancasila Medan on the topic of Excretory System is marked by the students' biology learning result is still low on the topic of Excretory System
2. Student's score on the Excretory System topic is still under KKM (Minimum Exhaustiveness Criteria).
3. Students have difficulties in understanding the Excretory System topic because the concepts studied include complex, intangible or difficult to observe topics and inadequate facilities.
4. There is still not has analysis study about students' learning difficulties of Excretory System topic in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/ 2018.

### 1.3 Problem Scope

From the identification of the problem above, the problem in this research is limited to:

1. Knowing student learning difficulty based on cognitive aspects on the topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.
2. Knowing student learning difficulty based on indicator aspects on topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.
3. Knowing the factors that cause student learning difficulties in studying the topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.

### 1.4 Research Question

Based on the limitations of the problems that have been prepared, then the formulation of this research problem are:

1. What is student learning difficulty based on cognitive aspects on topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018?
2. What is student learning difficulty based on indicator aspects on topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018?
3. What is the factor that causes student learning difficulties in studying the topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018?

### 1.5 Research Objective

Based on the formulation of problems that have been stated above, the purpose of this study are:

1. To know student learning difficulty based on cognitive aspects on topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.

2. To know student learning difficulty based on indicator aspects on topic Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.
3. To know the factors that cause learning difficulties experienced by students in learning the topic on Excretory System in grade XI Science at SMA Dharma Pancasila Medan Academic Year 2017/2018.

### **1.6 Significant of Research**

The expected benefits of this research are:

1. For school, this research can provide input in improving facilities and systems that can support and improve student learning outcomes.
2. For biology teacher, this research can be used as an input about the learning difficulties experienced by students in biology subjects on the topic on the excretory system and can follow up the results of this research as an effort to help students who have difficulty in improving learning outcomes.
3. For students, this research can provide motivation and enthusiasm learn and know the difficulties experienced in studying the topic of excretory system and can overcome these difficulties so as to achieve learning objectives and overcome learning difficulties experienced by students.

### **1.7 Operational Definition**

The operational definitions in this study are:

1. The analysis is an investigation of an event (essay, action, etc.) to know the actual situation (because, the case, and so on).
2. Learning is changing behavior or responses caused by experience.
3. Learning Difficulties is a difficult situation in trying to gain intelligence or knowledge.