

# CHAPTER I

## INTRODUCTION

### 1.1. Background Of Study

A plane is a material that is taught to seventh-grade junior high school students. Planes are shapes that only have a perimeter and area consisting of several kinds, namely square, rectangle, triangle, trapezoid, kite, rhombus, parallelogram, and circle (Saputra et al., 2020). However, college students nonetheless conflict to apprehend geometry material (Fauzi et al., 2019; MdYunus et al., 2019). In a study conducted by Clements and Battista (Budiarto, 2002) on seventh-grade junior high school students, it was found that out of a total of 52 students, only 64% knew that a rectangle was a parallelogram. This is based on the difficulty of students to understand the concept of a plane because students are accustomed to learning by rote which is caused by the teacher giving explanations and then giving examples and questions (Bahrudin, 2019; Sariah & Hidayati, 2019; Atini, 2018). Therefore, an innovation in the teaching and learning process was needed. This innovation could use teaching material so that in addition to explanations, student teachers can use these teaching materials.

Teaching materials, according to (Febrina et al., 2020), are all forms of materials or tools that can be developed systematically for use in the learning process. The use of teaching materials is expected to help students understand the concept of planes. In (Putri et al., 2021), teaching materials have a positive impact on students' understanding of the concept of a plane material. However, in reality, the use of these teaching materials has not had a positive impact on students. (Putra & Pamungkas, 2019) said that teaching materials in the form of textbooks were not optimal in directing students to study independently because there was no interest in the textbooks, so students had difficulty understanding the material. This statement is also reinforced by the results of interviews with several students at SMP 1 Sei-suka who said that the teaching materials in the form of books provided by the teacher were not very complete, and some said that the

teaching materials provided were not interesting, so they were boring. So that these teaching materials need to be developed to be better.

One of the teaching materials that can be developed is the module. The module is one of the printed teaching materials written with the aim that students can learn independently without or with teacher guidance (Depdiknas, 2008). Meanwhile, according to (Daryanto, 2013), the module is one of the teaching materials that is packaged completely and systematically, in which it contains a set of learning experiences that are planned and designed to help students master certain learning objectives. Thus the module following its purpose according (Prastowo, 2012) it is expected that students can learn independently without or with the guidance of educators so that the role of educators is not too dominant and authoritarian in learning activities, and can train students in honesty, can accommodate various levels and speed of student learning. , and also so that students can measure their level of mastery of the material being studied. However, in reality, printed teaching materials still have limitations in illustration, presentation, and components of the scientific approach (Putra & Pamungkas, 2019). In overcoming these limitations, it is necessary to modify the print module, where the modification of print module can be in the form of an e-module or a digital module.

An e-module is an electronic version of a print module that can be read on a computer or smartphone and is designed with the required software. e-module is a learning tool that contains material, limitations, methods, and evaluation methods that are arranged regularly and attractively to achieve the desired competence according to the level of complexity electronically. e-modules are very well used to increase student participation during the learning process (Maryam et al., 2019). The use of technology-based teaching materials provides a versatile area for each teacher and student to explore information gained through learning that's not restricted by time and place (Ramadhani & Fitri, 2020). Technology-based teaching materials support information by serving students' developmental representations through the incorporation of media components (whether text, images, videos, or audio) that are bestowed to students. analysis concerning the utilization of technology-based teaching materials has shown a lot

of positive results to students, this is often a result of students are going to be conversant in learning through effective teaching materials by combining text, video, or audio-based media instead of simply retrieving data through text-based teaching materials alone or audio-based only (Ramadhani & Fitri, 2020). In several studies (Febrina et al., 2020; Irawati & Setyadi, 2021; Wahyudi, 2019) e-modules that have been valid and feasible to use can increase students' motivation, interest, and activeness in the learning process.

However, not only that, providing long content or subject topics that will be studied by students at the same time can lead to a lack of interaction between learning information and students, and will also exceed the working memory capacity of students, which ultimately causes instability in the learning process (Hutahuruk et al., 2020 ; Giurgiu, 2017). So we need a microlearning method. Micro-content – Micro-learning and micro-content together define how to deliver a quantity of knowledge and information, structured in several short chapters, fine-grained, well-defined, and interconnected. Micro-content refers to information whose length is determined by a single topic, content that covers a single idea or concept and is accessible via a single URL, being suitable for presentation in handheld devices, emails, and web browsers. Thus, micro-content is the part that integrates into micro-learning (Giurgiu, 2017). Combining e-modules with microlearning in the learning process can be interpreted as providing students with knowledge through e-modules with material that has been compiled concisely and clearly. Based on research (Mohammed et al, 2018) said that the Microlearning method can improve students' learning ability by up to 18%.

Based on the problems that have been described, it is suspected that this research can help overcome the problems experienced by students. For this reason, researcher will conduct a research on "DEVELOPMENT OF MICROLEARNING-BASED E-MODULE IN 7TH GRADERS ON A PLANE".

## **1. 2. Problem Identification**

Based on the problems that have been described previously, the identification of problems in this study are as follows:

1. Students still have not mastered the concept of a plane.
2. The monotonous teaching and learning process makes students not interested in learning.
3. Lack of use of technology in helping learning activities.
4. Lack of adequate teaching materials.
5. The existing learning modules usually contain too much material and are boring.
6. Long teaching materials cause a mismatch with the working memory capacity of students.

### **1.3. Scope of Study**

The scope of this research is as follows:

1. The object of this research is the Development of Microlearning-Based Teaching Materials on Plane Building Materials in Class VII Junior High School.
2. The subjects of this study were seventh-grade students of UPT SMP Negeri 1 Sei-Suka.
3. The location of this research is at UPT SMP Negeri 1 Sei-Suka.

### **1.4. Research Questions**

The formulation of the problem in this research are:

1. How is the validity of Microlearning-Based E-Module in 7th Graders on A plane?
2. How is the practicality of Microlearning-Based E-Module in 7th Graders on A plane?

### **1.5. Scope of Problems**

To limit the problems discussed in this study to be more focused, a scope or problem is needed, namely only regarding the development of microlearning-based teaching materials on plane-shaped materials in class VII SMP Negeri 1 Sei-Suka.

### **1.6. Study Objectives**

The objectives of this research are:

1. Knowing the validity of Microlearning-Based E-Module in 7th Graders on A Plane.
2. Knowing the practicality of Microlearning-Based E-Module in 7th Graders on A Plane.

### **1.7. Research Purposes**

This research is expected to have benefits for all readers including:

1. For teachers

It is hoped that it can be a reference for teachers to make systematic and interesting modules. This module can also be used as one of the teaching materials that can make it easier for teachers to teach plane-shaped material to students.

2. For students

The development of this mathematics module can be used by students as a learning resource with new experiences.

3. For school

This module can add educational support facilities that are used to improve the quality of education in schools.