

## **CHAPTER I**

### **INTRODUCTION**

Chapter one explains the background of the study, research questions, purposes, scope, significance, and definitions of key terms.

#### **1.1 Background of the study**

Humans and the environment are interconnected and intertwined. Every human activity affects the environment, whether directly or indirectly. Because of the growing ecological crises, environmental issues have gained urgency and require serious attention. The Sustainable Development Goals (SDGs) program of the United Nations has established several initiatives to address global issues, including environmental issues (United Nations, 2025) to achieve long-term global well-being (Yu et al., 2024). Kadarisman & Pursitasari (2023) emphasize that climate change has emerged as one of the current environmental issues. Other global problems, like urban air pollution, water pollution, biodiversity loss, and global warming, provide clear evidence that human activity is mostly the cause of environmental degradation (Sinha et al., 2025). Therefore, integrating sustainability becomes essential to preserve natural resources and support long-term ecological balance.

In recent years, educational focus on sustainability has increased. As mentioned by Valencia (2018), education plays a pivotal role in establishing sustainable development. Sustainability requires the enforcement of wider responsibilities for the impacts of decisions (WCED, 1987). Therefore, education for sustainable development (ESD) empowers learners to create a sustainable future and take responsible action to address sustainability challenges through knowledge, skills, values, and competencies (UNESCO, 2020). Braun (2017) explained that sustainable development requires both transformative research and new transformative education that promote the values and principles that are the foundation of sustainable development. These integrated efforts empower people to obtain the ability to handle global problems and act to resolve them (MEXT, 2021). As stated by Hannah & Varuneshwaran (2024), within the diverse strategies proposed to advance a greener and more sustainable future, eco-literacy stands as a

vital component in fostering profound and enduring engagement with environmental issues and sustainable practices. According to Rubini et al. (2023), Eco-literacy refers to ecological intelligence, emphasizing the cognitive aspect of an individual's comprehension of life and its support for all living things. It means that increasing environmental awareness within the framework of competence, awareness, knowledge, and harmony comes to the fore (Koçoğlu et al., 2023). In summary, sustainability has become a global priority. Therefore, researchers and educators have been increasingly focused on incorporating sustainability principles into education.

To support this vision, Kazazoglu (2025) conducted a study titled “Environmental Education Through Eco-Literacy: Integrating Sustainability into English Language Teaching”. The study examined how English Language Teaching (ELT) students perceived the impact of eco-literacy-focused writing activities on their language development and awareness of environmental issues. The study highlighted positive shifts in students' perspectives, especially in their understanding of environmental vocabulary and critical thinking concerning eco-literacy. Engagement with activities integrated on ecological themes enhanced their engagement and awareness of sustainability issues. Key challenges identified include limited prior knowledge of environmental topics and the need for further training. To address the difficulties, it is crucial to incorporate sustainability themes into education.

Due to students' inadequate prior knowledge of environmental issues, some researchers addressed some topics related to eco-literacy. The first previous study was conducted by Gustian et al., (2022), “Improving Students' Eco-Literacy Skills Through the Use of the Eco-Literacy Module”. It is motivated by the low level of eco-literacy of elementary school students. Therefore, this research focused on enhancing students' eco-literacy skills through the implementation of an eco-literacy module. The findings indicated that the eco-literacy module's implementation could enhance the eco-literacy skills of elementary school students. This study suggested that other schools could implement eco-literacy-based learning modules to build stronger ecological literacy and improve their ability to address environmental problems.

The second research was carried out by Misbahudholam et al., (2023), “The Implementation of Eco-literacy as a Learning Resource to Improve Environmental Care Attitudes in Elementary Schools”. This study investigated how eco-literacy can be integrated with nature as a learning resource to enhance environmental care attitudes in elementary schools. The findings indicated that such implementation can foster greater environmental care attitudes and improve students’ learning outcomes, supporting sustainable development in elementary schools.

The third research, Kayati & Fatmawati (2024) analyzed “Eco-literacy Content-Based in Indonesian Language Teaching Material Development for Madurese Coastal Junior High School”. This research focused on developing Indonesian language learning materials infused with eco-literacy for junior high schools in the coastal region of Madura. The findings indicate that eco-literacy education can be effectively used by integrating coastal eco-literacy content and marine ecosystems into the learning materials.

The fourth research was carried out by Suharja et al., (2023) “The Contribution of Student Eco-literacy to Build Environmental Caring Behavior in Senior High School”. This research investigated the role of eco-literacy in enhancing environmental caring behavior in Senior High School. The study revealed that both eco-literacy and environmental caring behavior were at a middle category level.

The fifth research was undertaken by Ninsiana et al., (2024) “Introducing Eco-Literacy to Early Childhood Students Through Digital Learning”. This study aimed to introduce eco-literacy in early childhood and explore how digital media can enhance children’s awareness of eco-literacy related to daily environmental issues in the context of society 5.0. The results showed that introducing eco-literacy to elementary students can be effectively achieved through storytelling, videos, and field trips.

The sixth research was conducted by Muthukrishnan (2019), “Using Picture Books to Enhance Eco-literacy of First-Grade Students”. The objective of this study is to investigate the potential of starting an eco-literacy study with first-grade students, using picture books. It demonstrated how students extended their learning

by utilizing knowledge of events in everyday life and by showing a willingness to play with concepts.

From the previous studies on eco-literacy, it can be concluded that most studies have explored how eco-literacy could be infused into education from kindergarten to senior high school. Unfortunately, there is limited research on eco-literacy infusion in higher education, particularly in English morphology. This is because English morphology focuses on morphological knowledge and awareness, and has not yet been infused with eco-literacy content. Since eco-literacy encompasses a wide range of words and can be analyzed morphologically, students not only learn how words are formed but also become aware of real-world environmental issues through its content. It was supported by previous studies on English morphology that have mostly focused on learners' morphological awareness and its contribution to language proficiency.

This is reflected in the research by Zhang (2022) titled "Developing Morphological Knowledge with Online Corpora in an ESL Vocabulary Classroom". The findings showed that online corpora helped students develop and expand their morphological knowledge with online corpora. Meanwhile, a study by Yulianawati et al., (2023) "Undergraduate Students' Morphological Awareness and Difficulties in EFL Class" aimed at investigating undergraduate students' morphological awareness and difficulties in morpheme identification and word relations. Next, another study by Apriyani & Ilma (2020) titled "The Influence of Morphological Awareness to College Students' Vocabulary Mastery". The objective was to find out whether there was a significant correlation between morphological awareness and vocabulary mastery. The findings revealed that there was a significant correlation between morphological awareness and vocabulary mastery, and a positive contribution of morphological awareness to vocabulary mastery. In addition, a further study by Stoffelsma et al., (2025) titled "Testing University Students' Morphological Awareness of English as a Second Language" highlights the importance of validating morphological awareness measures for ESL university students. On the other hand, a study by Hanifah & Putri (2020) titled "Developing a Teaching Supplementary Worksheet for Morphology Class". The study demonstrated that supplementary worksheets in the form of a worksheet book based

on games met the learners' needs in morphology class, and reinforced students' understanding of morphological concepts as well as enhanced classroom engagement.

In addition, some previous studies have also highlighted the development and use of electronic worksheets in various learning contexts. Unfortunately, the integration of the use of e-worksheets has not yet been identified in English morphology learning. For instance, Ningrum (2024) conducted a study titled "The Students' Perception on the Use of E-LKPD Liveworksheets.com in Learning English to Informatic Engineering Students of Politeknik Sawunggalih Aji". The result showed that students have a positive perception of the usefulness of using E-LKPD Liveworksheets.com to learn grammar because they can learn it effectively and efficiently. Similarly, Anglia & Harahap (2023), in their work "Developing English Writing E-Worksheet of Narrative Text Based on Problem-Based Learning for the Tenth Grade of SMK Muhammadiyah 3 Kualuh-Hulu." It showed that the E-Worksheet of Narrative Text Learning Media is appropriate for use as a learning resource for class X SMK students because it keeps students' attention and increases their engagement in learning narrative text. Furthermore, in the field of mathematics, Susanti & Wulandari (2022) developed "Development of GeoGebra-Assisted Electronic Student Worksheets (E-Worksheets) to Improve Student Independent Learning" in basic mathematics courses at the university. The results showed that the use of e-worksheets increases student independence in learning.

In conclusion, based on the prior studies above, e-worksheets provide many benefits, such as making learning more effective and efficient, attracting students' attention, and fostering independent learning. However, no prior studies have been found specifically on infusing eco-literacy and the use of e-worksheets in English morphology learning, thereby revealing a significant research gap. Hence, this gap highlights the importance of designing an eco-literacy-based English morphology electronic worksheets (e-worksheets) for the English Language Education Study Program (ELESP). The e-worksheets are designed not only to strengthen students' understanding of morphological concepts but also to enhance their ecological awareness. Additionally, these e-worksheets support students' independent learning. They are able to answer questions directly and check their scores

immediately. Therefore, this study addresses the need for innovative learning materials to support the Sustainable Development Goals through designing eco-literacy-based English morphology electronic worksheets (e-worksheets) for the English Language Education Study Program (ELESP). Besides, because these e-worksheets do not require paper, using them contributes to environmental protection. As a result, developing these electronic worksheets is both a practical step and a contribution to promoting sustainability through education.

In the education context, eco-literacy is essential for achieving Sustainable Development Goals (SDGs) because it promotes environmental awareness. As mentioned by Kazazoglu (2025), eco-literacy has the potential to enhance both language proficiency and environmental awareness, and it can be a blessing for Mother Earth (Hannah & Varuneshwaran, 2024). Moreover, Prajakta et al. (2024) mentioned that education can play a transformative role in addressing 21st-century environmental challenges and promoting a sustainable future. As highlighted by Chankseliani & McCowan (2021), higher Education's particular issues focus on higher education and the Sustainable Development Goals (SDGs). It is supported by Rilianti & Huda (2023), the campus as an educational institution has significantly contributed to the resolution of environmental problems by empowering learners as agents of change. As agents of change, university students are supposed to have a higher level of awareness and knowledge than the average. As mentioned by Nadiroh et al., (2019), in higher education, students act as agents of change who achieve significant milestones for future lives. They are expected to have sufficient knowledge in environmental management and preservation, highlighting the importance of contributing to environmental sustainability. Furthermore, Jati et al., (2019) stated that the students can contribute to supporting, promoting, and achieving the development goals by using their academic background. To conclude, by implementing these e-worksheets in English morphology learning, students are not only expected to broaden their vocabulary knowledge and develop morphological awareness but also to cultivate the skills they need to address global challenges and foster active participation in building a sustainable future.

## **1.2 Research Questions**

Based on the background of this study, the research questions are as follows:

- a. To what extent is eco-literacy infused in the existing English morphology learning materials for the English Language Education Study Program?
- b. What is the procedure for designing an eco-literacy-based English morphology e-worksheets for the English Language Education Study Program?
- c. How is the design of the eco-literacy-based English morphology e-worksheets for the English Language Education Study Program?
- d. How is the validity of the eco-literacy-based English morphology e-worksheets for the English Language Education Study Program?

## **1.3 Purposes of the Study**

The purposes of the study are presented based on the research question mentioned above:

- a. To analyze eco-literacy infused in the existing English morphology learning materials for the English Language Education Study Program.
- b. To describe the procedure for designing an eco-literacy-based English morphology e-worksheets for the English Language Education Study Program.
- c. To present the design of the eco-literacy-based English morphology e-worksheets for the English Language Education Study Program.
- d. To validate the validity of the eco-literacy-based English morphology e-worksheets for the English Language Education Study Program.

## **1.4 Scope of the Study**

The study focuses on infusing eco-literacy into English morphology learning materials by developing supplementary materials in the form of e-worksheets. It comprises tasks for students in the English Language Education Study Program.

### 1.5 Significance of the Study

Hopefully, this study will be beneficial in the following ways:

- a. Theoretically, this study gives a deeper knowledge and understanding of designing an eco-literacy-based English morphology electronic worksheets (e-worksheets) for the English Language Education Study Program (ELESP) as a component of transformative education integrated with education in the form of learning materials.
- b. Practically, the outcomes of this study can be useful for teachers and students to enhance ecological literacy through English morphology learning materials.

### 1.6 Definition of Key Terms

To avert misinterpretation, the technical words used in the present study are explained as follows:

- a. **Eco-literacy** is an abbreviated form of ecological literacy, which is also often referred to as ecological literacy, environmental awareness, and environmental literacy (Kesuma et al., 2024). Eco-literacy is intelligence based on cognitive aspects or understanding of how the universe can support the survival of all living things (Kadarisman et al., 2023).
- b. **E-worksheets** are electronic versions of student worksheets that include materials for each meeting and are presented in a practical format for easy use in learning activities (Syafitri, 2020).
- c. **Morphology** is one of the branches of linguistic theory that studies the forms of words, a compulsory course for students in the English Language Education Study Program at universities in Indonesia.
- d. **English Language Education Study Program (ELESP)** is an academic program focused on preparing students to become qualified and professional English language teachers.