

CHAPTER I

INTRODUCTION

1.1 Research Background

Indonesian students' literacy skills are very low. This was confirmed by the results of the 2022 PISA test, which ranked Indonesia 69 out of 80 participating countries. This could be due to the limited availability of reading materials and lack of student motivation for reading (Fauzan et al., 2023). Lack of student motivation to learn is also a barrier. Furthermore, the uncontrolled use of technology has significantly reduced student literacy (Octaviani & Martono, 2021). This negatively impacts students' critical thinking and problem-solving skills. To solve the problems of low student literacy skills, it is very critical to develop an understanding of early literacy.

Literacy skills are crucial as a foundation for reading success. Children can develop their phonological awareness and alphabet knowledge, which are essential for building a strong reading foundation from a young age (Nkurunziza, 2024). This is highly beneficial for children, improving their critical thinking and problem-solving skills (Stanikzai, 2023). This approach also aligns with the goals of 21st-century learning, where students are expected to possess four core skills (4Cs): creativity, critical thinking, communication, and collaboration (Thornhill-Miller et al., 2023). These skills are expected to foster strong character in everyday life. One key to developing early literacy is increasing student reading engagement.

Reading engagement is the reader's level of interest, involvement, and emotional and cognitive connection to a text. Reading engagement is one of the important characteristics of students related to reading literacy. It is very flexible and can naturally be reflected in students' behavior, cognition, and affectivity (Cao et al., 2024). Behavioral engagement reflects the person's reading behavior, this can be seen from how often and how long persons read in their free time (McGeown & Smith, 2024). Cognitive engagement is the extent to which students are able to complete learning tasks (Sesmiyanti, 2016). Affective engagement reflects the reader's emotional reactions, such as pleasure or frustration, which can significantly influence the duration and depth of reading engagement (Alqahtani, 2024). However, this study only focuses on reading behavioral engagement, according to McGeown and Smith (2024) because it is the most easily observed and serves as the basis for other engagements (Fredricks et al., 2004; Guthrie, 2004). However, many elementary school students still show low behavioral engagement.

Previous research has shown that elementary school students face various challenges in developing their literacy skills. Many students in Indonesia have low levels of reading engagement (Annala & Safran, 2023; Putri & Rati, 2022). This is caused by limited sources of textbooks and reading materials, limited internet availability, and a lack of student motivation to read independently in class and outside of class (Diana & Markhamah, 2023; Sudatha et al., 2024). This aligned with results of preliminary observations conducted by researchers at Mutiara Singaraja Elementary School, the researchers found that the reading books available at

the school were less popular with students. In addition, students were very enthusiastic about learning materials provided in digital form. This condition allows researchers to develop reading materials in digital form that are interesting, contextual, and tailored to student characteristics, such as digital storybooks.

Digital storybooks could be a solution. Digital storybooks include visual aids that can enhance students' reading focus and stimulate their imagination (Pasaka et al., 2022; Son & Butcher, 2024). This is also confirmed by previous studies that say that digital storybooks can be a tool or method to overcome the problem of student reading engagement (Darma et al., 2024; Dewi et al., 2024; Setiawati et al., 2024). Digital storybooks are highly recommended for increasing student reading engagement, especially at the elementary education level (Aeni et al., 2024; Gunayasa et al., 2023; Shabiriani et al., 2023). Therefore, it can be said that digital storybooks can be a solution to increase students' reading behavioral engagement, especially when combined with urgent and educational content such as the Sustainable Development Goals (SDGs).

Integrating SDGs (Sustainable Development Goals) content into student reading materials is a valuable approach. Digital storybooks can incorporate the positive values of the SDGs. These values can serve as a foundation for children's readiness to face future situations. The SDGs are universal goals applicable to every member state of the United Nations, aiming to "Leave No One Behind" throughout the implementation process (Fukuda, 2022). The SDGs have 17 goals. However, this study focuses only

on Goal 12, Responsible Consumption and Production. SDG 12 emphasizes resource conservation, waste reduction, and the selection of environmentally friendly products (Rahmawati et al., 2025). The approach also aligns with the spirit of 21st-century education and Education for Sustainable Development (Fukuda, 2022). For elementary school students, this understanding is crucial for fostering environmental awareness from an early age and helping them understand the impact of daily consumption habits. Therefore, to ensure the teaching materials developed are relevant to students' needs, a needs analysis is necessary.

Needs analysis is the gap between what is known and what is required for learning (Hutchinson & Waters, 1987). According to Macalister & Nation (2020), needs analysis has three main aspects, namely; Lacks, Necessities, and Wants. Need analysis is a crucial stage in curriculum and learning material design because it allows teachers to identify students' competencies, interests, and goals, then design learning resources that are interesting, effective, and suitable to their needs (Maisarah & Nirwanto, 2024). Therefore, this study aims to develop a digital storybook based on SDG 12 that suits the needs of students at Mutiara Singaraja Elementary School.

Previous research, such as that conducted by Wibawa et al. (2025), focused on identifying students' literacy needs without further development of teaching materials. Furthermore, most previous research on digital storybooks focuses more on improving general language skills, such as reading, writing, and speaking. However, there is a lack of research

addressing facilitating students' reading engagement, particularly facilitating reading behavioral engagement. Moreover, there is a lack of research on developing SDG 12-based digital storybooks to improve reading behavioral engagement at the elementary school level.

Therefore, it is crucial to conduct research on the development of digital storybooks based on SDG 12 reading materials to facilitate students' reading behavioral engagement. This research aims to analyze the needs of fourth-grade students at Mutiara Singaraja Elementary School for reading materials, as well as to develop and evaluate SDG 12-based digital storybooks that are appropriate to their developmental level. The ultimate goal is to facilitate students' behavioral engagement in reading through innovative and meaningful learning media, which aligns with the goals of language learning and continuing education.

1.2 Problem Identification

The researcher identified the factors contributing to the low reading-behavioral engagement of students at SD Mutiara Singaraja during the preliminary observation. The first factor causing low reading behavioral engagement among students at SD Mutiara Singaraja is their lack of enjoyment in reading textbooks. Moreover, the books often relate to students' everyday experiences. This situation results in low reading-behavioral engagement among the students. Without diverse and interesting books, students tend to be unwilling to read regularly.

The second factor is that the teaching materials used by the teacher rely solely on LKS (student worksheets). This limited use of instructional

materials reduces students' exposure to more engaging and varied reading resources, such as storybooks or interactive texts. As a result, reading activities tend to feel monotonous and less meaningful, which can decrease students' interest and active engagement in reading.

The last factor identified is the limited availability of English storybooks in the school, as most of the existing storybooks are predominantly in Indonesian. This condition restricts students' exposure to English reading materials and reduces their opportunities to practice reading in English regularly. Consequently, students may face greater challenges in developing their English reading skills, which can also contribute to lower engagement in English reading activities.

1.3 Limitation of the Problem

1 Scope of the study:

This study focuses on the development and evaluation of a digital storybook specifically designed for elementary school grade 4 students, with an emphasis on creating an engaging reading experience and encouraging active reading behavior. This innovation lies in the inclusion of thematic content aligned with Sustainable Development Goal (SDG) 12: Responsible Consumption and Production within the story narrative. By combining literacy development with global citizenship education, this digital storybook aims to address both cognitive and affective aspects of learning, ensuring that students not only increase their reading behavioral engagement but also internalize values related to sustainable living.

2 Age Group:

The target audience for this research is fourth-grade elementary school students. At this stage, children are developing basic reading habits and the ability to connect text to real-world concepts. This makes them an ideal group to introduce SDG-based content, as they are able to understand moral lessons while still enjoying the interactive, story-based format. Therefore, the digital storybook design will incorporate age-appropriate language, illustrations, and interactive elements to maintain their interest while supporting reading comprehension and behavioral engagement.

3 Focus Areas:

This research focuses on two aspects. First, it aims to strengthen reading behavioral engagement, which includes reading motivation, reading frequency, and willingness to explore reading materials outside of class. Second, it aims to increase awareness and understanding of responsible consumption and production. This dual focus aims to make reading a meaningful activity that bridges literacy skills with sustainable values, enabling students to see a direct connection between what they read and their daily actions.

4 Geographical location:

Geographically, this research was conducted at Mutiara Elementary School in Singaraja, Bali, a primary school that provides a rich cultural and educational background for integrating relevant local examples into the storybook content. By situating the research within a

specific community, it ensured contextual relevance, as the themes and scenarios in the digital storybooks could reflect the students' live experiences. This local approach increased the likelihood of sustained engagement and practical application of the values promoted through the stories.

1.4 Research Question

- 1 What are the needs of grade four students and teachers regarding materials that integrate SDG-12 to facilitate reading behavioral engagement?
- 2 How can a digital storybook integrating SDG-12 be designed and developed to support grade fourth students' reading behavioral engagement?
- 3 How is the quality of the developed SDG-12 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-12 digital storybook, as evaluated by teachers, in terms of students reading behavioral engagement?

1.5 Research Objective

1. To identify the needs of grade fourth students and teachers reading materials that integrate SDG-12 to facilitate reading behavioral engagement.
2. To design and develop a digital storybook integrating SDG-12 to support grade fourth students reading behavioral engagement.

3. To evaluate the quality of the developed SDG-12 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-12 digital storybook, as assessed by teachers, in terms of students reading behavioral engagement.

1.6 Research Significance

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

1. Theoretical significant:

This study aims to contribute to the theory of Literacy and English Language Learning development by designing Digital Storybooks that integrate Sustainable Development Goals (SDGs) themes. It highlights how digital storybooks can be used to support reading behavioral engagement and foster awareness of global issues in young learners. This finding is expected to enrich existing literature on technology-based learning materials, literacy development, and the use of educational technology in elementary education.

2. Practical Significant:

- a. For teacher

This study offers a practical model for teachers to integrate sustainability topics into English language learning through digital storytelling. It provides strategies and examples for using storybooks not only as a language aid but also as a medium for character education and global awareness.

b. For students

Students benefit from interactive and relevant digital storybooks that match their cognitive levels and interests. The materials not only support reading behavioral engagement but also build their understanding of responsible consumption as part of SDG-12, which encourages meaningful learning beyond language skills.

c. For researcher

This results of this study are expected to provide insight on how digital media, specifically Digital Storybooks can support reading behavioral 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 behavioral engagement.

