

CHAPTER I INTRODUCTION

1.1. Background

Indonesia's current education and learning system is the 2013 Curriculum (K13), which employs a scientific approach to learning. The scientific approach in the 2013 Curriculum emphasizes the modern pedagogic dimension in learning using a scientific approach. The scientific approach in learning includes the following: observing, asking, trying, processing, presenting, concluding, and communicating in all subjects.

Low science learning outcomes, according to Supardi (2012: 71), are caused by difficult-to-follow textbook material, less effective learning media, less precise use of the selected learning media in the learning process, dense curriculum, inadequate laboratories, less-than-optimal and lack of alignment of the students themselves, or the traditional nature where students are not involved in the learning process.

The use of appropriate learning media is one of the efforts that can be made by someone to improve the quality of learning. Appropriate learning media can make the process of delivering material to students more effective and efficient, as well as make learning activities more interesting and increase student learning motivation. By using the right learning media can also help students be more focus on receiving the content of learning materials. Learning media evolves in lockstep with technological advancements.

In today's global society, technical advancement is accelerating at a breakneck pace, which we can see in a variety of disciplines, including education. The rapid development and advancement of technology, information, and communication (ICT) has a significant impact on the process of producing educational activities in Indonesia that use technology as a learning medium. With the advancement of ICT in the field of education in Indonesia, educational institutions will eventually be compelled to adjust to shifts in the educational

paradigm from conventional to globalization-era education, which is replete with technology.

Almost all high school students can use existing technology, particularly cellphones, or as they are now more commonly known, smartphones, in the current globalization era. The mobile phone is one of the technical devices that serves as a communication tool that is inextricably linked to daily life. Smartphones running the Android operating system are the consequence of the evolution of cellphones, in which smartphones are created with additional functions not found in telephones, making it easier for users to communicate and access information. Because smartphones have so many interesting features and conveniences, there are so many children and teenagers today who can use them as learning media. According to Rahmelina's (2014) research, learning media can improve student learning outcomes in the learning process. As a result, in this globalization era, teachers must be more creative in utilizing existing technology and creating interesting and colorful learning media in ICT (Information Communication and Technology) based classes.

The Android operating system is currently one of the most popular and extensively utilized operating systems among the general population, particularly among high school students. However, according to the answer of quick interviews with teacher at Al-Ulum School, the use of smartphone as a learning media began in response to the COVID-19 pandemic, which necessitated online learning and has been using google classroom. This indicates that if the COVID-19 pandemic does not occur, the use of smartphone as an android-based learning media has most certainly been underutilized. This indicates that if the COVID-19 pandemic does not occur, the use of smartphone as an android-based learning media has most certainly been underutilized. Under the Minimum Completeness Criteria (KKM) is 75, students learning outcome have so far been neither too high nor too low which have an average test between 80-85 and just few students have shown enthusiasm during the learning process. Android-based learning media can be an innovative learning media that is suited for use in the classroom by changing the

habits and lifestyles of students in the current era of globalization. According to Faqih's research (2020), pupils or students genuinely want more current and easy-to-use media. One of the implementations of 21st century learning styles is the usage of Android-based learning material.

The use of Android-based learning media has the potential to help improve students' academic performance in the form of learning outcomes in the cognitive domain (Chuang & Chen, 2007); additionally, Yektyastuti and Ikhsan (2016) discovered that Android-based learning media developed can increase students' learning motivation. In other words, using smartphones as learning media can improve cognitive, metacognitive, affective, and socio-cultural dimensions. Smartphones and tablets have the potential to change the way people study. According to Fatimah's research (2014), this type of learning media makes learning more interesting, students can learn material without being constrained by time or place, and there are interesting applications, so it will have a positive impact on students' use of Android-based smartphones as a learning media tool. The android media that will be used is power point media using ISpring which then converted into an android application using Website 2 APK Builder Pro.

Based on the background explanation of these potentials and problems, the researcher intends to conduct a study on the topic of learning media titled "**The Effect of Using Android-Based Learning Media as One of the Learning Media in Increasing Learning Outcomes and Motivation.**"

1.2. Problem Identification

Several issues can be identified based on the context of the existing problems, such as:

1. The use of Android-based smartphones, particularly by students, has not been optimally utilized in the learning process.
2. Because the amount of time available for implementing learning activities is not proportional to the amount of material taught, learning media that can be used at any time and help the learning process become more flexible is required

1.3. Problem Formulation

Based on the problem's background, the formulation of the problem in the study can be described as follows:

1. How are the outcomes of learning physics in the classroom by using android-based media?
2. How effect is android-based physics learning media in improving student learning outcomes during the physics learning process?

1.4. Problem Limitation

Given the potential for problems arising from this research and the constraints of time and other resources, the focus of this study is on the effect of the learning process using android-based learning media. It is necessary to have a comparison group (conventional class) to see the difference between student learning outcomes in the learning process using android-based media versus conventional learning or without the use of android-based media in order to determine the effect of android-based learning media.

1.5. Research Objectives

The research objectives that are expected to be achieved in this study are as follows:

1. Analyze changes in learning outcomes and student motivation in class X science high school students using android-based learning media.
2. Evaluation the effect of android-based learning media on the physics learning outcomes of class X science high school students.

1.6. Research Benefits

Based on the research objectives to be achieved, this research is expected to provide benefits in the world of education either directly or indirectly. The benefits of this research are as follows:

1. For researchers and students: This study has the potential to improve student learning outcomes by familiarizing learning activities in the classroom using technology innovations as learning media.

2. For Physics Teachers: Using Android as a learning media can improve the Physics learning process in the classroom as a teaching aid.
3. For Students: Using technology in the form of Android as a learning media can improve student learning outcomes by increasing students' interest and drive to learn.
4. For Schools: The findings of this study are intended to allow schools to use Android technology as an alternative learning media, particularly in situations where online learning is required due to certain circumstances.
5. For future researchers: The findings of this study are intended to provide insight, abilities, and experience in raising their competency as prospective teachers and improving the effect and efficiency of learning media.

1.7. Operational Denition

To minimize misunderstandings, numerous definition of terminology used in this work are provided an operational definition to clarify this matter. The operational definition of the researcher are:

1. Learning media is a teaching and learning tool that is utilized to support the learning process and objectives, allowing students to be more responsive.
2. According to Nazaruddin(2012), Android is an operating system for Linux-based cellular phones that is designed primarily for devices with touch screens.
3. Android-Based Learning Media is a learning tool that incorporates Android into the learning process and goals.
4. Learning outcomes are not a metric, but they can be assessed after participants have completed learning activities. Learning attainment can be used to determine a person's success in engaging in a learning program.