

CHAPTER I

INTRODUCTION

1.1 Background of the study

Humans live in a dynamic and changing environment. Change always brings consequences for every aspect of life, both in social, cultural, and economic life factors that impact the environment. This change is why creativity is so important to have. Creativity in social life is needed. The world of work and society needs creative people to find innovations for human life. Creativity can also guide and encourage someone to continue working to produce something that can be useful for others. Someone creative will find it easier to do work to improve performance in any field of work (Glavenau, 2010).

In the world of education, especially in the learning process in the classroom, it is stated that four aspects affect students' creative thinking abilities: cognitive factors, motivation, personality, and social factors. The four abilities used as indicators of creative thinking abilities are cognitive factors, namely fluency, flexibility, originality, and elaboration. These four indicators can be used to benchmark one's creative thinking ability (De Caroli, 2012).

Different ways of thinking are influenced by several variables, including age, gender, academic ability, socioeconomic status, and culture. Peak creativity occurs at the age of 30 years; Meanwhile, it is said that children are more creative before entering school because they inevitably have to follow directions after they enter school and the teacher gives instructions (Stenberg, 1997).

As an integrative science subject, science education in junior high school does not act as a learning discipline. Integrative Science means uniting all aspects, namely the domain of behavior, knowledge, and expertise (skills). The application of science education through Integrative Science should create Scientific Skills, which are process skills (Science Process Skills), thinking skills are creative thinking and critical thinking, and can improve scientific behavior.

One of the thinking skills that students need is creative thinking skills. The importance of creative thinking skills is supported implicitly in national education goals. Based on Law No. 20 of 2003 in Chapter II article 3, national learning plays a role in increasing expertise and shaping the nature and civilization of the nation that is useful in the context of the nation's intellectual life. The aim is to develop students' abilities to become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens of the country (Depdiknas, 2003).

Creative thinking fosters creativity. This statement follows Joseph & Paul that creativity is the power of imagination to break away from a collection of perceptions to rearrange new ideas, thoughts, and feelings into new and meaningful associative bonds. However, unfortunately, students' creative thinking skills tend to be below. Analysis of the 2018 PISA (Program for International Student Assessment) study in the science performance category shows that Indonesia is ranked 70th out of 78 countries. Students' reasoning ability in Indonesia's science performance decreased from the previous PISA results. These results can be related to students' creative thinking patterns if referring to the PISA results. Students' creative thinking skills tend to be below, which can be caused by a lack of trained thinking skills (Ifeoma & Oge, 2013).

The most important function of education is to train individuals who are confident, curious, creative, innovative, and able to understand differences. Creative thinking, one of the thinking skills, includes facilitating people's education with the realization of their imagination, sharing opportunities for them to think, express ideas fluently and obtain new data (Ersoy & Nes'e, 2013).

Creative thinking is the ability to solve and get as many situations as possible, solving a problem that emphasizes the importance of divergent views. The more possible responses that can be given to a problem, the more creative a person is. However, of course, the solutions must follow the problem.

The characteristics of a form of creativity are 1) Creativity appears in the thought process when someone solves problems related to a) Fluency in giving answers and or expressing opinions or ideas. b) Flexibility is the ability to express

various options in solving problems. c) Authenticity, namely the ability to issue various original ideas resulting from their thoughts. d) Elaboration in the form of the ability to expand ideas and points of view that others may not think about or see. 2) Creativity is characterized by non-attitude, such as a strong nature to know something, like to ask questions, and always wanting to seek new experiences. 3) Creativity is also related to a series of ways of thinking that a person carries out. In this case, the skills of a way of thinking that spreads (divergent thinking) and not a narrow way of thinking (convergent thinking). However, it is proven that someone with high knowledge is not necessarily creative, but creative people are generally quite intelligent people. The indicators for creative thinking, according to Munandar, include (1) fluency, (2) flexibility, (3) originality, and (4) elaboration (Widodo, 2013).

The learning process in the new school is carried out to achieve the goals. Low-level learning, namely knowing, understanding, and using, has not been able to cultivate higher-order thinking habits, one of which is creative thinking. Students must be trained to think, explain, and evaluate concepts. Therefore, students need to think creatively because creativity is an ability to formulate problems, find answers, evaluate, and disseminate them to others. Students who can think creatively have the advantage of understanding concepts because they can evaluate ideas and make solutions (Mustaji, 2010).

Creativity has an important role in the success of a prospective teacher be a good teacher. Creativity is an effort to generate ideas or something unique or new (Greenstein, 2012).

According to the Partnership of the 21st, students in the 21st century must develop skills/competencies that focus on developing higher-order thinking skills. The framework for 21st-century learning states that students must learn creative skills to succeed in today's era (Zubaidah, 2016).

Implementation of the 2013 curriculum in Indonesia seeks to keep up with life demands in the 21st century; this is a form of effort to accelerate the world of education to catch up and prepare competent and competitive individuals. Various

studies in the field of education conclude that one of the important thinking skills to be developed is the ability to think creatively (Chan, 2007).

The problem that often arises in the learning process in schools is the lack of use of learning media so that students are less active and less interested in the material being taught. Many schools have adequate facilities and infrastructure to support learning, such as computer laboratories, science laboratories, and LCDs, but their use has not been maximized (Yustiqvar et al., 2019).

Teachers who have creative thinking skills are needed to deal with these problems. Another problem is the limited skills of prospective teachers in developing experimental science designs. Many teachers also experience weak skills in designing science experiments, so teachers rarely invite their students to conduct experiments at school (Sudargo, 2012).

Students need creativity. Various assignments given to students, especially those containing various types of problems in everyday life, require students to apply their creative thinking skills to analyze problems, find ideas, and argue. In addition, creativity can help a person achieve goals and objectives as an individual or as a group of people (Firdaus et al., 2018).

Creativity is closely related to one's thinking ability. Creative thinking skills are related to two thinking skills: convergent thinking skills (convergent thinking) and divergent thinking skills (divergent thinking). However, the ability to think creatively has more of the same characteristics as the ability to think divergently, namely the ability to think where a person can produce many answers to a question. (Santrock, 2011).

The main problem that occurs in our world of education, especially in the teaching and learning process is that until now learning in the classroom still tends to the teacher learning center approach, so that teaching and learning activities feel monotonous and boring, the effect is that students tend to only learn from one point. the source is the teacher who narrows the students' insight. Another effect is that this condition affects students' learning motivation, so students tend to be weak in understanding the material concept. The learning model above greatly limits the creativity of students' thinking. Students are also not allowed to find basic concepts

from their findings. Students will tend to be individualistic because they have never been taught to work together and tend to be passive or do not respond quickly to the environment, so there are negative impacts that arise due to incorrectly applying learning models, such as cases of deviations that are often carried out by students as described above.

One of the obstacles in science lessons, especially the Organization of Life System material, is that students are less interested in the lesson. This obstacle is due to students' lack of awareness about the benefits and importance of knowing about very close material to their lives. Interest in learning is important in determining student learning outcomes. The material for living organizational systems discusses the hierarchical level, where cells are the main building blocks of life. By studying this material, students will know what is inside their bodies. Students will be excited if they know the purpose of their learning. In learning, students become less active because they are only taught about theory without being required to know more about the material, so students do not take an active role in learning. The learning process that students must carry out is to gain skills, find, manage, use, and communicate the things that have been found in the expected learning outcome (Bansu et al., 2018).

There need to be active activities for students to understand the learning material. They not only have to look at the picture and then imagine the original form but can make an essay that can answer their curiosity about the material. With the implementation of the 2013 Curriculum, which suggests that learning activities are not only one-way from the educator, but two-way or reciprocal between educators and students, it is hoped that students will be actively involved in the learning process.

Natural Science is essentially finding out and understanding nature in a structured and clear manner. Natural science learning is not just mastering knowledge in the form of concepts or facts but through a process of discovery so that students are required to think creatively. The learning process in Indonesia does not develop creative thinking skills because teachers generally only focus on aspects of remembering and memorizing. At the same time, creative thinking skills

are one of the success factors in learning because by having creative thinking skills, students can solve problems and hone their mindset (Rahmawati et al., 2019).

Creative thinking is considered an important ability in the learning process because (1) the ability to think creatively is a significant primary capital for everyone, and (2) the ability to think creatively is a skill that must be taught to students. through various sciences to prepare students to be successful in his life (Utami, 2017).

The Life organization system is a mechanism at a superficial level, namely cells, tissues, organs, organ systems, and organisms. The cell is a living thing's structural and functional unit or unit. So the concept of the structural and functional cell must be understood by students. Students' difficulty in understanding the structural and functional of cells can result in a higher level of student understanding, and this is following the interview results towards the teacher (Subrata et al., 2019).

Observations made at SMP Negeri 27 Medan show that almost all science teachers provide material based on student handbooks, as a result, students' knowledge is limited to reading text books. The low creative thinking of students is indicated by the answers given by students in the book, so students only memorize the answers in the book and do not understand the meaning of the answers mentioned. This is also evidenced by the data obtained from the mid-semester exam results which show low student scores and do not reach the KKM score. The results of research Luthvitasari, et al. (2012) stated that if students are still struggling with the process of memorizing material, their ability to innovate or imagine creating a new idea is still weak.

Based on the observations made at SMP Negeri 27 Medan, this study wanted to determine the level of creative thinking skills of SMP Negeri 27 Medan students by identifying students' creative thinking skills based on four indicators, namely fluency, flexibility, originality, and elaboration. From the UTS data obtained, it can be concluded that the teacher's learning still cannot encourage students' creative thinking skills because teachers still tend to do conventional learning, which the teacher still dominates. Another problem found is that there are still students who

have not reached the KKM due to a lack of interest in reading students, students do not provide conclusions or responses to the material, and students are passive.

Based on this background, the researchers conducted a study with the title "**Analysis of creative thinking ability of junior high school students in natural sciences learning on life organization system materials**".

1.2 Scope

The scope of this research is the creative thinking ability of junior high school students in the science subject of life organization system material which is carried out in class VII at SMP Negeri 27 Medan.

1.3 Identification of problems

Based on the background of the problem, the writer can identify several problems as follows:

1. Students are less active as seen from the lack of student activities such as asking questions, answering, and expressing their opinions in the science learning process on the material of life organization systems.
2. Students' creative thinking skills seen from the aspect of creative thinking skills are still relatively low in science learning on the material organization of life systems.

1.4 Problem Formulation

Based on the identification of the problem, the formulation of the problem in this study is as follows:

1. How is the creative thinking ability of junior high school students in the science learning organizational system material in life in every aspect of creative thinking ability according to Meador (1997)?
2. What is the perception of junior high school students about their creative thinking skills in learning science on the material of life organization systems?

1.5 Problem Limits

The author limits the problems in this study, namely as follows:

1. This research was conducted at SMP Negeri 27 Medan in class VII even semester T.P 2021/2022.
2. The ability to think creatively observed is the ability to think creatively in science learning material for life organization systems.
3. The creative thinking ability referred to in this study is measured based on four indicators of creative thinking from Meador (1997), namely fluency, flexibility, originality, and elaboration.

1.6 Research Objectives

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

1. Knowing how students' creative thinking skills are in the material of life organization systems at SMP Negeri 27 Medan T.P 2021/2022 in every aspect of creative thinking ability according to Meador (1997)
2. Knowing students' perceptions of creative thinking skills which he has.

1.7 Research Benefits

The expected benefits in this research are:

1. For students, it is expected to know how their creative thinking skills are in asking and solving science problems, especially in life organization systems.
2. For teachers, it is hoped that the results of this study can be an alternative to find out how the characteristics of students in creative thinking can choose methods and approaches to science learning to be more effective and students more easily understand what the teacher is saying in class.
3. For schools, this research is expected to be able to provide information for schools, especially in understanding the characteristics of creative thinking

in science to increase student learning activities and achievements so as to improve the quality of learning in schools, especially SMPN 27 Medan.

4. For researchers, as input for improving the teaching and learning process, especially students who will become prospective teachers who will teach their knowledge in the future.

1.8 Operational Definition

To avoid differences in understanding of the terms used in this study, several terms need to be defined, including the following:

1. Students' Creative Thinking Ability

The ability to think creatively in this study is a mental process used by a person to come up with a new idea or idea in solving problems on rectangular material. Meanwhile, to assess students' creative thinking using the reference "The Torrance Tests of Creative Thinking (TTCT)" from Silver (1997), namely Fluency Thinking (Fluency), Flexible Thinking (flexibility), Originality Thinking (originality) and Elaboration Thinking (elaboration). In order not to cause double interpretation, the four indicators are defined:

a. Fluency Thinking (Fluency)

Fluency in problem solving refers to the diversity (various) answers to problems that students make correctly. Some answers to problems are said to be diverse but not different if the answers are not the same as each other but appear to be based on a certain pattern or sequence.

b. Flexible Thinking (flexibility)

Flexibility in problem solving refers to students' ability to solve problems in different ways.

c. Thinking originality (originality)

Originality refers to the uniqueness of any given response. The response given is an unusual, unique, and rare response. The types of statements used to test this ability are demanding uses of common objects.

d. Thinking elaboration (elaboration)

Elaboration is defined as the ability to describe a particular object. Elaboration is a bridge that must be passed by someone to communicate his creative ideas to the public. This factor determines the value of any idea given to others outside of itself. Elaboration is indicated by the number of additions and details that can be made to a simple stimulus to make it more complex. These additions can be in the form of decoration, color, shadow, or design.

2. Organizational System of Living Things

Living things are composed of cells. Some are unicellular, some are multicellular. Cell is the smallest unit of living things. Based on the presence or absence of a cell nuclear membrane, cells can be divided into prokaryotic cells and eukaryotic cells. In general, cells are composed of a cell wall (especially plant cells), cell membrane, cytoplasm, and a cell nucleus. In the cytoplasm there are organelles that have different tasks to carry out cell functions. Animal cells and plant cells have some differences according to the function of the cell. A group of cells that have the same structure and function is called a tissue. Animal tissue is different from plant tissue. Tissue in animals consists of connective tissue, epithelial tissue, muscle tissue, and nervous tissue. The tissue in plants consists of meristematic tissue, epidermal tissue, parenchyma tissue, supporting tissue, and transport tissue consisting of xylem and phloem. An organ is a collection of several tissues that unite to form a certain structure and function. Organs unite to form an organ system. Furthermore, a collection of organ systems that work together will form an organism. Organs in animals and humans such as eyes, heart, and lungs. Plant organs consist of roots, stems, leaves, flowers, fruits, and seeds. Human organ systems such as the respiratory system and digestive system, while in plants, for example, the reproductive system and the locomotor system.