CHAPTER I

INTRODUCTION

1.1. Background

Education can be interpreted as an effort made by humans to grow and develop all potentials that include physically and spatially in accordance with the prevailing values in society and culture (Ihsan, 2005). Improving the quality of human resources is needed to achieve the goals of national education as stipulated in the Act Of The Republic Of Indonesia Number 20, Year 2003 regarding the objectives of National Education Chapter 11 Article 3 (Kemendikbud,2013). Based on this law, one of the efforts made by the government to achieve the goals of national education is to conduct curriculum development. Education in Indonesia has undergone a change in the use of the curriculum in the learning process, namely from the education unit level curriculum (KTSP) to be Curriculum 2013. Permendikbud No. 36 of 2018 states that the 2013 Curriculum was developed based on factors of internal challenges, external challenges, perfecting mindsets, strengthening curriculum governance, and strengthening materials.

The 2013 curriculum adheres to the basic view that knowledge cannot just be transferred from teachers to students. Based on Permendikbud Number 104 of 2014 concerning Learning in Primary and Secondary Education, Curriculum 2013 wants the learning process to be carried out in an interactive, inspirational, fun, challenging, motivating students to actively participate, and provide sufficient space for initiative, creativity, and independence according to the talents, interests and physical and psychological development of students. According to Association for Educational Communication and Technology (AECT) in Depdiknas (2008), that learning resources can be used by teachers for teaching and learning purposes with the aim of increasing the effectiveness and efficiency of learning objectives. One of the learning resources that can be used in student learning activities, in order to achieve the learning objectives or competencies set out in the 2013 Curriculum is using Student Activity Sheet (LKPD). LKPD must be structured and designed using

several criteria whose purpose is to attract students to be more active in the learning process (Noor,2014).

Learning sources themselves are all sources in the form of data, people, and certain forms that can be used by students in learning, either separately or in combination so as to make it easier for students to achieve learning goals. The ecosystem learning process requires good and adequate learning resources to teach. However, based on the results of the observations and interviews with biology teacher and students, the learning resources that used in the learning process only limited to textbooks and do not have LKPD. Basic Competency 3.9 Class X lessons expect students to be able to apply the concept of interrelationships between living things and their environment based on observations. However, based on the results of the analysis of the learning resources that students use so far, there are no learning resources that specifically discuss about ecosystem so it is feared that the learning standards in the 2013 Curriculum will not be achieved.

From the results of interviews with biology teachers at SMA Negeri 1 Tebing Tinggi Kab. Serdang Bedagai said that there is a need for additional references besides textbooks in studying ecosystems. This is because the material contained in the textbook is limited. In connection with the unavailability of LKPD in SMA Negeri 1 Tebing Tinggi Kab. Serdang Bedagai, so that LKPD can be an alternative learning resource that students need because it has an attractive look both in terms of content and design. Ecosystem materials can be packaged in one form LKPD that can make it easier for students to learn. By improvement of the learning resources it can be quality of learning (Bilqin, 2017).

Therefore, it is necessary to develop teaching materials in the form of LKPD with integrated learning models that conform to the criteria of curriculum 2013 and the state of students (Asnaini, 2016). According to previous research, the development of instructional materials using discovery models improves students' understanding concepts (Rahmadani et al., 2017; Yusuf & Wulan, 2016), hone skills (In'am & Hajar, 2017), and improve problem solving abilities (Fuad et al., 2017). Acquiring knowledge with discovery learning models also influences the

critical thinking abilities of students. Discovery learning is active learning in accordance with the characteristics of biological learning (Nugroho, 2018).

One of the materials that encourages students to conduct observation and information gathering, discuss daily and environmental issues, is closely related to the subject matter of the ecosystem. The characteristics of ecosystem materials and the resolution of these subjects require complex thinking and problem solving, thus encouraging students to think critically. The selection of ecosystem materials is due to the many environmental phenomena in daily life that can be used in learning activities.

Based on the background of the problem, the researchers conducted a development study on the Study Participant Activity Sheet (LKPD) with the title **"The Development Of Student Worksheet by Using Discovery Learning Approach on Ecosystem Material For Grade X SMA Negeri 1 Tebing Tinggi Kab. Serdang Bedagai".**

1.2. Problem Identification

Based on the background of the above issues, can be identified some of the following issues:

1. Learning resource for student is limited to textbooks.

2. Ecosystem material in student package book is few.

3. The need for a learning source of ecosystem with an attractive look both in terms of content and design.

1.3. Problem Formulation

Based on the identification and limitations of the above problems, the formulation of the problems in this study is:

1. How to develop LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials?

2. What is the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to materials expert?

3. What is the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to instructional design expert?

4. What is the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to graphic design expert?

5. What is the student response of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials?

6. How the effectiveness of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials towards improving learning outcomes?

1.4. Problem Limitations

Based on the identification of the problems mentioned above, there are several limitations of the problem in this study, as follows:

1. LKPD product development is developed by using 4-D model instructional development that includes define stage, design stage, develop stage, and disseminate stage.

2. This LKPD product assessment is validation assessment by team of experts.

3. LKPD Biology developed through this research is LKPD Biology based on Discovery Learning for Grade X only for Ecosystem Material.

4. The effectiveness of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials towards improving learning outcomes can be seen from the calculation of N-Gain.

1.5. Research Objectives

Based on the formulation of the above problem, the objectives of this study are as follows:

1. Knowing the construct of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials.

2. Knowing the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to materials expert.

3. Knowing the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to instructional design expert.

4. Knowing the feasibility of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials according to graphic design expert.

5. Knowing the student response of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials.

6. Knowing the effectiveness of LKPD Biology based on Discovery Learning for Grade X in Ecosystem Materials towards improving learning outcomes.

1.6. Benefits of Research

From the applied research objectives above, it is expected that the benefits obtained after the study are as follows:

1. The results of this study produce a product in the form of LKPD that can be used by schools or other educational institutions.

2. As reference material for future researchers who want to research the development of LKPD based on the Discovery Learning model.

3. Add insight and experience for researchers to develop LKPD.

1.7. Operational Definition

The operational definitions of each varibel are as follows:

1. Product that will to developed in this research is LKPD Class X based on Discovery Learning on Ecosystem material. The product can use as a teaching material tool that contains guidelines for students to carry out the steps of learning activities such as investigation activities or problem solving in accordance with the Basic Competencies that must be achieved.

2. This study use 4-D model by using 4 stages of research in the model, namely:

define stage, design stage, develop stage and dessimate stage.

3. Ecosystem material will be the material used in the development of LKPD based on Discovery Learning. This LKPD contains material and a collection of questions related to learning ecosystems.