CHAPTER I
INTRODUCTION

1.1 Background of the Problem

The 21st century education demands learning that further develops creative thinking skills. Creative thinking skills hold a pivotal role in the educational objectives outlined by the Indonesian Ministry of Education and Culture in Regulation No. 6 of 2013. The education system aims to equip Indonesians with essential life skills, fostering individuals who are not only faithful and productive but also brimming with creativity, innovation, and emotional intelligence. This holistic development enables them to actively contribute to society, the nation, and global civilization. (Purwanti *et al*., 2022).

A decent science learning ought to be done intelligently, rousing, fun, testing, and ready to inspire understudies to take an interest effectively. It ought to likewise give adequate room to understudies to foster a feeling of imagination and freedom as per the gifts, interests, as well as physical and mental improvement of understudies (Wahyuni, 2022). Likewise, it requires the teacher's capacity to dominate accumulating learning apparatuses and authority of learning models that are appropriate for the science material being educated (Lavli & Efendi, 2023).

To grasp previously presented concepts and seamlessly transition to new ones, effective learning in science is essential. This type of learning encourages students to engage in creative thinking, enabling them to answer their own questions. Moreover, scientific knowledge empowers students to tackle everyday problems with confidence and innovation. Creative thinking is crucial in science education as it involves solving problems and generating innovative concepts. Yet, the emphasis on nurturing these skills in the science learning process has been insufficient. Science training frequently feels redundant, which smothers the improvement of imaginative reasoning skills. Understudies with restricted imaginative reasoning skills battle with critical thinking, both in the study hall and in regular difficulties (Lavli & Efendi, 2023).

Student behavior that is included in creative cognitive skills reflect the following indicators: (1) Fluent thinking (generating many ideas); (2) Flexible thinking

(generating uniform ideas); (3) Original thinking (providing answers that are different from others), and (4) Detailed thinking (Elaboration) which causes a person to be able to develop/enrich an idea (Ashriah *et al*., 2020). In addition to the learning model, one of the internal student factors that affect student learning outcomes is the ability to think creatively. There are various levels of human thinking, including creative thinking. A simple definition of creative thinking is our brain's attempt to connect objects or ideas that were previously unrelated (Siang *et al*., 2020). Creative thinking is a thought process to find new relationships between things, accept, remember, provide critical analysis, and use the results in problem solving (Ananda, 2019).

In light of the aftereffects of pre-research led with perception and interview techniques at SMP Negeri 1 Balige, several obstacles were found in classroom learning, such as having to be given a stimulus or encouragement to ask questions and respond during the learning as well as passive students who did not want to respond and ask things that were not understood because the learning was still teacher-centered. Then the teacher stated the obstacles experienced while teaching, namely the students' willingness to learn or motivation was still low so that science learning outcomes are still small.

During class observations, several issues became apparent. Predominantly using the lecture method and lacking diverse learning media, teachers often see students remain inactive in discussions and hesitant to ask questions. Students frequently shy away from responding to teachers' queries and are reluctant to share their thoughts, indicating a deficiency in their creative thinking skills. Consequently, the classroom atmosphere remains largely passive. The development of students' creative thinking skills appears to be neglected. This scenario arises from various causes, such as lessons being overly teacher-centric, and teachers demonstrating a lack of creativity and innovation in employing diverse teaching models in the classroom.

Science teachers at SMP Negeri 1 Balige use a scientific approach with the lecturing method presented by the teacher that does not arouse students' curiosity, and students are less active in responding and cannot ask questions about information that was not understood from what was observed or questions to obtain information.

Students also do not respond to learning in class with various other responses if given case examples in ongoing learning.

In classroom learning, students often struggle with creative thinking, evident from their inability to effectively respond to material questions. Only 70% of students meet the 70 KKM cognitive learning benchmark. Engaging with the material impacts their learning outcomes and creative skills, such as information exploration, inquiry, and interaction with the teacher. Interviews indicate that the teacher employs a scientific approach in these learning activities.

To address these challenges, we need an engaging learning model that encourages student participation. This approach guarantees that science ideas are really imparted and upgrades understudies' inventive reasoning abilities. One learning model that can be applied to the issues above was the PjBL model on the grounds that with this model understudies will take care of an issue by breaking down material involving a task in learning (Ningsih *et al*., 2021).

The PjBL model is applied to make students more active and take the initiative to acquire knowledge, understanding, and skills. It is because PjBL model conditions and forces them to look for solutions to complete their projects, thus requiring them to think creatively. The PjBL model can possibly prepare understudies' reasoning cycles, which prompts understudies' inventive reasoning abilities (Ashriah *et al*., 2020).

The PjBL model can further develop creative thinking skills by including understudies in genuine encounters or reenactments and becoming independent and autonomous students. Students develop their creative thinking skills by fulfilling aspects of creative thinking such as thinking fluently (fluency) in solving problems, thinking flexibly (flexibility) to produce ideas for solving problems, thinking original (originality) to provide different ideas and thinking in detail (elaboration) to develop their ideas (Supiati and Sugandi, 2022).

Using the PjBL model enables students to unearth concepts firsthand. This model demands active involvement in problem-solving, fostering innovation through hands-on experience. Such experiences are expected to cultivate knowledge, nurturing more creative thinking in students' learning journeys. (Lestari and Ilhami, 2022).

Research on the effect of the PjBL model on imaginative reasoning abilities has shown that it makes understudies more participated in getting clarification on pressing issues, answering, and teaming up in gatherings to handle issues. The learning model utilizing PjBL is a significant encounter since it permits understudies to dominate an idea and take care of an issue through project culmination and gives valuable chances to think basically, convey, and be imaginative, with mental, innovative, and emotional perspectives and further develop understudies' relational abilities (Nugroho *et al*., 2019).

Moreover, the PjBL method can enhance the teaching of science subjects. By utilizing this approach, students can significantly improve their creative thinking skills. Apart from that, the PjBL model is more persuasive in further developing creative thinking skills in problem solving. Students' responses to the PjBL model are generally very good, it is more fun to learn, it can change attitudes and perceptions and also increase students' creativity (Tama *et al*., 2019).

In environmental pollution material, students only know theoretical concepts without knowing the solutions that can be implemented when facing problems in the surrounding environment. Similarly, as with ecological neatness issues, the Service of Climate and Ranger service of the Republic of Indonesia has delivered a rundown of urban communities in Indonesia in light of their degree of tidiness, with the city of Medan slumping in the dirtiest category in the metropolitan city category. This is the evidence of society's lack of concern for the surrounding environment, and the PjBL model is the suitable model to use in environmental pollution material to encourage creative ideas, learning activities, and student cooperation in carrying out a project which is expected to increase caring attitudes towards cleanliness of surrounding environment (Pasaribu & Simatupang, 2020).

Environmental pollution material examines the phenomenon of environmental pollution, where this phenomenon has not yet been overcome and has become a problem for society. Environmental pollution material was chosen because it is relevant to human daily life, and efforts are needed to overcome environmental pollution problems (Sari & Tukiran, 2019).

Inspired by the outlined problem, researchers are keen to explore the topic " The Effect of Project Based Learning Model on Students Creative Thinking Skills on

Environmental Pollution Material at SMP Negeri 1 Balige Academic Year 2023/2024."

1.2 Problem Identification

In light of the background expressed over, a few issues can be distinguished, specifically:

1. Current homeroom elements at SMP Negeri 1 Balige frequently rotate around educator driven guidance, restricting the development of understudies' imaginative reasoning abilities in science training.
2. Students at SMP Negeri 1 Balige demonstrate a lack of enthusiasm and initiative in their science classes, evident in their passivity during activities like seeking information and engaging in discussions with teachers about the scientific material.
3. The science learning process for seventh graders at SMP Negeri 1 Balige suffers from low student achievement due to a lack of dynamic questioning, diverse responses, and curiosity-driven inquiries about new or varied aspects of the material.

1.3 Scope of Study

For the exploration to be more engaged, the extent of this examination was restricted to the accompanying:

1. This research was conducted in class VII of SMP Negeri 1 Balige in the even semester Academic Year 2023-2024.
2. This research was carried out by providing treatment to the experimental class, namely by using the PjBL model on environmental pollution material.
3. The researcher was observed the effect of the treatment given to the experimental class and compared it with the control class.

1.4 Problem Limitations

To narrow the scope of this research, the researcher identified the main issues to be explored as follows:

1. The focus of this research was on seventh-grade students at SMP Negeri 1 Balige.
2. Exploring how the PjBL model influences creative thinking skills.

3. The assessment of creative thinking skills by researchers was involve four key indicators: fluency, flexibility, originality, and elaboration.
4. The subject matter taught using the PjBL model was environmental pollution material.

1.5 Research Question

Based on the problem limitations above, the problem formulation in this research was to find out "How significant is the effect of the PjBL model on students' creative thinking skills on environmental pollution material in class VII SMP in the even semester of Academic Year 2023/2024?"

1.6 Research Objective

In light of the problem formulation, this research has the objectives was to find out how significant the effect of PjBL model has on students creative thinking skills on environmental pollution material in class VII SMP in the even semester of Academic Year 2023/2024.

1.7 Research Benefits

This research was expected to contribute to:

1. For educators

Providing an overview of the appropriate implementation of PjBL model to achieve the current curriculum demands so that it can be used as reference material for evaluating and improving the quality of learning for students in schools by further increasing the potential knowledge, scientific attitudes, and skills of educators in learning process.

2. For school

Providing information regarding the influence of the appropriate PjBL model so that policies can be taken regarding more optimal learning implementation.