

# Using Interactive Digital Books to Analyze Students' Reading Literacy Skills

Imelda Free Unita Manurung<sup>1</sup>, Lidia Simanihuruk<sup>2</sup>, Suyit Ratno<sup>3</sup>, Frans Nico Hutabarat<sup>4</sup>  
{imeldafreeunitamanurung@gmail.com}

Faculty of Education, Universitas Negeri Medan, Indonesia<sup>123</sup>, Faculty of Economics and Business,  
Universitas Trisakti, Indonesia<sup>4</sup>

**Abstract.** . This study aims to analyze the reading skills of Students by using interactive books. The subjects of this study were students at the elementary school teacher education study program in state university of Medan who took the basic concepts of physics and chemistry as many as 40 people. The subjects were taken with cluster random sampling. This study uses a qualitative descriptive method to analyze students' reading skills. The results of the analysis of the use of interactive digital books on the basic concepts of physics and chemistry lectures on students' reading skills showed significant. The development viewed from the aspect of literacy reading skills for the category of students from PISA defining reading literacy as: understanding, using, reflecting on, and engaging with writing.

**Keywords:** Reading Literacy Skills, Interactive Digital Books

## 1 Introduction

The ongoing pandemic has led educators to continue to be able to develop and package a learning process to make it more meaningful. The target in development is through a learning product such as a digital book. Seamolec (2013) said: a digital book, also known as an e-book, is a publication consisting of text, images, and sound and published in digital form that can be read on computers or other electronic devices.

According to Tompo (2017:6), electronic publication books have several benefits and advantages, including: 1) As an alternative media in learning, 2) electronic publication book can contain multimedia content in it so that it can present more interesting teaching materials and make lectures more enjoyable, 3) As a medium of information, 4) electronic publication books can be disseminated more easily, either through media such as websites, email, and other digital media, 5) Provide opportunities for content creators to more easily share information in a more interesting and interactive way, 7) Simplify the process of understanding the material, 8) Small physical size, so that it can be stored in data storage (hard drives, CD-ROMs, DVDs) in compact format. Easy to carry, compared to carrying books in very heavy print format 9) Digital format from electronic publication book can last forever with quality that does not change 10) Easy to process where the contents can be tracked, searched easily and quickly. This is very useful for people who do literature studies 11) Can be used by people who don't read, because the format of the electronic publication book can be processed by a computer, the contents of the electronic publication book can be read by a computer using a text to speech synthesizer 12) Reproduction (duplication, copying) electronic publication book is very easy and cheap 13)

Easy to distribute. Distribution can use electronic media such as the internet. So that through the existence of digital books it is hoped that it can improve the abilities and skills of students.

Based on the results of the preliminary study, it was found that students' interest in reading was low. As quoted in Dalman (2014), reading is an activity or cognitive process that seeks to find various information contained in writing. Reading is essential in obtaining information and knowledge, according to PISA 2015 reading literacy is translated into indicators of understanding, using and reflecting as well as involving written texts to achieve goals and develop the knowledge and potential possessed by individuals. Reading ability ( reading for understanding ) is a reading activity that aims to understand literary standards or norms, critical reviews, written plays, and fictional patterns (Tarigan, 2015). For this reason, this research is expected to be able to develop students' reading skills, especially students in the elementary school teacher education study program.

## 2 Research Methods

This type of research uses 4D models ( four-D models). According to Trianto (2014) the development of the four-D model consists of 4 main stages, namely 1) define 2) design 3) develop and 4) disseminate.

The procedure for developing Using Interactive Digital Books to Analyze Students' Reading Literacy Skills is as follows:

- a. The definition stage , this stage aims to determine the learning achievement of the basic concepts of Physics and Chemistry.
- b. Stage Design , this phase aims to design Interactive Digital Books on PGSD students.
- c. Development Phase, this stage aims to produce Interactive Digital Books . Development stage ( develop ) consist of product validation performed by one expert material before the next when the finished product is designed to be validated by media experts.
- d. Dissemination stage, this stage aims to distribute Interactive Digital Books to PGSD students to Analyze Students' Reading Literacy Skills.

This study refers to the pretest-posttest control design. The research design to see the improvement of students' creative thinking skills is as follows:

<i>Pretest</i>	<i>Treatment</i>	<i>Posttest</i>
O1	X	O2

O1 is the initial test before treatment is given, O2 is the final test after the treatment is done while x is the treatment of students by using digital interactive book.

## 3 Result and Discussion

Through an instrument to measure the ability of Science Reading Literacy in this study was developed from PIRLS Literacy which consists of two aspects, namely:

- a. Reading Purpose
  - Reading to enhance the experience; and
  - Reading to obtain and use information.
- b. Reading Comprehension
  - Live retrieval and inference

- Interpret, integrate, and evaluate.

The lattice of instruments used in the implementation of the interactive digital book to see the ability of reading literacy can be seen in the table below.

**Table 1.** Reading Literacy Ability Instruments

No	Aspects of Science Reading Literacy Ability	Question Number
1	Reading Purpose	
	a. Reading to enhance the experience	4,5
	b. Reading to obtain and use information.	1,2,3,6
2	Reading Process	
	a. Focus on retrieving information	1, 4
	b. Making conclusions	5
	c. Interpret and Integrate ideas and information	2,3
	d. Evaluating information	
		6

Based on the aspect of the purpose of reading, it was found that 60% of students were able to read to improve experience, while about 40% of students still needed to process how to read in order to be able to improve their experience in a reading book, then about 70% of students were able to read in order to obtain and use information, while around 30% of students need to be more trained to be able to read in order to obtain and use information from a reading material better.

Judging from the results of reading comprehension analysis, in taking and inferring directly a reading, about 70% of students are able to carry out these activities, however 30% of students still need to be trained to be able to more optimally carry out direct retrieval and inference of information. It further discusses interpreting, integrating, and evaluating. In this case, about 60% of students are able to interpret and integrate a reading material, it's just that at the evaluation stage it is necessary to be trained so that the results are maximized. While 40% still need to be improved in understanding a reading material.

From the results of aspects measured based on reading ability using interactive digital books, there are several benefits obtained, however, there are several things that need to be improved. The results of research conducted using the zoom meeting application with a number of participants as many as 40 people obtained the results of instrument trials showing that the value of  $t$  count  $>$   $t$  table so that it can be concluded that the development of digital books can significantly improve students' scientific reading literacy skills, therefore digital products book is worthy of being used in the learning process.

Based on the results of the implementation of learning that has been carried out using digital books, it can be seen in the following table.

**Table 2.** The Implementation of Learning Process

No	Indicator	Percentage	Category
1	Giving a Simple Explanation	75%	Good
2	Building Skills Base	75%	Good
3	Conclusion	80%	Good

4	Making Explanations Furthermore	80%	Good
5	Strategy and Technique	75%	Good

From the results obtained above, the percentage of 77% is in the good category, which means that the implementation of learning using digital books can take place well.

#### 4 Conclusion

Based on the results of the research conducted, it was concluded that the development of digital books can significantly improve students' scientific reading literacy skills, therefore digital book products are feasible to use in the learning process and from the results obtained the percentage of implementation of learning using digital books.

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