CHAPTER I
INTRODUCTION

1.1. Background

In the current era of globalization, amidst the rapid progress of the times in various fields, human resources and certain qualifications are needed. To be able to keep up with the progress of the times, humans need to be equipped with education. Education is an effort made to prepare students through learning activities that aim to help students actively develop their potential, abilities and talents. Education is a process of changing the behavior of students so that they become adults who are able to live independently and as members of society in the surrounding natural environment where the individual is located. Good education is education that not only prepares students to continue their studies to a higher level, but also prepares students to solve challenges and problems faced by students in everyday life.

In the 21st century, education is becoming increasingly important to ensure students have learning and innovation skills, skills in using information technology and media, and can work and survive using life skills. Students are required to have abilities other than cognitive aspects or memorizing lessons and calculating mathematical formulas, but also life skills that can help them keep abreast of the times. One of the life skills that students must have now is HOTs-literacy.

Scientific literacy is a person's ability to use scientific concepts to apply them in life, explain scientific phenomena and describe these phenomena based on scientific evidence. Literacy skills are not just reading and writing, but involve thinking skills that make students become literate generations in learning, including science learning (Thahir et al., 2021). This is in accordance with the Revised 2013 Curriculum which directs the learning process to provide opportunities for students to develop all their potential in order to become competent human beings in life.

Scientific literacy is one of the study areas of the Program for International Student Assessment (PISA) which is held by the OECD (Organization for

Economic Cooperation and Development) every three years. The OECD is an international organization in the field of cooperation and economic development, while PISA is a form of evaluating skills and knowledge in reading, mathematics and science designed for students aged 15 years. Based on the results of the PISA study conducted from 2000 to 2018, it shows that Indonesia is included in a country that is still relatively low in scientific literacy. this can be evidence that students are still unable to apply scientific knowledge in everyday life. The low level of scientific literacy in students can be caused by several things, namely learning activities that are not yet oriented towards scientific literacy activities, learning methods applied, learning curriculum and facilities and facilities (learning media) that have not developed scientific literacy (Sutrisna et al., 2021).

Several previous studies stated that there was no significant relationship between scientific literacy and students' self-confidence. Permanasari (2011) stated that to train students' scientific literacy through learning that is student active learning. Learning emphasizes student center, will go through a process of scientific inquiry with the principle of constructivism. Permanasari (2010) suggests several common problems in science learning related to low scientific literacy skills, especially at the level of basic and secondary indicators. One indicator of dislike shown by students is the lack of connection between the content or material being studied, and things that happen in everyday life. In line with these conditions, teachers in the future will face major challenges in implementing global and quality indicators. Teachers must increase scientific literacy so that they can lead students to be oriented towards the construction of meaning, active learning, accountability, use of technology, increasing student competency, certainty of choice and multicultural society (Syofyan & Amir, 2019).

In order to improve the quality of education, learning must be integrated with education that builds character and tends towards the growth of higher order thinking skills (HOTS). According to the revised Bloom's taxonomy, there are two thinking skills, namely low-order thinking skills or LOTS, namely remembering, understanding, and applying. Then HOTS, namely analyzing, evaluating, and creating. The function of Bloom's Taxonomy is a framework for

achieving teacher learning objectives in analyzing subjects and teaching the dimensions of knowledge and dimensions of cognitive processes to be achieved by students. HOTS are abilities at the top level in Bloom's cognitive taxonomy. The purpose of learning based on Bloom's cognitive taxonomy is to build students' ways of thinking to be able to apply knowledge and skills to new contexts.

Meanwhile, several studies have shown that students' HOTS abilities or in Indonesia are still relatively low. Like research conducted by Budiarti (2017) in Jayapura which stated that students' abilities on analysis indicators were 68.24%, then evaluation indicators obtained 3.53% and creative indicators obtained 0%. Research conducted by Sara (2020) in Sukabumi stated that the ability of students to answer HOTS questions was in the very good category of 0%, good category 4% then 0% sufficient category, 4% poor category and 92% very poor category. Research conducted by Kurniawati (2020) in Jember also shows that students' high-level thinking skills are still low, namely 86.08% in the low category, 12.66% in the medium category, and as much as 1.26% in the high category (Maslakhatunni'mah & Dimas, 2022).

Learning is the process of acquiring knowledge. The current learning process still uses the conventional method, namely the teacher center, which sometimes makes students bored when the learning process takes place, so they lose attention to learning. In this context, the use of media in the learning process is needed to attract students' attention and make learning activities more interesting and also effective. The use of media in the teaching and learning process is not new. Many teachers already know that the media will be very helpful. The media gives students something new, but not all teachers know how to implement it properly, so that sometimes the media cannot make the learning process more effective in achieving learning goals. Therefore, teachers must create creative and innovative learning media that can be used in conveying material messages to students. Using the right learning media can increase interaction in the learning process so that students will not feel bored in learning (Hasan et al., 2021).

The application of technology to make learning media a necessity in learning in the modern era, this is so that the learning that is carried out can develop, be active, interactive and of high quality. Without learning media, students will tend to find it difficult to pay attention and be more involved in learning. This opinion is in line with Gunawardhana & Palaniappan (2016) who say that the use of learning media can improve the quality of education and make students understand teaching material more quickly. Without the help of learning media the learning process will not run optimally. However, by utilizing the functions of learning media appropriately, it can provide a pleasant learning atmosphere for students (Larasati et al., 2022).

Ispring suite 9 is software that can be used in integrated learning with Microsoft Power Point software. This software is a tool that converts presentation files into flash form. The use of ispring suite 9 will create interactive multimedia which contains media images, text, audio, video, and animation which are able to foster student motivation, as well as provide direct experience to students in learning acid-base material (Purnama & Ridwan, 2020).

Based on the results of interviews with chemistry teachers at SMA Negeri 14 Medan on September 22, 2022, information was obtained that the teacher in learning uses the lecture method with multimedia media in the form of PowerPoint where the use of this media still applies the teacher as a center (teacher center) which does not apply HOTs- Literacy so that students seem unable to develop their literacy freely. The iSpring Suite program is quite effective when used in making learning multimedia. Based on the results of Himmah's research (2017), practical iSpring Suite-based interactive multimedia based on the implementation of learning with an average percentage score of 93.9% with very feasible criteria and a positive student response of 98.33% with very feasible criteria. Meanwhile, according to Meitantiwi (2015) Utilization of the Ispring Suite can facilitate students' understanding with animation and help students to hone their abilities through interactive practice questions.

HOTS include critical thinking, logical thinking, reflective, metacognitive and creative. The capacity of HOTS is increased so that it becomes a character in students by reducing the capacity of LOTS according to the implementation of the

2013 Curriculum. Chemistry is able to explain phenomena in detail so as to be able to provide good and appropriate solutions. One of the chemical materials that can explain phenomena in everyday life and requires high-level thinking skills is acids and bases. Acid-base consists of complex concepts that are able to explain the balance in the bodies of living things and nature. Not only concepts, acids and bases also consist of calculations and logarithmic concepts that make acid-base material even more complex. In this case, higher-order thinking skills are needed to integrate and apply acid-base material with the context of everyday life.

Therefore, the researcher thinks that creating and developing learning media with ISpring Presenter based on HOTs-Literacy Science is something that needs to be done. The researcher hopes that by developing learning media with the ISpring Presenter based on HOTs-Literacy Science this will help teachers who don't yet understand how to make or develop HOTs-Scientific Literacy based media, so that teachers will get used to giving questions that contain HOTS to students and find out how much the HOTS ability of students. By applying HOTS to the 2013 curriculum, it can facilitate the learning process and make students more active and not fixated on the lecture method delivered by the teacher and by using the HOTS approach, the class situation which was originally less active after the assignment method was applied, class conditions changed to become active. The difference between this research and previous research is that this study uses HOTS which will make students think more critically, whereas previous research only focused on media development. Based on the description of the background above, the researcher will conduct further research regarding "Development of Learning Media Using iSpring Presenter Based HOTs-Literacy on Acid-Based Materials".

1.2. Identification of problems

Based on the background stated above, the scope of this research includes:

1. The level of scientific literacy of students is still low.
2. The media used during learning is not effective.
3. There is no development of HOTs-scientific-literacy-based media.

1.3. Scope

The scope of this research is as follow:

1. This study discussed the development of learning media using iSping based HOTS Literacy
2. This study discussed the feasibility of learning media using iSping based HOTS Literacy in acid base material

1.4. Scope of Problem

Based on the background of the problem, scope, problem formulation, limited time, effort and research costs, the problems studied are limited as follows:

1. The learning media developed is PowerPoint media using iSpring Presentation based on HOTs-Scientific Literacy.
2. The learning tools prepared are lesson plans and learning media.
3. The chemistry learning material studied is the subject of acids and bases.

1.5. Formulation of the problem

The problem that will be examined in this study is how the influence of learning media with iSpring Presenter based on HOTs-scientific literacy at SMAN 14 Medan. Research formulations that can be drawn from the problems above, namely:

1. What are the results of the analysis of the learning media in SMA Negeri 14 Medan?
2. How is the Learning media developed on acid-base materials?
3. Does the development of learning media with iSpring Presenter based on HOTs-Literacy on acid-base materials meet the criteria?
4. How is the student's response to the media that has been developed?

1.6. Research Purposes

In accordance with the formulation of the problem that has been stated, the objectives of this study include:

1. To find out what kind of learning media is used in the learning process.

2. To design a prototype that will be developed to produce a learning media with iSpring Presenter based on HOTs-scientific literacy on acid-base materials.
3. To find out the learning media with iSpring Presenter based on HOTs-Literacy on acid-base material that has been developed meets the criteria.
4. To find out student responses to the media that has been developed.

1.7. Benefits of Research

In accordance with the formulation of the problem and research objectives, the expected benefits of this research are:

1. From a theoretical point of view

   This research can contribute to the development of learning media by producing chemistry learning media with iSpring Presentations based on HOTs-scientific literacy regarding acid-base materials in high schools so that they can help the learning process be more active and think critically.

2. From a practical point of view

   This research can provide benefits to:

   a. Teacher

      The resulting learning media products are expected to be the basis for teachers to apply these media in helping students achieve the expected competencies through scientific literacy skills and HOTs to solve problems in everyday life.

   b. Student

      As a learning aid to understand material, so as to foster HOTs-Literacy abilities.

   c. Researcher

      As a discourse to add new experiences and insights as a forum for developing knowledge in developing learning media with iSpring Presenter to develop HOTs-Literacy skills.