

CHAPTER I

INTRODUCTION

1.1. Background

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state. Education is the factor that has the biggest role in determining the implementation of national development in all midwives (Dimiyati, et al 2002).

The learning process in schools is the best of public facilities an effort to increase knowledge and skills. The school as a whole is a medium of interaction between students and teachers to improve their intelligence, skills, and attachment. But now the activities called schools have suddenly stopped due to the interference of Covid-19. The current Corona Virus Disease (COVID-19) pandemic creates great uncertainty in education.

Education is a conscious and planned process for fostering the development of human resources. While development is defined as a change in a positive direction or for the better. By carrying out education, humans will make themselves more qualified. Education has contributed a lot to the development of knowledge and technology. With knowledge and technological developments, humans can solve problems that arise to meet human needs. Therefore, education has an important role in human life. This encourages humans to continue to explore knowledge. Not only does mastering the material knowledge must be in harmony with skills or skills in order to be able to utilize the knowledge they have in everyday life (Rossa, 2015).

The cognitive domain is a domain that includes mental (brain) activities, namely the abilities possessed by a student, which include memorizing (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), and creating (C6). The cognitive domain can be measured using tests developed from material that has been obtained at school. The affective domain is the learning

outcomes seen in students in various behaviors such as paying attention, responding, appreciating, and organizing. Affective jaw can be measured using a questionnaire (Bloom, 1956).

The main problem in learning in formal education (schools) today is the low absorption capacity of students. This can be seen from the average student learning outcomes, which are always very worrying. This achievement is certainly the result of learning conditions that are still conventional and do not touch the realm of the dimensions of the learners themselves, namely how to actually learn. In a more substantial sense, the learning process until today still provides teacher dominance and does not provide access for students to develop independently through discovery in their thinking processes (Trianto, 2009).

Respiratory system material has abstract characteristics and cannot be studied directly because its structure and function are in the body. Respiratory system material has characteristics in the form of related structures, functions, and processes that occur in the respiratory system. Therefore, in the learning process students need understanding to capture the meaning or meaning of a concept learned from the material. Another factor that also influences is the activity of students in learning activities which is still low. This may be due to the lack of variety of learning models used. The use of learning models greatly influences the activeness of students in the teaching and learning process. The lack of a variety of models used in the learning process can make students tend to feel bored and will eventually lead to low student learning outcomes. If the teacher can manage the teaching and learning process appropriately, then the chances of obtaining learning outcomes that meet expectations will be greater.

Researchers only assess students' cognitive and affective because in general learning outcomes can be grouped into three domains namely; cognitive, psychomotor and affective domains. Explicitly these three domains cannot be separated from one another. Each subject always contains these three domains, but the emphasis is always different. Practical subjects put more emphasis on the psychomotor domain, while conceptual understanding subjects put more emphasis on the cognitive domain. However, both of these domains contain an affective domain. In the material that I raised, this subject matter required more theoretical

abilities which focused more on the cognitive domain. The psychomotor domain is related to learning outcomes that are achieved through manipulation skills involving muscles and physical strength. Psychomotor related subjects were subjects that were more movement oriented and emphasized physical reactions and hand skills. The skill itself shows the level of a person's expertise in a particular task or set of tasks.

The linkages between affective and cognitive to human respiratory system material according to Siti Romaisyah (2018) in research students who have a fairly good attitude towards the Human Respiratory System material have levels of receiving (A1), responding (A2), assessing/ valuing (A3), organization (A4), and characterization (A5) are quite good. According to Siti Romaisyah (2018) it shows that students' attitudes towards the Human Respiratory System material are related to students' knowledge of the Human Respiratory System material. This is also evidenced by the results of the calculation of the correlation coefficient of attitudes (X) and knowledge (Y) of 0.662 which indicates that there is a strong relationship between attitudes towards student knowledge in the Human Respiratory System material. Research conducted by Rosa (2015), also shows the relationship between affective abilities and cognitive abilities, where the percentage of the relationship between the two is 70%. Many experts state that how a person's attitude towards an object will reflect the state of knowledge of that person. If a person's knowledge of something is not consistent then it will affect the person's attitude towards the object. The student will have a positive attitude towards an object that is valuable in his view, and he will have a negative attitude towards an object that he considers worthless and or is also detrimental. The successful development of the cognitive domain will not only produce cognitive skills, but also produce affective skills.

As is the case with class X Senior High School students in Medan who have learning difficulties. This can be seen from the results of research after data analysis which shows: (1) The percentage of students' difficulties in learning cognitive aspects and knowledge aspects (C1) is 60.99% which is a very high category, understanding (C2) is 40.45% which is a category the high application (C3) is 40.24% is a high category, analysis (C4) is 53.81% is a high category, evaluation (C5) is 65.45% is a very high category, and creation (C6) is 56.55% is a high

category; (2) The percentage of learning difficulties in learning the indicator aspect of the first indicator is 64.89% which is a very high category, the second indicator is 56.63% which is a very high category, the fourth indicator is 56.55% which is a very high category. fifth is 54.87% which is a very high category, the sixth indicator is 32.59% which is a high category (Hasrudin and Putri 2014).

A learning is expected to run well, but in reality, it is not always like that. Often there are things that result in failure or learning difficulties experienced by students. Various efforts that have been taken to improve the quality of learning, such as curriculum renewal, learning models, teaching and learning activities, learning evaluation and so on not seem to be optimal. For this reason, schools should be more direct so that students learn in order to gain knowledge, understanding, skills, attitudes and values that all support their development so that knowledge must be further enhanced through quality educational activities.

However, all forms of improving the quality of learning will not run optimally if it is not accompanied by changes in students, considering that students are the subject of education. The change is not only focused on how much knowledge is gained by learning, but also in changes in the form of attitudes, skills, understanding interests, self-adjustment, and shaping the character of student's personality.

In this study, the school used as the research site is SMA Negeri 10 Medan which has implemented the 2013 curriculum which is a curriculum developed to improve and balance the ability of *soft skills* and *hard skills* that coexist and can be applied in everyday life.

Based on the results of observations made in Maret 2022 through interviews with class XI biology teachers, it is known that the knowledge aspect observed by biology teachers at SMA Negeri 10 Medan is seen from student learning outcomes on the Human Respiratory System material which includes students' abilities not only in terms of abilities. But also in terms of understanding, applying, analyzing, evaluating, and creating. But in terms of a class of 36 people, only 50% students can meet the Minimum Criteria of Mastery Learning for Biology subjects, which is 75, this means that only half of the students can meet the Minimum Criteria of Mastery Learning. This could mean that the Human Respiratory System material includes material that is difficult for students to understand.

Based on the results of observations, it is also known that the biology teacher at SMA Negeri 10 Medan said that the material for the Respiratory System is quite difficult. One of the biology subjects is quite complicated, because studying the parts of respiration is difficult to see without tools, many uses foreign terms so that the material This is abstract so it is difficult for students to understand. Especially during the current pandemic, students learn by learning from home. This is the same as the fact that they obtained that SMA Negeri 1 Ajangale, obtained information that some students thought biology was difficult because the material was so much that it had to be memorized and identical with Latin language. Likewise, according to (Koksal, 2008), which explains that Latin languages or terms in biology learning provide difficulties for students in mastering and understanding existing learning materials.

Meanwhile, even in the attitude aspect, based on the observations, not all students already have the expected attitudes such as having an interest in the subject, having perseverance and responsibility in learning and showing an honest attitude. According to the Biology teacher class XI SMA Negeri 10 Medan characterization in attitude competence in the Kurikulum 2013, one of which is an honest attitude that actually must be owned by students, honest attitude is a pillar of character in the aspect of attitude that must be considered. developed in students and entered into learning in the attitude aspect of the Kurikulum 2013. And the teacher saw that the aspect of honesty in students as a whole was still quite sufficient and needed to be improved.

According to the results of observations that have been made the online learning activities in the classroom where the biology teacher class XI SMA Negeri 10 Medan demands a response, response, courage to ask questions or answer questions about the material that has been carried out directly or indirectly. However, during the current pandemic, discussion activities with students cannot be carried out because learning is carried out online, so when an online evaluation is carried out students get good grades, but when the evaluation is carried out directly students cannot answer well and get low scores. This is because students are dependent on the technological media (internet) in answering questions and questions given by the teacher during learning.

From the observations it was also found that students thought that biology subjects were boring subjects, and difficult to understand, this may be due to the current Covid-19 which causes students to spend more time at home playing, playing gadgets, teachers also cannot control students online during this pandemic, other factors are from schools, such as inadequate school facilities during limited face-to-face learning, the use of learning models and methods, and may also be influenced by family factors, such as parental guidance. which is lacking, and the lack of teacher motivation in increasing student interest in learning.

The researchers realizes that it is important to conduct research on the analysis of abilities in students' knowledge and attitudes which are expected to be able to maximize future learning, especially during the current pandemic. This research is expected to be able to provide information to maximize learning in sub-chapters that have many difficult concepts such as the Structure and Function of Plant Tissues. The results of the study are expected to be able to assist in making appropriate learning decisions. Considering that attitude is one of the factors that play an important role in influencing learning, the researchers are interested in conducting research on: **"Analysis of Students' Ability in the Cognitive and Affective Domains on The Material Human Respiratory System At Grade XI SMA Negeri 10 Medan Academic Yaear 2022/2023"**. This research is expected to find out how students' abilities in the cognitive and affective domains of the material Human Respiratory System with the basic cognitive abilities (knowledge) possessed by students are certainly closely related to how students' affective abilities (attitudes) towards the material of Human Respiratory System accept or reject.

1.2. Problem Identification

Based on the background of the problem some can be identified, namely:

1. The knowledge aspect of class XI SMA Negeri 10 Medan students on the Respiration System material is still low, only 20 students who can reach the minium criteria of mastery learning standard, which is only half of the students

who meet the minimum criteria of mastery learning standard for Biology learning material, which is 75.

2. According to observations, not all students already have the expected attitudes such as having an interest in learning subjects, perseverance and responsibility in learning and showing an honest attitude and according to the biology teacher's observations the aspect of being honest in students is still quite sufficient and needs to be improved.
3. The material on human respiratory system is a material that is quite difficult for students to understand, where students analyzing the relationship between the respiratory system that make up the organs in the respiratory system in relation to bioprocesses and functional disturbances that can occur in the human respiratory system. In this material, students are required not only knowledge, but also in terms of understanding, analyzing, applying, assessing and creating.
4. Based on the observation of learning activities, it can be seen that many student attitudes can be observed, such as participation learning, being able to convey ideas and opinions of others. In the discussion activities so that they do not understand the material on the Structure and Function of Plant Tissues that are explained and when a direct evaluation is held, students cannot answer well and get low scores.

1.3. Scope Of The Problem

This research doesn't deviate from the objectives to be achieved and so that it is targeted, as well as the limitations of this research, it is not possible to examine all problems. Based on the background of the problem and identification of the problem, the assessment and scope of the problem is focused on:

1. Students' knowledge is still low on the material on human respiratory system at grade XI of SMA Negeri 10 Medan in the 2022/2023 academic year.
2. Students' attitudes still need to be improved on the material human respiratory at grade XI of SMA Negeri 10 Medan in the 2022/2023 academic year.

3. The material on the structure and function of plant tissue includes material that is difficult for students at grade XI of SMA Negeri Medan to learn in the 2022/2023 academic year.

1.4. Limitation of The Problem

Based on the problem identification, the problem in study are limited to:

1. The study was conducted in class XI MIA 1, MIA 2, MIA 3 at Senior High School Negeri 10 Medan.
2. The learning activities and learning outcomes studied are on the material of human respiratory system.
3. The learning activities studied were in the form of studies abilities in the cognitive and affective domains on the material human respiratory system.

1.5. Problem Formulation

Based on the limitations of the problem above, the formulation of the problem in this study is:

1. How is the cognitive ability in studying the material on human respiratory system at grade XI MIA at SMA Negeri 10 Medan in the 2022/2023 academic year?
2. How is the affective ability in studying the material on the human respiratory system at grade XI MIA SMA 10 Negeri Medan academic Year 2022/2023?

1.6. Research Objective

Based on the formulated problems, the objective of this research are:

1. This study aims to determine the cognitive abilities of students in studying the material human respiratory system in grade XI MIA at Senior High School Negeri 10 Medan in the 2022/2023 academic year.
2. To determine the affective ability of students in studying the material on the human respiratory system in grade XI MIA Senior High School Negeri 10 Medan.

1.7. Research Benefit

The results of this study are expected to provide the following benefits:

1. For researchers, this research is to find out the highest, medium, and lowest students' abilities in order to advance students' knowledge. In order to improve the way students, teach and learn. To determine the ability to measure student knowledge, and student attitudes.
2. For students, as information material about students' abilities, especially on the material *human respiratory system* so they can evaluate themselves and improve their point of view in learning.
3. For biology teachers, this research can add insight and knowledge for biology teachers regarding the problem of students' abilities on the material human respiratory system. And can be used as input for biology teachers to further develop meaningful teaching and learning activities on the material respiratory system

1.8. Operational Definition

Some of the things that are used as operational definitions of this research are:

1. Learning is a business process that involves mental activity that occurs in humans as a result of the process of active interaction with the environment to obtain a change in the form of knowledge, understanding, behavior, skills and attitude values that are relative and traceable.
2. Cognitive ability is to stimulate the ability to think, the ability to acquire knowledge. Ability related to the acquisition of knowledge introduction, understanding, conceptualization, determination and reasoning.
3. Affective abilities are abilities related to feelings, emotions, attitudes, acceptance, or rejection of an object.
4. Respiratory system is the respiratory system in humans is an organ system that is used to inhale oxygen from the air and expel carbon dioxide and water vapor.