

CHAPTER I

INTRODUCTION

1.1 Research Background

Literacy development is considered a crucial aspect of education, particularly for sixth-grade students who are preparing for secondary education (Amir et al. 2023). At this stage, the students are expected to understand more complex also participate actively in classroom learning activities. One factor that contributes to literacy development is students' reading behavioural engagement, as active participation in reading activities provides great opportunities for students to interact with texts and develop their reading skills (McGeown & Smith, 2024). However, literacy development remains a challenge in Indonesia. The 2022 PISA results showed that Indonesian students continue to perform at a low level in reading literacy (OECD, 2022). Additionally, Virinkoski et al. (2022) found that a young learners often experience difficulties in understanding complex vocabulary and maintaining comprehension while reading activities. Therefore, providing interactive and engaging reading materials are important to support reading behavioural engagement and learning development.

In line with this statement, there are several previous studies highlighted the limitations in learning materials used in Indonesian especially elementary schools. Research by Anwas & Hedian (2022) found that many textbooks still have weaknesses in content, presentation, language, and graphic design, which affects student's literacy development. Similarly according to Ningrum (2018) reported that students books are dominated by long texts and question-answer task, with only

a small portion offering literacy or visual content that could attract students' interest. These findings suggest that conventional printed materials may not really optimally support students in reading activities at the class.

To examine similar conditions existed in the research setting, preliminary observations conducted at SD Lab Undiksha Singaraja indicated that sixth-grade students showed varying levels of engagement during reading activities in the classroom. The data were collected through three classroom observations. During these classroom observations, several students were seen losing focus during reading tasks, such as talking with peers and showing limited attention to the reading activities. According to the observations and interview English teacher the reading activities were mainly supported by printed materials. This highlight the importance of developing learning resources that are appropriate to students' levels while also providing more interactive and visually engaging reading experiences.

Based on these findings, there is need for reading materials that are more engaging and appropriate for sixth-grade students. One possible solution is the use of a digital storybook. A digital storybook combines text, images, sound, and multimedia elements into an interactive narrative that can enrich reading experience for students. According to Okur (2021), digital storybooks integrate storytelling with multimedia features such as images, video, and sound can enhance students engagements in reading activities. This concept is relevant to the classroom context observed where the students showed limited engagement during reading activities that indicating the need for more interactive and visually engaging media. Similarly, research by Robin (2016) found that the use of digital storybooks in education helps

students to be more engaged in the learning process, as they can interact directly with the material.

In addition, research by Nazimuddin et al. (2023) highlighted that combining multimedia elements such as text with images, animation, sound and interactive features like quizzes or games can make reading more enjoyable while improving comprehension and retention. These digital features can encourage students to participate actively in the reading process, which may support better understanding and learning outcomes. Several previous studies also emphasized that the effectiveness of digital storybooks depends on how they are designed and integrated into the learning process. Bus et al. (2014) found that the electronic storybooks can effectively support early literacy development because combining the text, images and also sounds can attract children's attention. These findings suggest that digital storybooks have strong potential to support students' reading behavioural engagement.

Reading engagement is an important aspect of reading activities because it reflects students' involvement and participation during the reading process. According to McGeown and Smith, (2024) reading engagement refers to readers' level of interest, involvement, and emotional and cognitive connection to a text. Reading engagement consist of behavioural engagement, emotional, and cognitive dimensions. This study focuses on behavioural engagement because it can be observed directly through student' participation, attention, and effort during reading activities (Fredricks et al., 2004). Furthermore, behavioural engagement is considered a foundation for the development of other forms of engagement (Guthrie, 2004).

As a reading material, a digital storybook not only supports students' reading behavioural engagement but can also be used to introduce educational themes that are meaningful for students. Therefore, selecting an appropriate topic is an important consideration in developing the storybook. In this study, the storybook integrates the Sustainable Development Goals (SDGs), as the content to provide students with opportunities to learn about global and environmental issue. The Sustainable Development Goals (SDGs) are a set of 17 global goals established by the United Nations to promote social, economic, and environmental sustainability (UNESCO, 2017). One of these goals is SDG-15 (Life on Land), which focuses on protecting terrestrial ecosystems and raising awareness of environmental conservation. In the context of education, integrating SDG- related theme into learning materials it can make learning activities more meaningful and relevant to students' daily lives. If this goal Life on Land included into learning materials, it can make the learning feel more connect to real life. The student can engage by introducing topics such as biodiversity and conservation such as how to taking care of the environment. Previous studies have shown that the integration of environmental themes into classroom learning can increase students engagement and also awareness of environmental issues (Ariansyah et al., 2024; Guo et al., 2024). Therefore, this study integrates SDG-15 (Life on Land) theme into the digital storybook to support students' reading behavioural engagement while introducing environmental awareness through meaningful reading activities.

Considering these issues, this study develops a digital storybook for sixth-grade students at SD Lab Undiksha, that integrates SDG-15 (Life on Land) theme of protecting and restoring forest to promote environmental awareness through

meaningful reading experiences. This study addresses the limited availability of digital reading materials that are appropriate for elementary school students while also incorporating meaningful environmental themes. Unlike the previous studies that mainly examined used or the effectiveness of digital storybooks, this study focuses on developing a digital storybook based on the identified needs of students and the teacher. To ensure that the product is appropriate for the students, the needs analysis is conducted to ensure that the developed product aligns with students' characteristics, learning needs, and contextual conditions.

Before developing the digital storybook, a needs analysis was conducted to identify the students' characteristics, learning needs, and also classroom conditions. The concept of needs analysis in reading can be explained through Hutchinson and Waters (1987) who distinguishes between students target needs what they should be able to achieve through reading and their learning needs how these abilities can be developed. In the context of reading behavioural engagement, this model emphasizes the importance of designing learning materials and activities that match student's motivations, interests, and challenges, thereby making reading experiences more relevant and meaningful. Similarly, Kleespies and Dierkes (2022) emphasize that needs analysis is an essential part of curriculum design, as it ensures that learning activities align with students' cognitive development, prior knowledge, and sociocultural background.

In conclusion, literacy development at the elementary school level continues to face challenges, particularly in terms of student's reading engagement and the availability of engaging learning materials. Although Previous studies have shown the effectiveness of digital storybooks in supporting literacy learning, research

integrating reading engagement with SDG-based content remains limited. Therefore, this study offers a novel contribution by developing a digital storybook based on SDG-15 (Life on Land) theme of protecting and restoring forest to support sixth-grade students reading behavioural engagement.

1.2 Problem Identification

Based on the preliminary observations conducted at SD Lab Undiksha Singaraja, several problems related to students' reading behavioural engagement during classroom reading activities. The observations were conducted three times in sixth-grade classroom. During the reading activities, several students were observed losing focus during reading activities, such as talking with peers, and showing limited attention to the reading task. The reading activities were mainly supported by printed reading materials that were predominantly text-based and contained limited visual and interactive elements. These conditions indicate the need for more interactive, engaging and visually supportive reading materials to facilitate students reading behavioural engagement.

Previous studies also highlighted that conventional learning materials used in elementary schools often provide limited support for students' engagement during reading activities. Therefore, there is a need for more interactive and meaningful reading materials that can support students' active participation in reading activities at classroom. To address this issue, this study develops a digital storybook as a digital reading materials integrating SDG-15 (Life on Land) theme of protecting and restoring forest.

1.3 Scope of the Study

This research is limited to the development of a digital storybook integrating SDG-15 (Life on Land) theme of protecting and restoring forest as a reading material for sixth-grade students at SD Lab Undiksha Singaraja. The study focuses only on behavioural engagement in reading activities, without covering other aspects such as emotional or cognitive engagement. The product is developed solely in a digital format, incorporating text, audio and illustrations. Due to time and resource constraints, this study only examines the short-term effects of the digital storybook within the specific school context. Therefore, the findings may not be generalized to other grade levels, schools, or long-term literacy development.

1.4 Research Question

Based on the background, the research questions are:

1. What are the needs of sixth-grade students and teacher regarding learning materials that integrate SDG-15 to support reading behavioural engagement?
2. How is a digital storybook that integrates SDG-15 designed and developed to support sixth-grade students' reading behavioural engagement?
3. How is the quality of the developed SDG-15 digital storybook as evaluated by experts in terms of content, design, and relevance to literacy and sustainability education?
4. How is the quality of the developed SDG-15 digital storybook, as evaluated by teacher, in terms of students reading behavioural engagement?

1.5 Research Objective

The objective of this research is to develop and evaluate an SDG-15 based digital storybook that facilitates students' reading behavioural engagement.

1. To identify the needs of sixth-grade students and teacher regarding learning materials that integrate SDG-15 to support reading behavioural engagement.
2. To design and develop a digital storybook integrates SDG-15 to support sixth-grade students reading behavioural engagement.
3. To evaluate the quality of the developed SDG-15 digital storybook, as assessed by experts in terms of content, design, and relevance to literacy and sustainability education.
4. To evaluate the quality of the developed SDG-15 digital storybook as assessed by teacher in terms of students reading behavioural engagement.

1.6 Specification of the Product

The product developed in this Design and Development (D&D) study is a digital storybook for English learning. The purpose of this product is to improve students reading behavioural engagement during the reading and learning process. The digital Storybook is designed for sixth-grade students of SD LAB Undksha Singaraja in the English subject. The product is presented in a digital format and consists of 15 pages. It includes usage instructions, illustrations, pop-up elements, and simple exercises at the end of story. These components help students understand the story and encourage them to enjoy reading English texts. This

product is child-friendly, visually engaging, contextually relevant, and based on SDG-15 (Life on Land) theme of protecting and restoring forest.

1.7 Research Significance

This study has two significances, that are theoretical and practical significant:

1.7.1 Theoretical significance

This study contributes to the theory of Literacy and English language learning development by designing a digital storybook that integrates Sustainable Development Goals (SDGs) themes. It highlights how digital storybook can be used to support reading behavioural engagement and foster awareness of global issues among young learners. This finding is expected to contribute to the existing literature on technology-based learning materials, literacy development, and the use of educational technology in elementary education.

1.7.2 Practical Significance

1.7.2.1 For students

Students benefit from interactive and relevant digital storybooks that match their cognitive levels and interests. These materials not only support reading engagement but also build students environmental awareness as part of SDG-15 (Life on Land) theme of protecting and restoring forest, encouraging meaningful learning beyond language skills.

1.7.2.2 For Teachers

The results of this study are expected to provide English teachers in primary schools with a meaningful and innovative reading material

in the form of digital storybook. Which can help teachers promote students' reading behavioural engagement in reading and support literacy development.

1.7.2.3 For Other Researchers

The results of this study are expected to provide insight into how digital media; specifically digital storybooks can support reading behavioural engagement and foster awareness of global issues. This research can serve as a reference for other researchers who are interested in developing and analyzing similar reading media for educational purposes, especially for those focusing on literacy, digital reading materials, SDG integration and young learners' reading behaviour engagement.

1.8 Definition of Key Terms

1.8.1 Digital Storybook

A digital storybook is defined as a digital versions of a traditional children's book designed to be read and interacted with on electronic devices such as tablets or smartphones (Vackova et al., 2023). In educational settings, digital storybooks are commonly used to support literacy development and encourage students' engagement in reading activities

1.8.2 SDG Goals 15: Life on Land

SDG- 15 (Life on Land) focuses on protecting, restoring and promoting the sustainable use of terrestrial ecosystem. In this study, the emphasis is placed on protecting and restoring forest by encouraging environmental awareness through activities such as tree planting and forest conservation. Therefore,

SDG-15 serves as the main theme of the digital storybook to introduce sixth-grade students environmental conservation through meaningful reading (UNESCO, 2017).

1.8.3 Reading Behavioural Engagement

Reading behavioural engagement refers to students' active participation in reading activities, including their attention, effort and willingness to read both in and outside the classroom (McGeown & Smith, 2024). In this study, reading behavioural engagement was observed during the classroom implementation of the developed digital storybook using an observation checklist adapted from Fredricks et al. (2004), Guthrie et al. (2004), and (McGeown & Smith, 2024).

