

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Education is one of citizens' rights as a common social requirement that must be met in accordance with scientific and technical progress as well as the demands of a nation's civilization. Education has a crucial part in a nation's development and survival. The quality of a nation's education determines its high and low civilizations. Hence, education can be considered a barometer of a country's growth as it one of the most significant aspects of human life since it has the ability to influence people's mindsets and behaviors for the better.

Education has a significant effect on the educational quality and development of a country, especially regarding mathematics education. As the main branch of science among all existing branches of science, mathematics is one of the subjects that contributes to the development of an intelligent, civilized, and dignified society by instilling a critical mindset and encouraging students to think logically, rationally, and confidently. Lerner claims that mathematics is a universal language that allows humans to conceive about, record, and communicate the concept of components and amounts as a symbolic language. So, it can be concluded that mathematics is critical as a foundation for thinking and quantitative reasoning, as well as solutions that can be used to other subjects.

Hasratuddin (2014: 30) said that learning mathematics requires a high level of mental activity because it involves deductive reasoning and abstract ideas that are given symbols and organized hierarchically. Therefore, many students still believe that mathematics is a difficult, distressing, or boring subject, and that it is even frightening. This is due to the fact that many students still struggle to solve mathematics issues. In general, students often experience difficulties in learning mathematics, including difficulty calculating quickly, logical abilities, writing or drawing skills, and feeling lazy about learning mathematics. As a result, students' learning outcomes are low. Furthermore, students' low learning outcomes are also because teachers' learning has tended to be conventional.

Indonesian students' poor academic performance is a long-standing issue in the field of education (Faisal & Martin, 2019). The math results of Indonesian students rank low when compared to those of other countries (OECD, 2019). With 379 math skills in the 73rd position, Indonesia ranked 74th in the 2018 PISA survey, sixth from the bottom. Additionally, Indonesia has never scored above the average of the Organization for Economic Cooperation and Development (OECD).

Based on observations made at SMA Negeri 10 Medan, it was discovered that the mathematics learning process was still teacher-centered, with teachers using only conventional methods to provide information, resulting in less-than-effective material being absorbed by students. The teacher merely uses textbooks to communicate the content, and there are no other variations involving media, so student learning activities are low, which results in low student learning outcomes in mathematics.

Students' learning outcomes are frequently used to evaluate whether or not learning was successful. The expected result of learning mathematics in every school is the results that achieve mastery learning. Students are said to be complete in the mathematics learning process if their mathematics learning outcomes have reached the Minimum Completeness Criteria (KKM) set by the school (Depdiknas, 2006). For an effort to make mathematics more interesting and appealing for students, breakthroughs in developing learning innovations, one of which is through learning media, are still required.

The most effective learning process for students involves the use of learning media that teachers can use to deliver learning information. This is rooted in the concept that the teacher's ability to convey learning materials has some limitations, particularly those linked to material understanding. Because mathematics is an abstract subject, using learning media allows students to think more concretely and reduces verbalism. This is in line with the opinion of Arsyad (2011: 29) namely the use of learning media can help to facilitate and improve learning processes and outcomes by directing children's attention, which can lead to learning motivation and allow students and teachers to interact.

Some learning materials take a long time to learn, while the time allocation is limited. However, with the correct learning media, the material is much more

likely to be studied in the allocated time. This is similar to the statement by Supriyono (2018) that the media can shorten the learning time. As a result, the use of learning media can be a supporter of learning implementation success (Srimaya, 2017). By utilizing learning media, students will be more motivated to learn (Amanda et al., 2019). Not all learning media, however, can help to simplify the learning process. As a result, teachers must be creative when creating learning media that will be used.

One of the media that is currently very closely related to the daily life of students is a smartphone. Newzoo's 2021 Global Mobile Market Report shows Indonesia ranked fourth with 192,15 million smartphone users. Smartphone penetration (percentage of the population actively using a smartphone) in the country has reached 69,7% of the total population. This is due to the ease with which smartphones can be used anywhere and at any time, as well as the ease of which they'll be obtained. Smartphones have a variety of interesting and unique features that make it easier to find what you need. Many people who use smartphones are children and teenagers who are still in school, indicating that smartphones can be used as a learning tool.

One of the newest teaching methods is mobile learning, which makes the most of the learning potential of smartphones and mobile devices. Mobile learning is, to put it simply, a learning media that enables students to learn at any time and from any location. Furthermore, mobile learning allows students to review topics that they haven't yet mastered. This mobile learning-based learning approach directs advancements in communication and technology, particularly the usage of smartphones. It is hoped that the existence of mobile learning-based media can support teaching and learning activities to be more effective and efficient.

The implementation of this learning media has numerous advantages for both teachers and students. Additionally, Aripin (2018) noted in his research that one benefit of mobile-based teaching resources is that they are more affordable than PCs or laptops. The ability to display multimedia features in the form of video, text, sound, animation, and more gives mobile devices practically the same advantages as PCs. A tool that can be used to create mobile learning media is the Ispring Suite software.

Ispring Suite is a PowerPoint-based authoring toolkit that allows users to combine text, images, videos, animations, dialogue simulations, sound, quizzes and other interactive learning materials to create slide-based courses, screencasts, or video lectures become one with the way wherein learning process takes place. The output courses are published in HTML5. The Ispring Suite software can be integrated with Microsoft Power point, making its use simple, and the time necessary to generate interactive media with this software is relatively short. Maryana et al (2019) shows that making mathematics learning media using PowerPoint and Ispring Quizmaker can increase the willingness of students to learn. Therefore, the combination of Microsoft Power Point and Ispring Suite will produce in an engaging learning media that is intended to improve students' mathematical learning outcomes.

By implementing mobile learning based on Ispring Suite, it is possible to increase mobility in the learning process in the information and evaluation aspects, as well as to encourage independent learning experiences, help students focus more on learning for a longer period of time, and help reduce resistance to the use of computer information technology. Mobile learning based on Ispring Suite, with its varied potentials and benefits, is expected to be an alternative learning resource in the future that can increase learning motivation, efficiency, and effectiveness of the learning process, as well as student learning outcomes in Indonesia.

Based on the facts and circumstances above, the researchers are interested in carrying out research with the title “**The Effect of Mobile Learning Media Based on Ispring Suite on Students' Learning Outcomes in Mathematics**”.

1.2. Problem Identification

1. Students' mathematics learning outcomes are still low.
2. The utilization of learning media in the classroom is still conventional, such as textbooks or LKS, resulting in low student learning outcomes.
3. Smartphones that have not yet been utilized as mathematics learning media in class.

1.3. Scope of Problems

1. The learning outcomes of mathematics studied are cognitive contexts taken from the pre-test and post-test.
2. The learning media used is mobile learning media based on Ispring Suite.
3. The topic material is focused to the concept of the circle equation.
4. This research carried out in class XI at SMA Negeri 10 Medan.

1.4. Research Questions

Based on the description above, the research question in this study are as follows: Is there an effect of using mobile learning media based on Ispring Suite on students' mathematics learning outcomes in the circle equations material class XI SMA Negeri 10 Medan?

1.5. Study Objectives

Based on research questions above, the objective of this study are as follows: To know whether there is an effect of using mobile learning media based on Ispring Suite on students' mathematics learning outcomes in the circle equations material class XI SMA Negeri 10 Medan.

1.6. Research Purposes

This research has both theoretical and practical benefits, as follows:

1. Theoretical Benefits

This research will give information on the effect of mobile learning media based on the Ispring Suite on students' mathematics learning outcomes.

2. Practical Benefits

- a. For students, it is intended that it will encourage students to be more engaged and motivated in their study, as well as increase their knowledge and learning outcomes in mathematics.
- b. For teachers, it can be utilized as a source of information or inspiration for discovering alternative interactive learning

resources that can increase student learning outcomes in mathematics.

- c. For schools, it can be a source of information or feedback in learning through increasing student learning outcomes and teacher performance in an effort to increase educational quality.
- d. For researchers, it can be used as experience and insight to prepare themselves as prospective mathematics teachers so that later they can provide benefits when they are in the field and as one of the requirements for completing lectures at Universitas Negeri Medan.

1.7. Operational Definitions

In order not to bring up a different explanation in the formulation of the problem, it is necessary to describe several variables including:

1. Learning media is defined as a tool used by teachers to deliver material to students in a more efficient and effective way so that the learning materials are more rapidly accepted by students intact and also attract students to learn more (Musfiqon, 2012).
2. Ispring Suite is a software that is operated to create learning media that contains several aspects of media, such as audio and visual (Andriani & Hutagalung, 2021).
3. Mobile learning, or M-Learning, offers a modern system to support the learning process through mobile devices such as tablets, smartphones, and cell phones (Zerekahfi & Mehdipour, 2013). The notion of mobile learning will profit from the availability of educational resources that can be accessed at any time and from the display of more visually appealing material.
4. Learning outcomes are defined as statements of what a learner knows, understands, and is able to do after completion of learning (Cedefop, 2009). A written test will be used to determine the results of this study's mathematics learning after getting the material on circle equations.