

CHAPTER I

INTRODUCTION

1.1 Background of Study

Education is a process that includes three dimensions, the individual, the community or the national community of the individual, and the entire content of reality, both material and spiritual, which plays a role in determining the nature, destiny, human form and society. (Nurkholis, 2013: 24). This is in line with Isjoni (2006: 19) which says that education is the spearhead of a country, lagging or advancing a country, highly dependent on the condition of education. The more developed a country's education, the greater and more developed the country.

In addition, Anggoro (2015: 122) also said that education is a necessity of life which is very important for humans, because with education humans can develop their potential through learning processes so that they can meet their needs. Broadly speaking, the goal of education is to develop individuals, both physically and spiritually optimally, to be able to improve life and the lives of self, family, and society.

One of the goals of national education is to educate the nation's life. As regulated in the Law of the Republic of Indonesia No. 20 of 2003 concerning National Education System Article 3, that education functions to develop capabilities and shape the character and civilization of a dignified nation in Indonesia. the context of educating the life of the nation, aiming at developing the potential of students to become faithful people, and serving God Almighty, having good morals, healthy, knowledgeable, capable, creative, independent, being democratic and responsible citizens. In realizing these objectives, learning is needed in both formal and informal educational institutions.

Learning is essentially a process, which is the process of organizing, organizing the environment around students so that it can foster and encourage students to do the learning process. Learning is also said to be the process of providing guidance or assistance to students in conducting the learning process. (Pane & Dasopang, 2017: 338).

According to Hanafy (2014: 74), learning is an effort of educators to realize the process of acquiring knowledge, mastery of skills, and the formation of

attitudes and beliefs in students. In other words, learning is a process that facilitates students to be able to learn well.

Learning can also be said as a system, because learning is an activity that has a goal, namely to learn students. As a system, of course teaching and learning activities contain components. The learning process is a series of activities that involve various components that interact with each other, where the teacher must utilize these components in the process of activities to achieve the objectives to be planned. (Pane & Dasopang, 2017: 338).

One component of learning is learning media. Learning media is an important element in the learning process. Learning media is a learning resource that can help teachers enrich students' insights, with various types of instructional media by the teacher it can be a material in providing knowledge to students. (Nurrita, 2018: 172).

According to Susilana (in Anjelita et al. 2018: 1), learning media has a function, namely: (1) clarifying the message so that it is not too verbalistic, (2) overcoming limitations of space, time, energy and sensory power, (3) arousing learning enthusiasm, more direct interaction between students and learning resources, (4) allows children to learn independently according to their talents and visual, auditory and kinesthetic abilities, (5) provide the same stimulation, equalize experiences and give rise to the same perceptions.

According to Rudy Bertz (in Maimunah, 2016: 10-11), there are 7 classifications of learning media, namely (1) motion-visual audio media; (2) silent audio-visual media; (3) semi-motion audio; (4) mobile visual media; (5) silent visual media; (6) audio media; and (7) print media. Print media according to Susilana (in Anjelita et.al. 2018: 2) is one of the media that is made through a printing process that presents messages through letters and images to clarify the message or information conveyed. One type of print media is books including pocket book.

According to the Big Indonesian Dictionary (KBBI) Online, a pocket book is a small book that can be put in a pocket and easily carried everywhere. The pocket book developed in this study measures 12 cm x 9 cm so it is easy to carry anywhere because of its small size. The development of this pocket book is expected to foster student interest in learning because it is presented with pictures and colors so

as to provide an attractive appearance. According to Wardhani (in Ami et al., 2012: 10), students tend to like interesting reading with little description and lots of pictures or colors.

Besides, the ability to speak English is a very vital need in supporting today's science. Mastery of English will certainly support today's science. No exception in the world of education. Mastery of English will certainly support the achievement of students. There are many various sources of English-language teaching materials that can be used as widely as possible to support science. (Indahwati, 2018: 51)

For certain fields, including mathematics, a term can have a special meaning. For example, "plane" in everyday life means "*pesawat terbang*", while in mathematics it means "*bangun datar*". (Apsari et al., 2020: 84)

This results in many students who do not know math terms in English and even they don't know how to read math symbols in English. (Ningsih & Wijayanti, 2018: 58)

Based on the above problems, we need a mathematics teaching material that uses English so that students will know mathematical terms in English. Therefore, the pocketbook that will be developed in this study use Indonesian and English with the aim that students are accustomed to reading books in English from an early age to facilitate students in accessing information.

The use of English in a pocket book is expected to help students understand the mathematical terms in English and prepare a generation that can advance and compete internationally. This is in line with Handayani (2016: 103) which says that English is a global language that is very instrumental in global interaction and communication in line with the progress and competition of globalization.

In the trigonometry material, there are different mathematical terms when translated into English. For example, the word "sisi depan sudut", if translated into English will be "the front side of the corner", while the more suitable English for this mathematics term is "opposite side". Another example is the word "sisi samping sudut". If translated into English it will be "side side corner", whereas English that is more suitable with the term Mathematics is "adjacent side". This is what underlies

researchers to choose trigonometry material as material to be discussed in the pocket book to be developed.

Research on the development of a pocket book conducted by Rahmawati (2013) with the theme of chemicals in life shows that the pocket book developed is suitable for use as teaching material and can influence student learning outcomes. In addition, the pocket book developed by Sulistyowati (2018) for geometry and arithmetic materials can be used as a supporting medium in the teaching and learning process. Based on the description above, with the same assumptions, the researcher conducted a study entitled "Development of Bilingual Mathematics Pocket Book to Improve Students' Ability in Understanding Mathematical Terms in English"

1.2 Problem Identification

Based on the background of the above problems, several problems can be identified, namely:

- 1) There are mathematical terms which, if translated into English, will differ from English terms in general
- 2) Students do not understand the mathematical terms in English
- 3) There is no bilingual mathematics pocket book with trigonometry material developed

1.3 Scope of Study

In order for this research to achieve its objectives as formulated, the scope of this study is limited to the development in this research is the making of a bilingual mathematics pocket book containing trigonometry material

1.4 Research Questions

Based on the identification of the problem and the limitations of the problem, the problem formulation in the research is:

- 1) How to develop a valid and practical bilingual mathematics pocket book to improve students' ability in understanding mathematical terms in English especially in trigonometry material?

1.5 Scope of Problems

Based on the problem identification, researcher limit the problem to more specific problem. The scope of problem in this research is development of bilingual mathematics pocket book to improve students' ability in understanding mathematical terms in English.

1.6 Study Objectives

Based on the above problem formulation, the objectives in this study are:

- 1) Developing a valid and practical bilingual mathematics pocket book in trigonometry material

1.7 Research Purposes

After this research is carried out, it is hoped that it will be beneficial:

- 1) For researchers, can add insight into how to develop a proper bilingual math pocket book and can be used in the learning process.
- 2) For educators, can provide alternative learning media in order to be able to improve students' abilities in understanding mathematical terms in English
- 3) For students, it can be used to train themselves in improving their ability to understand mathematical terms in English
- 4) For schools, it can be used as consideration and input to schools in improving the quality of teachers and learning
- 5) For readers, can add information to continue similar research with a broader scope

1.8 Operational Definitions

To avoid differences in interpretation of the terms in this study, the authors define the following terms:

- 1) A pocket book is a small book that is easy to carry everywhere and can be put in a pocket (KBB). The bilingual mathematics pocket book that will be developed is 12 cm x 9 cm so it is easy to carry anywhere because of its small size. The pocket book will be developed by presenting pictures and colors so as to provide an attractive appearance.

- 2) Bilingual is two language (KBBI). The pocket book developed in this study uses two languages or bilingual such as English and Indonesian. So hopefully students can practice using and reading books in English.



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