CHAPTER I
INTRODUCTION

1.1 Background of the Study

Education is a very important part of a person's life as an individual, family, nation, and state. From the perspective of the state, education is the path to prosperity, progress, and the existence of a country. The success of a nation is determined by the success of the nation's education itself.

Formal educational institutions in Indonesia are organized by the government and the private sector. However, educational activities related to the curriculum framework are fully determined by the government (Kusnandar, 2011).

In the progress of education in the 21st century various kinds of competencies or skills may be possessed by students, one of which is the ability of students to think critically and solve problems, can think critically, laterally, and systematically, especially in the context of solving a problem (Kono et al, 2016).

According to the Ministry of Education and Culture in the 21st century, students must have 4C ability, namely critical thinking, creativity, communication, and cooperation. Skills that need to be developed are critical thinking because of the rapid development of technology, and a lot of information that requires us to make the right decisions. With the ability to think critically, students are required to use their ability to look at a problem, find their ability to look at a problem, find a solution to take an appropriate decision so critical thinking skills are important in learning.

The critical thinking ability of Indonesian students are still relatively low. This is known based on the results of research conducted by the Program for International Student Assessment (PISA) in 2018 which showed that Indonesian students' reading, mathematics, and math skills in reading were 371 with an Organization for Economic Co-operation and Development (OECD) average score of 487, a math ability score of 379 with an OECD average score of 489 and a science ability score of 396 with an OECD average score of 489 (OECD, 2019).

One of the efforts that can be made in the field of education to produce quality human resources is by practice students to think critically in the learning process. Critical thinking is a reflective thinking ability that focuses on patterns of decision-making about what to believe and what to do (Ennis 2011). Students are required to be able to analyze, to research, and to conclude the information obtained through their critical thinking skills so that students can know which information is good and bad, and be able to decide on the information obtained through critical thinking. The purpose of practice critical thinking skills for students is to prepare students to become someone who can think critically, can solve a problem, and become a thinker, independent, with the aim that students can life skills, stay away from indoctrination, deal with any problems encountered, and make decisions appropriately and responsibly.

Research on the analysis of students' critical thinking ability that have been carried out by previous researchers also states that students' critical thinking ability are still low. Based on the results of her research that students' critical thinking ability on ecosystem material which was stated through tests of students' critical thinking skills as a whole is in the low ability category with an average value of 34.2 with indicators of critical thinking ability as a whole not complete. (Masita et al, 2016).

The results of previous research on analysis of students' misconceptions on life organizational system materials also explained that students' ability to understand and master the subject matter in fact is still a problem. Students often misunderstand the concepts of the material presented, especially on cell material which is considered difficult for students. This causes delays in the student learning process. Therefore, an analysis of these problem is needed, so that the learning ovjectives can be met. Factors that cause misconceptions in students are the characteristics of cell material such as the wide coverage of the material, the knowledge that comes from students, the abilities and learning methods applied by the teacher, and the less than optimal use of textbooks. (Subrata et al, 2019).

According to Ennis (2011), critical thinking is thinking rationally and reflectively so that you can decide what to do and believe. Critical thinking is a thinking process that is carried out by a person aiming to establish a decision that

can be believed to be true, it requires the ability to think critically to make rational decisions.

The generation who can think critically will not just believe in the facts around them without doing proof so that the facts can be trusted. In addition, critical thinking has become one of the tools used in everyday life to solve several problems because it involves the ability to reason, to interpret and evaluate information to enable valid and reliable decisions (Dharmawati et al., 2016).

Science is essentially finding out and understanding nature in a structured and clear manner so that science learning is not just mastering knowledge in the form of concepts or facts, through a process of discovery students are required to think critically. The learning process does not develop critical thinking skills because in general teachers only hone aspects of remembering and memorizing while critical thinking skills are one of the success factors in learning. By having critical thinking skills students can solve and hone their mindset (Rahmawati et al, 2019).

Based on the results of interviews conducted by researchers with science teachers at SMP Negeri 27 Medan, it can be seen that the learning carried out by teachers in the classroom tends to be conventional, so that the concept of the material being students lake understanding. In addition, teachers also rarely use varied learning methods and models and the learning process is still dominated by the teacher so student-centered learning is not yet integrated which results in the learning process tending to be monotonous and difficult to grow student activity in learning. Another problem found is that there are still students who have not reached the KKM (minimum completeness criteria), due to a lack of interest in reading students, students do not provide conclusions or responses to the material, and students are passive.

Students' critical thinking ability can be created by applying conceptual understanding and mind empowerment so that students can learn actively. The material for the life organization system is the subject matter studied in class VII. Judging from the basic competencies, it requires students to think critically to recognize cells, organs, tissues, organs, organ systems, and organisms and their impacts so that students realize the importance of maintaining the organism's

system in life, for example maintaining the respiratory system such as maintaining lung health.

Events and problems in an organism need to be studied through the process of thinking, analyzing, and solving problems by providing appropriate solutions to problems. With this, students can practice their critical thinking skills, because students are dealing directly with a problem that is controlled by many factors, so students need their skills in critical thinking.

Based on the above background, the researcher is interested in conducting research with the title "Analysis of critical thinking skills of junior high school students in science learning on life organization systems materials".

1.2 Scope of the Problem

The scope of this research is the students' critical thinking ability in the science subject for material on life organization systems which is carried out in class VII at SMP Negeri 27 Medan.

1.3 Identification of the problem

Based on the background of the problem above, the author identify the problems that exist in the study are:

1. The critical thinking ability of students are still not visible or is still relatively low in science learning.
2. In the learning process students are still less active seeing from the lack of student activities such as asking questions, answering and expressing their opinions about the life organization system.

1.4 Formulations of the Problem

Based on the identification of the problem above, the formulations in this study are:

1. How is the critical thinking ability of junior high school students in science learning the material for the organization of living things in every aspect of critical thinking ability according to Ennis (2011)?

2. What are the factors that affect students' critical thinking ability at SMP Negeri 27 Medan in the 2021/2022 academic year?

1.5 Limitation of the Problem

For this research to be more focused, focused, and not widespread, the authors limit the research to:

1. This research was conducted at SMP Negeri 27 Medan in class VII even semester in the 2021/2022 academic year.
2. The critical thinking ability observed was the ability to think critically in learning science on life organization system material.
3. The critical thinking ability referred in this study will be measured based on critical thinking ability's aspect from Ennis (2011) which include providing simple explanations, building basic ability, concluding, providing further explanations and managing strategies and tactics.

1.6 Research Objectives

Based on the limitations of the problem above, the objectives of this study are:

1. To know how student's critical thinking ability in each aspect of critical thinking by Ennis (2011) on the material of life organization systems at SMP Negeri 27 in the 2021/2022 academic year.
2. To know what factors that influence student's critical thinking at SMP Negeri 27 Medan in the 2021/2022 academic year.

1.7 Research Benefit

The expected benefits in this research are as following:

1. For students: it is expected to motivate students to improve their critical thinking ability in understanding concepts and solving problems.
2. For teachers: this research can be used as an illustration of students' understanding of the concept and revision of the learning process.
3. For schools: it is expected to provide information about students' critical thinking ability, especially at SMPN 27 Medan in order to improve the

learning process so as to improve students' critical thinking ability which ultimately affects the quality of school graduates.

1.8 Operational Definition

To equate the concepts, below are given the operational definitions related to this research, namely:

1. Critical thinking ability is a systematic thinking process based on their ideas and thoughts to conclude and solve problems. According to Ennis (1985) there are 5 aspects of critical thinking ability, namely giving simple explanations, building basic ability, providing explanations about strategies and tactics.
2. Factors that can affect the critical thinking ability are heredity, experience, social transmission and equilibration, while according to Kowiyah (2012) there are two factors that can affect the critical thinking ability namely situational factors and dispositional factors.
3. Life Organization System is one of the science learning material in seventh grade which discusses cells, tissues, organs, organ systems and organisms.