

CHAPTER I

INTRODUCTION

1.1 Background of the problem

Everyone has experienced education, but not everyone understands the meaning of the word education. The notion of education can be interpreted as a method used to develop skills, habits, and attitudes that can make a person better. This is in line with the Big Indonesian Dictionary (KBBI) education is the process of changing the attitudes and behavior of a person or group of people in an effort to mature humans through teaching and training efforts, processes and ways of acting that educate (Moto, 2019: 23). Efforts to improve the quality of education and the competitiveness of Indonesia's human resources continue to be carried out both conventionally and innovatively as stated in Government Regulation of the Republic of Indonesia No. 19 of 2005 article 19 paragraph 1 explains that "The learning process in the Education unit is carried out in an interactive, inspiring, fun, challenging manner, motivating students to participate actively, and providing sufficient space for initiative, creativity and independence according to their talents, interests and physical and psychological development of students" (Yanti & Syahrani, 2021: 66). Because of that, efforts are needed to achieve educational goals which will indirectly improve the quality of education in a better direction.

One of the subjects in schools that can be used to achieve educational goals is physics. According to Permendiknas, number 22 of 2006 physics is a provision of knowledge for students that underlies the development of advanced technology and the concept of living in harmony with nature. In addition to providing knowledge to students, physics subjects can also be said to be a vehicle for cultivating thinking skills that are useful in solving problems in everyday life. So it takes the success of a study, especially in the field of physics. The success of learning can be done through the formation of very effective communication between learning components, one of which is learning media (Sari, 2018: 536).

Learning media is a tool that can be used or utilized to facilitate and support the learning process (Nasution, 2019: 7). Learning media functions to explain messages from

abstract to concrete concepts, overcome student attitudes, generate enthusiasm for learning, direct interaction between students and the environment, as well as a means for students to learn independently (Syaputrizal & Jannah, 2019: 801). Learning media can build students' understanding of each learning material. The learning media that is widely used today is learning media through computers (Sumarni, et al., 2018: 12-13).

Learning media through computers has provided benefits for the learning process, especially in learning physics. Several studies have concluded that learning media, especially in the physics learning process: (1) can help understand physics concepts at the molecular level through mental formation, (2) computer simulations help students develop and understand concepts, (3) have a higher level of mastery of material understanding, (4) interactive multimedia-based learning media has been considered theoretically feasible. This has encouraged researchers to continue to develop various learning media through various applications, namely: Ms. PowerPoint and Adobe Premier Pro, Macromedia Flash, and Visual Basic on Excel Spreadsheets, to the Virtual Physics Laboratory, google site, and others (Insana, et al., 2021: 72).

Learning media through computers that are used one of which is media google sites. Google Sites is a product from Google as a tool for creating websites (Jubaidah & Zulkarnain, 2020: 69). Google Sites is a structured application that can be used to create websites easily (Utami, 2023: 395). Google Sites selects features based on Google's websites. Many features in it can be understood easily. In addition, Google Sites is made simply because it is packaged in one integrated website (Nabilah & Dewina, 2023: 64).

Google Sites can be accessed anytime and anywhere and are practical and simple in one integrated web. The Google site is easy to use because it is website-based, students only need to open the link (web address) and the document provided by the teacher via a web browser that is already available on the smartphone, so students do not need another application to open it (Salsabila & Aslam, 2022: 6090). Google Sites features tools offered by Google as part of its Workspace for Education initiative. Learning media can be made with the Google Sites website and teacher creativity in using Google Sites which can be combined with various services and applications (Shobri & Rifqi, 2023: 69-70). Google Site is an online application used by Google to create websites such as in class, at school,

or anywhere else. The existence of a Google site can combine various information in one place (including videos, presentations, attachments, text, etc.) that can be shared according to user needs (Mukti, et al., 2020: 52).

The advantages of Google site learning media are that they can be used to assist the learning process because they are easy to create and manage without using a programming language and are easily accessible to users. In addition, it gives flexibility to students to understand learning material, increases student independence to be able to manage their knowledge, and can learn to use learning media (Sevtia, et al., 2022: 1168).

Student learning outcomes using google sites learning media in previous research. Japrizal and Irfan's research (2021: 106) concluded that Google site-based learning media has a major influence on student learning outcomes in basic electricity and electronics subjects. Hadidi and Setiawan's research (2021: 383) concluded that student learning outcomes before and after the application of Google sites-based web learning media were not much different from the average value of learning outcomes.

Research by Hasnaa and Sahronih (2022: 26) shows that interactive educational tools based on the Google Sites website are effective and can be used as a supporting tool to improve student learning outcomes. With the Google Sites learning media tool, the research hopes that students will be more interested and excited to take part in the learning process. Ningsih and Bukit's research (2022: 103-104) concluded that the effect of using Google sites on student learning outcomes in the learning process increases.

Based on the results of observations that have been made by researchers at SMA Negeri 2 Medan in class XI MIPA with a total of 36 students which shows that 72.22% of students say that physics is a difficult lesson and always leads to complicated calculations and formulas, and students have difficulty connecting understanding of physics in everyday life resulting in less than optimal physics learning outcomes from students. Based on the results of interviews with teachers, this happened because students were less trained in developing their ideas in identifying. Students also rarely do practicum when learning takes place, this is because the physics laboratory equipment is incomplete and is still in the stage of improvement. Another problem found is the learning activities of students who are still passive, this is evidenced by observational data at SMA Negeri 2

Medan which shows that 69.44% of students say that teaching and learning physics in schools is mostly done by taking notes and working on questions so that it impresses students learning individualism. Teaching and learning activities like this make students quickly bored and bored and less active or passive in physics subjects.

Another result from interviews with teachers at SMA Negeri 2 Medan is the lack of teachers using media in the learning process which is mostly teacher-centered. The lack of student learning interest in physics subjects resulted in relatively low student scores and it can be proven based on observations made showing that 65.63% of student scores are still below the KKM, namely 75 (Manurung & Marpaung, 2020: 59). The lack of interesting and innovative learning media causes students' interest in learning physics to be low and boring, during the lesson the teacher uses blackboards and PowerPoint as learning media. But PowerPoint is limited to only displaying material and formulas using a projector in class and given to students to record what is in the PowerPoint so that the learning media used is limited to writing and is not understood by students. The learning media used by teachers when carrying out the learning process uses the media in the form of a blackboard. In the learning process, it was seen that students had difficulty following the teacher's demonstration in drawing lines and graphics on the blackboard (Hidayat, et al., 2018: 152). So, with innovations in learning media such as Google Sites, the learning atmosphere will be more enjoyable.

Google Sites learning media, is very easy to use or access by users. As well as learning media based on the Google Sites website, it is a learning media that utilizes the use of the internet in the learning process. The selection of appropriate learning media also affects concentration, as well as student learning outcomes (Nurlatif & Suprihatiningrum, 2023: 68). If the teacher succeeds in creating a conducive learning environment, it will be easy for students to concentrate on learning. So that the knowledge provided can be more easily understood by students and student learning outcomes also increase. However, with the existence of new learning media, schools need support in the form of facilities that can support the implementation of learning media. If the school has provided good facilities, the teacher can easily explore learning media properly. Through the selection of learning media in the right physics subject by the teacher, it is hoped that it can improve student

learning outcomes. The value obtained by students can be used as a benchmark to see the level of success in the application of learning media. Learning outcomes can be seen through the results of working on practice questions given by the teacher to students under the material described. This website-based learning is used to attract students' attention and also improve student learning outcomes in physics subjects. By using this website-based learning, students can access learning through applications on their respective cellphones or laptops.

This website-based interactive learning media can be used offline or online. Students and teachers can learn through the website. Students will be able to access school assignments and watch educational videos regarding the material being explained. With this website-based interactive learning media, learning can be carried out effectively and efficiently (Tambunan & Siagian, 2022: 1521-1522). What's more, learning is now carried out online and offline, so this website-based interactive learning media will make it easier for teachers and students, especially in the field of thermodynamics.

Thermodynamics is a physics subject that contains many concepts that lead to everyday life and the benefits of technology. In this material, many concept errors cause weaknesses in understanding the concept so the impact on answering questions is wrong. Facts on the ground show that the ability to argue physics on the subject of thermodynamics among students is still very low (Hidayat & Muslimin, 2022: 40). The subject of thermodynamics studies concepts, such as work and process, the first law of thermodynamics, the second law of thermodynamics, and heat capacity. Thermodynamics studies the concept of energy exchange in the form of heat, the work of a limiting system, and the environment. The application of this law can be found in the working principle of a refrigerator, the working principle of an air conditioner, the event of blowing hot coffee, the working principle of a car engine, and electricity generators (Yolanda, 2021: 82).

Based on the background explained above, the researcher thinks that it is necessary to carry out Google Sites research that is applied to learning. Because of this, the researcher intends to conduct research with the title **"The Effect of Using Google Sites-Based Physics Learning Media on Student Learning Outcomes on Thermodynamics Material at SMA Negeri 2 Medan"**.

1.2 Identification of problems

Based on the background above, the problems of this research can be identified as follows:

1. Students at SMA Negeri 2 Medan learning physics are not interested in learning.
2. Student learning outcomes at SMA Negeri 2 Medan in learning physics are low in the learning process.
3. The number of teacher errors in the student learning process in the concept of physics in thermodynamics material.

1.3 Scope

The research that will be carried out is in-class research, namely carried out with class XI students of SMA 2. This study only covers the influence of physics learning media based on the google sites web on thermodynamics material at SMA Negeri 2 Medan.

1.4 Scope of problem

Based on the problem formula described above, the researcher defines the problem so that the research is more focused:

1. The limited material in this study is thermodynamic material which will be carried out at SMA Negeri 2 Medan using two rooms.
2. Needs analysis is carried out to find out the use of learning media that helps students in the process of independent learning or outside of school.
3. Assessment of product feasibility in research using web-based learning media was carried out by validators from class XI physics teachers and lecturers/experts (material and media).

1.5 Formulation of the problem

Based on the explanation of the problem boundaries above, the formulation of the problem in this study is:

1. What are the learning outcomes without using Google site-based physics learning media on thermodynamics material at SMA Negeri 2 Medan?
2. What are the learning outcomes of using Google site-based physics learning media on thermodynamics material at SMA Negeri 2 Medan?

3. How does the use of Google site-based physics learning media affect student learning outcomes in thermodynamics material at SMA Negeri 2 Medan?
4. What is the response of students in the learning process using google sites learning media on thermodynamics material at SMA Negeri 2 Medan?

1.6 Research purposes

Based on the formulation of the problem that has been described, the objectives of the research conducted by the research are:

1. To find out how learning outcomes are without using Google site-based physics learning media on thermodynamics material at SMA Negeri 2 Medan.
2. To find out how learning outcomes use Google site-based physics learning media on thermodynamics material at SMA Negeri 2 Medan
3. To find out how the influence of the use of Google site-based physics learning media on student learning outcomes in thermodynamics material at SMA Negeri 2 Medan.
4. To find out how students respond in the learning process using Google Sites learning media on thermodynamics material at SMA Negeri 2 Medan.

1.7 Benefits of research

1.7.1 Theoretical benefits

This research is expected to be an advancement in learning and enable learning to be more interesting or more advanced. It is also hoped that it can fully contribute to the progress of science and technology in the field of physics, especially by building products based on Google Sites. In the process of evaluating the response of teachers and students as users.

1.7.2 Practical benefits

The practical benefits of this research are expected to be useful for various parties, including:

- a. For a researcher: Being able to contribute experience or insight regarding how to use technology in the learning process, especially physics lessons.

- b. For a teacher: Able to contribute insights or references regarding how to use technology. And motivate teachers to be more creative in designing varied learning.
- c. For a student: Being able to create new situations and innovations in learning and assessment. Can foster interest, desire, and passion in learning.
- d. For a school: Can be used as a direction to be able to improve the quality of education, especially in the implementation of the Physics learning process.



THE
Character Building
UNIVERSITY