

CHAPTER I

INTRODUCTION

This chapter served as an introduction to the study. The Background of the study, research questions, research purposes, research scope, and research significance are included. The background of the study emphasizes an exploration of the context and focus area. The research questions outline the specific objectives of the study. The research purposes are defined as the main goals of the research. The research scope sets the limitations of the research. Lastly, the research significance highlights the potential contributions of the research.

1.1 Background of the Study

Environment-based learning is grounded in the principles of Environmental Education and Education for Sustainable Development (ESD), as promoted by UNESCO through the Tbilisi Declaration (1977) and the ESD framework (UNESCO, 2005, 2017). Environment-based learning emerged from the concept of Environment-Based Education (EBE), an educational approach introduced by Julie Ernst (2012) that emphasizes the use of environmental issues and real-world environmental experiences as meaningful contexts for learning. This approach encourages students not only to acquire academic knowledge but also to develop environmental awareness, problem-solving abilities, and critical thinking skills through authentic learning experiences. In line with this perspective, UNESCO (2005; 2017) emphasizes that education should promote sustainable development by integrating environmental awareness and responsible decision-making into the learning process. Therefore, environment-based learning is considered important because it enables students to connect classroom learning with real-life environmental issues and encourages meaningful, contextualized learning experiences. In line with this concern, the present study focuses on developing environment-based reading materials infused with critical thinking skills for 10th-grade students.

The increasing urgency of environmental crises such as climate change, pollution, biodiversity loss, and environmental degradation has strengthened the importance of integrating environmental issues into educational practices. UNESCO emphasizes that environmental education should move beyond awareness-raising and prepare learners to actively engage with sustainability challenges through reflective and transformative learning processes (UNESCO, 2017). Several studies have explored the implementation of environment-based learning in educational settings. Nugraha et al. (2022), focused on improving students' eco-literacy skills through eco-literacy modules and found that such modules positively influenced students' enthusiasm and problem-solving abilities regarding environmental issues. Similarly, Anggraini et al. (2021) implemented environmental sustainability education using science literacy-based approaches in South readability and learning effectiveness. Meanwhile, Marda et al. (2025) analyzed the representation of the environmental awareness element proposed by Kokkinen (2013). These studies indicate that environment-based learning contributes positively to fostering environmental awareness and meaningful learning experiences. However, previous studies have not specifically integrated critical thinking skills into English reading materials.

Beyond its application in environmental and sustainability education, environment-based learning also holds significant potential in English language learning. Previous studies have also demonstrated that environmental themes can be successfully integrated into English language teaching through vocabulary instruction, reading activities, and classroom learning experiences. Asriadi et al (2019) found that environment-based learning improved students' vocabulary achievement and learning interest while promoting curiosity and critical thinking. Similarly, Alpiyah et al. (2021) reported that environmental-based picture storybooks effectively enhanced students' reading interest and were appropriate as reading learning resources. Furthermore, Wahyuni and Apriani (2024) revealed that environmental issues can be integrated into English learning materials, classroom activities, projects, and learning media both inside and outside the classroom. These findings suggest that environmental topics can

provide authentic and meaningful contexts for English language learning while simultaneously promoting students' environmental awareness and engagement with sustainability issues.

In the context of English language learning, reading plays an important role in developing students' comprehension, analytical abilities, and language acquisition. Reading materials containing environmental issues can encourage students not only to improve reading comprehension but also to develop awareness of real-world environmental problems. However, many students still demonstrate low interest in reading activities, particularly when reading tasks focus only on literal comprehension. Consequently, students' critical reading abilities remain insufficient (Niculescu & Dragomir, 2023). Furthermore, Fan (2023) found that senior high school students' critical reading skills remain at a moderate level, indicating difficulties with analyzing, evaluating, and interpreting texts. According to Facione (2013), critical thinking skills play a crucial role in enabling students to interpret information, analyze arguments, evaluate evidence, and draw logical inferences from texts. Therefore, integrating critical thinking skills into reading materials is essential to improve students' reading comprehension and higher-order thinking skills simultaneously.

Furthermore, the importance of developing reading materials becomes more evident when viewed in light of the current curriculum's expectations. Under the *Kurikulum Merdeka*, tenth-grade students are in Phase E and are expected to achieve competencies broadly aligned with the CEFR B1 level. At this stage, students are required to comprehend and respond to various text types, identify main ideas and supporting details, interpret information, and evaluate issues presented in written texts. Students are also expected to develop the ability to understand text organization, identify authors' purposes, and employ inferential skills when interacting with reading materials that not only facilitate reading comprehension but also encourage analytical and critical engagement with information. Therefore, reading materials developed for Phase E students should support both language development and higher-order thinking skills in accordance with curriculum expectations.

To facilitate the achievement of these learning objectives, appropriate instructional materials are required. One instructional resource that can systematically organize learning objectives, reading texts, learning activities, and assessment is a module. According to Sidiq and Najuah(2020), a module integrates learning content and learning activities in a structured manner to achieve curriculum objectives. Similarly, Rafi'y et al. (2022) explained that a well-designed module provides clear guidance, learning materials, practice activities, and evaluation procedures to support students' learning. Furthermore, modules organize learning content progressively and systematically, enabling students to develop their competencies through meaningful learning experiences. Therefore, a reading module offers a practical means of integrating environmental issues and critical thinking skills into a coherent instructional framework for 10th-grade students.

However, despite the growing emphasis on environmental education and critical thinking skills, existing English reading materials still present several limitations. Environmental topics are often presented in a limited manner and accompanied by reading activities that primarily focus on identifying explicit information and testing comprehension. As a result, students are provided with fewer opportunities to analyze issues, draw logical conclusions, evaluate information, and propose solutions to environmental problems. In addition, environmental topics are frequently introduced as isolated content rather than as meaningful context that encourages critical engagement with real-world issues. This condition indicates the need for reading materials that systematically integrate environmental contexts with critical thinking-oriented activities, enabling students to engage more actively and critically with environmental issues through reading.

Despite these educational expectations and opportunities, few studies have focused on developing environment-based reading materials that integrate critical thinking skills for 10th-grade students. Most existing studies on environment-based learning have focused primarily on science and social studies rather than English language learning or reading skills. Existing studies have also rarely integrated critical thinking

skills into environment-based English reading materials. Therefore, this study intends to conduct development research focusing on developing environment-based reading materials infused with critical thinking skills for 10th- grade students. This research seeks to involve reading as a language skill that is systematically designed in conjunction with environmental issues and critical thinking, as essential 21st-century skills.

1.2 Research Questions

Based on the background provided, this study attempts to answer the following research questions:

1. To what extent are the existing Environment-based English reading materials infused with critical thinking skills for 10th-grade students?
2. How are the procedures for developing environment-based English reading materials infused with critical thinking skills for 10th- grade students?
3. How is the design of environment-based English reading materials infused with critical thinking skills for 10th-grade students?
4. How is the validity and readability of environment-based English reading materials infused with Critical Thinking Skills for 10th-Grade Students?

1.3 Research Purposes

In accordance with the research questions, the research purposes of this study are as follows:

1. To examine the extent to which the existing environment-based English reading materials for 10th-grade students are infused with Critical thinking skills
2. To illustrate the procedures for developing environment-based Reading materials infused with Critical Thinking Skills for 10th-Grade Students
3. To develop the design of English reading materials for 10th-grade students according to environment-based and critical thinking skills.

4. To measure the validity and readability of environment-based reading materials infused with critical thinking skills for 10th-grade students.

1.4 Research Scope

The research focuses on developing environment-based reading materials infused with critical-thinking skills for senior high school students, especially for 10th-grade students. These materials will be designed to incorporate environment-based concepts and critical thinking skills. Thus, the final product is a digital module. The design of the reading materials will align with the objectives of Kurikulum Merdeka and will be in accordance with *Capaian Pembelajaran* Phase E, which is a key component of the national learning goals for senior high school, especially for 10th-grade students, with the basis of reading is the ability to comprehend, interpret, analyse and evaluate various written texts in order to construct meaning, identify main ideas, infer implicit information, and respond critically to the content of the texts. Various types of text are determined by *Kurikulum Merdeka Belajar*, but this research specifically concentrates on the reading texts that promote environmental awareness, such as descriptive, explanatory, and expository texts related to real-life environmental issues, which means environment-based, and critical thinking skills are also infused into the design. The basis of environment-based and critical thinking skills comes from the framework and the modified indicators of environment-based education and critical thinking skills. To make the design, the DDR methodology is used in this research, which includes analysis, design, development, and Evaluation.

1.5 Research Significance

This research is expected to provide a theoretical and practical contribution to the field of the English language. Theoretically, this research can be used as a guide for further research, particularly in development studies, or for those who are interested in integrating environment-based learning and critical thinking skills into English Reading materials development. Hopefully, this research offers a comprehensive

description and literature of the environment-based and critical-thinking skills-infused English reading materials.

Practically, this research should support teachers in using English reading materials with a focus on integrating environmental-based and critical-thinking skills. It is also expected that environment-based and critical thinking skills infused in English reading materials can help teachers hone students' environmental care and critical thinking through their reading. This research aims to improve existing pedagogical activities by providing teaching experiences focused on environment-based learning and critical-thinking skills. Additionally, students may benefit from reading materials that efficiently enhance their English reading competence.

1.6 State of the Arts

Environment-based learning has become one of the most significant approaches in 21st-century education. Numerous studies have highlighted the importance of integrating environmental awareness into educational practices to address global environmental issues such as climate change, pollution, and biodiversity loss. In the context of English language teaching, environmental issues can serve as meaningful and authentic contexts that encourage students to connect language learning with real-life problems. Therefore, integrating environmental themes into English learning materials is considered essential to promote students' environmental awareness and support sustainable education goals.

Moreover, Critical thinking skills are increasingly important in modern education. Students are expected not only to understand information but also to analyze, evaluate, and solve problems critically. Consequently, critical thinking skills should be integrated into English language learning, particularly in reading activities, since reading plays an important role in developing students' comprehension, analytical abilities, and language acquisition. Incorporating environmental issues and critical thinking skills into reading materials can help students become more reflective, responsible, and active learners in facing current global challenges.

Numerous studies attempted to design and develop English learning materials infused with environmental awareness and/or critical thinking skills. However, none of them attempted to design and develop environment-based English reading materials infused with critical thinking skills specifically for tenth-grade students. Thus, the intended objective of this research is to meet current and future student needs by designing and developing English reading materials required by the students. The novelty of this research is the products of environment-based English reading materials infused with critical thinking skills for tenth-grade students and their development procedures. Additionally, the researcher aims for these reading materials to equip students with the ability to think critically, develop environmental awareness, and actively participate in solving environmental problems both within the educational setting and beyond it to support their future life skills.

1.7 Definition of Key Terms

In order to avoid ambiguity and establish a clear understanding of the terms used in this study, several key terms are defined as follows:

1. Environment-based learning

Environment-based learning refers to instructional materials that integrate environmental contexts and real-world environmental experiences into the learning process. This concept is adapted from environment-based education (EBE) proposed by Julie Ernst (2012), which uses the environment as a context for learning and real-world experiences.

2. Critical thinking skills

Critical thinking skills refer to the ability to analyze, evaluate, interpret, and draw reasoned conclusions through reflective thinking. This concept is based on Peter A. Facione's theory of critical thinking.

3. Reading materials

Reading materials refer to written instructional materials designed to facilitate students' reading comprehension and language learning. This concept is based on Brian

Tomlinson's theory of materials development, which views materials as resources for facilitating language learning.

4. CEFR

CEFR (Common European Framework of Reference for Languages) refers to an international framework used to measure language proficiency levels. In this study, the expected proficiency level for tenth-grade students is aligned with the CEFR B1 level according to the Indonesian curriculum learning outcomes.

5. Kurikulum Merdeka

Kurikulum Merdeka refers to a student-centered curriculum framework that emphasizes flexibility, competency-based learning, and character development in accordance with the Pancasila student profile. In the context of English learning, the curriculum supports the development of students' communicative competence and critical thinking skills through meaningful and contextual learning experiences.

