CHAPTER I
INTRODUCTION

1.1 Background

Education has many advanced developments to determine the outcome of education that is influenced by all teachers that play a crucial role and bear far-reaching responsibilities, Lee, D, and Lu, J and Ling, S and Yeh, M and Hsieh, C (2014). There is a revolution in education in technique of how you teach, the relationship between teacher and student and how you manage a classroom and the curriculum (Norman and Spohrer, 1966). The pedagogical orientation towards the quality of education does not emphasize physical inputs or their impacts, but rather considers learning abilities, classroom organization patterns and curriculum material to be essential elements of quality (Schweisfurth, 2011). One of the main issues that science teacher experiences currently are not necessarily "what to teach" but also how to teach as well as how teachers to teach science meaningfully. The interest shown by the students and the mastery they show in their field of research when completing the program relies mainly on how they were taught (Ojogan and Oganwu, 2006).

School development experts and educationalist in industrialized nations are concerned about the absence of interest of young learners in science and technology. Indonesia's curriculum is continuously developing, the quality of the education in Indonesia is predicted to enhance in 2013. Curriculum for 2013 is arranged and developed by looking at the student's needs and potential, the 2013 curriculum offers some learning models. The way to access the scientific literacy of learners in Indonesia through participation in PISA (Student Assessment Programme). PISA has outcome showed that Indonesia has low achievement compared to 72 countries, Indonesia ranked 63 based on science, reading and mathematics performance (Kemendikbud, 2016). Many Indonesian scientists have observed and conducted studies to enhance the science idea and literacy of learners so that Indonesia can enhance the rating for PISA.

The teaching technique, which is used in Indonesia, is not commonly varieties and tends to be teacher-centered. It makes students less interested, gets bored and does not participate in the teaching-learning process. Students have difficulty imagining biology phenomena in true life, so they remember the aspects without understanding what's going on there. Students tend to be passive and listen to their teacher's explanations (Gamanik, Sanjaya, and Rusyati , 2019). Lou, Kou, and Shih 2013, stated that the use of games in education is viewed as a helpful instrument for teaching, since it enables educators to participate learners in learning experiences in order to attain particular learning objectives and results. In order to improve and encourage people's knowledge of the environment, attitudes and behavior, a number of studies have applied different teaching or training techniques in different locations.

Using games can be efficient in improving learning and does not appear to be harmful. Games can make a useful contribution to the education process, and teachers should proceed to use games as part of their learning (Gibson and Doughlas, 2013). Game-based learning has been implemented to a variety of science-related classroom topics. In a situation in the classroom, teacher-student interactions and student-student interactions have a profound impact on learning. The integration of games into education is often more efficient than traditional teaching techniques in improving motivation for learning, active involvement and concentration among learners. In addition, the play can improve the social status of learner skill and improve their knowledge and problem solving abilities (Weiner and Craighead, 2010).

According to Bergner and Brooks (2017) Stated this has three particular benefits for the use of games in classroom: the attitudes of students should be more positive, their skill to comprehend the content should be enhanced and they should be able to incorporate a number of teaching experiences and thus have a high knowledge of the topic. This research focuses on making a teaching media to investigate the effect student concept mastery and student motivation in learning science which is using monopoly game.

Monopoly is a game that includes rules which are easily understood when performed for a short time, even if they are unfamiliar to students. Using Monopoly in the classroom could possibly cause learners to take something they understand and link it to something they have difficulty in understanding. Bergner and Brooks said while they also found that the attitudes of students towards simulation were positive, they admit that the incremental benefits of using Monopoly without a control group could not be separated. Using media in teaching learning can bring real life to the classroom. Students can learn to be critical, creative and cultural through games (Bergner and Brooks 2017).

Playing a game in teaching activity is a cooperative learning , cooperative learning is an ancient concept in education, which in recent years has undergone a significant resurgence in education research and practice. The term relates to methods in the classroom where learners work on small group learning activities and receive benefits or recognition depending on the results of their group. Cooperative learning may require modifications in all three of the major components of classroom technology, but it is mainly a change in the classroom's interpersonal reward system, from a competitive to a cooperative reward system (Slavin, 1980). The technique in this monopoly game-based teaching using TGT (Team Game Tournamnet), TGT is teaching through an instructional tournament and using quizzes and an individual progress score system where learners compete with other team members whose prior academic performance was equal to theirs. The teacher is only a mediator and mentor in this learning. Students are motivated to interact more with other students when studying with this model (Rahayu and Nugraha, 2018).

Use media in learning it will make student to understand the concept deeper, and a teacher can make use of contemporary equipment with regard to the requirements of their learners and the features of the classroom (Hashemi, and Azizinezhad, 2011). Knowledge is long-term retention formed from games that could enhance skills and student perspective as learning science is enjoyable. In order to make a beneficial contribution to the teaching process, educators need add of games in teaching process. The aim of the board game is to provide an

interactive strategy and to evaluate the learning of the formative strategy, it was studied from all the meetings in the unit that the student would incorporate understanding by playing a board game in the teaching process there is indeed a system that should offer excellent intentions (Gibson and Doughlas 2013). The monopoly game based learning applied to studies, distinct aspects of education, student concept mastery or cognitive knowledge can be investigated accomplishments, as well as students' motivation, are two things being emphasized.

Student Concept mastery is related to the cognitive aspect of learning. According to Anderson (2001), Cognitive domain is classified into six domains: remember, understand, apply, analyze, generate and evaluate. Thus, the concept mastery of the science idea is evaluated by that cognitive domain, the aim is to evaluate the usefulness of different teaching techniques, the question is not as easily answered as we have seen, the achievement of the learning criteria may not well correspond to the evaluation criteria (Halck and Dahl, 1999). According to Guskey (1988) stated that Mastery learning synthesizes many of the elements that are known to be element of highly efficient teaching. More effective educators are therefore likely to already integrate many aspects of mastery learning into their present teaching techniques, while less effective professors are unlikely to do so.

However, the concept mastery that learners possess was primarily affected by the incentive to learn or vice versa as it is stated by Keller (1987). ARCS The Model of Motivational Design has four measures to promote and sustain motivation in the learning process: attention, significance, trust and fulfillment (ARCS). Learning also the system, because it has parts that are linked with each other in order to attain objectives that have been set. Components consist of goals, materials, techniques, media and assessment (Hashemi and Azizinezhad, 2011).

Each of these components is interrelated, and a unity that is inseparable. To make motivate student to learn is the starting point of education and motivation in learning performance which can be improved significantly. To motivate the student in learning is an important aspect to help student understand in science material. According to Schiefele (2017) stated that the effect of teacher

motivation on student motivation are significantly mediated by teacher classroom management and mastery-oriented instruction. According to Weiner and Craighead (2010), Motivation energizes and directs activities, thus playing a major role in many significant developmental results such as school achievement, success in other fields of activity, and general mental health.

According to Putri, Rusyati, and Rochintaniawati (2018) stated that Motivation is a key factor in learning, as learners who do not want to learn will not learn regardless of the teacher's caliber and students who want to learn. However, the motivations of the learners may change, so that even those who do not want to know will change their minds when they are exposed to stimulating environments that capture their attention. Student motivation in learning science is one aspect that allows student to not only learn to traditional lecturing, which only the teacher who discusses and explains the materials by themselves. To development of learning media need to be aligned with the curriculum as the primary actions to create any type of learning media.

Teachers should use the best teaching media to facilitate learning or improving students' concept mastery of the material and motivation in learning science, especially in Interaction of living things and its environment topic, because learners often maintain incorrect interpretations of the structural patterns and systemic causality of ecosystems even after training. Ecosystems are complex systems that are affected by non-obvious causes as well as apparent causes, distributed causality, distant and long-term impacts. Understanding of complex causality is needed to comprehend the dynamics engaged in ideas such as energy transfer, recycling of matter, decomposition and interaction between biotic and abiotic factors (Metcalf, Kamarainen, Tutwiler, Grotzer and Dede, 2011). In summary, the monopoly game based learning is expected to have beneficial impacts on student learning mastery and motivation interaction of living things and its environment is the research aims to find out.

1.2 Research Problem

The research problem of this study is "How is the effect of monopoly game based learning towards students' concept mastery and motivation in learning Interaction of Living Things and its Environment?"

1.3 Research Question

Elaborating the research problem, the research attempts to explore the following questions:

1. How is the effect of monopoly game based learning towards students' concepts mastery in learning Interaction of Living Things and its Environment?
2. How is the effect of monopoly game based learning toward students' motivation in learning Interaction of Living Things and its Environment?

1.4 Limitation of Problem

In order to make the research become more focused, the problem is limited as follow:

1. Monopoly game based learning in this research limited to in the form of real estate business in the form of buildings and land assets. This game uses the classic board, dice, card toy of land, and toy of money. (Bergner and Brooks 2017)
2. Students' Concept Mastery in this research is limited to Blooms' Taxonomy of cognitive level there are (C1) remembering, (C2) understanding, (C3) applying, (C4) analyze, (C5) evaluate, (C6) Create. (Anderson, 2001). The topic also focuses on the component of abiotic and biotic, the interaction between living things and environment, food chain, food web, and symbiotic form.
3. Students' motivation in this research was focused on ARCS model, The ARCS Model describes four key circumstances (Attention, Relevance, Confidence and Satisfaction) that must be met for individuals to become

and stay motivated. Within each subcategory, that inched perspective motivational strategy (Keller, 1987)

4. Interaction of living things and the environment topic that is used in this research, Basic Competence 3.7 and 4.7 as stated in the 2013 National Curriculum for Junior High School. The topic also focuses on the component of abiotic and biotic, the interaction between living things and environment, food chain, food web, and symbiotic form.

1.5 Research Objective

This research objective is specified as follow:

1. To investigate the monopoly game based learning towards students' concepts mastery in learning Interaction of Living Things and its Environment.
2. To investigate the monopoly game based learning toward students' motivation in learning Interaction of Living Things and its Environment.

1.6 Research Benefit

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

1. For Teacher

   This research could give a reference for learning devices, particularly science teachers. The teachers can use Monopoly Game Based Learning as a learning tool, it is expected that in the teacher will be able to enhance their quality of teaching performance in classrooms.

2. For Student

   This research expects the students who experience in learning activity using Monopoly Game Based Learning will enhance student concept mastery and motivation to learning science. This research is expected to create fun, enjoy, It will be more active and more efficient. The student learns to be a better communication skill, to gain knowledge in a fresh method of teaching, and to motivate the student to choose whether they need.

3. Another researcher

It basically advantages as knowledge enhancement, scientific inquiry skills, and may be used to assist other researchers create comparable research problems of studies on the other science topic and would love to discover other results of student results, student creativity, student interest, student attitude to students, or even student critical thinking to students. Can inspire another scientist in the teaching method, because the teacher must have a creative ability to offer the student content that is used by teaching media that can make the student readily understood.

1.7 Organization Structure of Research Paper

This research paper consists of five chapters which include the following:

1. Chapter I: Introduction

   In this chapter includes background, research problem, objective, and benefits.

2. Chapter II: Literature Review

   This chapter consists of the literature review of this research which explains the theory which was applied in this research. The theories which were used in this research include the Theory of Monopoly Game Based Learning, Students' Concept mastery, Students' Motivation and Lesson of Interaction of Living Things and Its Environment.

3. Chapter III: Research Methodology

   This chapter focuses on the methods which were used in this research. This chapter states the detailed information about the research method, design, research population and sample used, research hypotheses and instruments of this research.

4. Chapter IV: Result and Discussion

   This chapter concerns about the data gathered during the research, it gives detailed information on the analyzing and data processing which are the implementation of Monopoly Game Based Learning, Objective Test (Pre-Test and Post-Test) Based on Cognitive Level Domain, The statistical data of pre-test and post-test in experiment class and control class calculated in order to determine whether the normality, homogeneity, the hypothesis is accepted or rejected, and the Students' Motivation is measured by an ARCS questionnaire developed by John Keller (1987) in order to answer the proposed research questions.

5. Chapter V: Conclusion and Recommendation

   This chapter states the conclusion of this research according to the gathered data which has been analyzed and processed also consists of the recommendation from the author or researcher to the reader of this research paper which could be other researcher, students, and others.