

CHAPTER I

INTRODUCTION

In Chapter I, general information and an explanation of the research are presented. This includes the study's background, research questions, objectives, scope, significance, state of the arts, and definitions of important terms.

1.1 Background of Study

In this current era, English language learning has been implemented in elementary schools to ensure that pupils can communicate effectively in speech as well as writing. Language acquisition is more accessible during the very beginning, particularly in the contemporary digital 21st century, as English predominates across various systems. The presence of English in elementary education facilitates the acceptance of technology. One of the focal points of acquiring English proficiency is writing. Writing is a communicative endeavour that involves conveying messages (information) to others through the medium of written language (Dalman, 2014).

However, writing skill is widely recognized as the most challenging language skill for English language learners to master (Moses & Mohamad, 2019; Bora, 2023). As a matter of fact, elementary students face significant challenges in developing English writing skills. Common issues include poor grammar, limited vocabulary, and difficulties with tenses and syntax (Sarwat, 2021). Students also struggle with creative ideas, writing anxiety, and weak structural organization (Sarwat, 2021). Moreover, difficulties include writing cohesive and coherent sentences and paragraphs are faced by elementary students (Palupi et al., 2019). Then, Also, Nurkilah (2021) adds a fact that Elementary school students are afraid of not being able to complete a writing assignment, because they do not know what to write, how to start and end it. The complexity of writing skills makes it a major hurdle for elementary students, impacting their academic achievement and language proficiency (Sarwat, 2021; Moses & Mohamad, 2019).

In addition, the availability of learning materials is crucial in the context of teaching and learning, particularly in writing skill. Erlina, et al. (2021) stated that it is important to have teaching and learning materials which can help them to develop

their writing skills better. Also, the researcher conducted an interview with two teachers who teach English subject. Both teachers only rely on books provided by the government and school. As a matter of fact, researchers found that these books were still very insufficient to be a solution to students' difficulties in writing skills because of their complexity. As a result, it is needed to infuse the systems thinking skills in the writing learning materials, for it offers a useful worldview for dealing with increasing complexities faced by individuals (Jaradat, 2015).

Systems thinking is a critical skill for addressing complex problems in various domains, including project management, software development, and societal issues. As for that, the Systems thinking skills can also play an important role in addressing students' difficulties in mastering writing skills, for it helps to understand that writing is a system of some parts, for instance language features. It enables individuals to comprehend the big picture, perceive relationships between components, and identify leverage points for effective solutions (Kordova et al., 2018; Pontius & McIntosh, 2019). Moreover, some scholars argue that children are innately systems thinkers, who can perceive interdependencies and interrelationships well before they are educated in these ideas. Others argue that children are not innately systems thinkers, who can perceive interdependencies and interrelationships well before they are educated in these ideas (A. L. Brown & Campione, 1994; Forrester, 1992; Senge, 2014; Sweeney, 2001). Therefore, it is crucial for developing writing learning material infusing the system thinking skill in the elementary school.

Recently, researchers have shown an increased interest infusing systems thinking skills in education whether in Indonesia or other countries (Fanta, D., et al, 2019; Huang, S, et al, 2015; Connell, K.Y.H, et al, 2012; Meilinda and Nuryani, 2021, and Casnan, Purnawan, Firmansyah, I., & Triwahyuni, H., 2022). Hidayani, Arifah (2023) aimed to promote systems thinking skills in water cycle material on the topic of the flood phenomenon. Furthermore, Ekselsa, Ria Anita, et al., (2023) found out the development of system thinking skills can train students to change paradigms to view a problem from various perspectives to find a sustainable solution, encouraging them to pay more attention to their activities and take more responsible actions. Salsabila, Mariah S., et al, 2024 investigates the impact of

system thinking on Junior High School students through simple science projects addressing environmental pollution. As a matter of fact, there is a lack of research dealing with the infusion of systems thinking skills in English learning material, specifically writing. Assaraf & Orion (2010) done research, entitled “System Thinking Skills at the Elementary School Level”. It was taken from 4th graders. This study investigated whether or not, and to what extent, system thinking perceptions could be conveyed to elementary school students. As a result, they recognized interconnections between components of a system. Some of the students reached higher system thinking abilities, such as identifying interrelationships among several earth systems and identifying hidden parts of the hydrological system. Also, Evagorou et al. (2009) in their research entitled “An Investigation of the Potential of Interactive Simulations for Developing System Thinking Skills in Elementary School: A case study with fifth-graders and sixth-graders.” The findings indicated that elementary school students have the potential to develop system-thinking skills. The proposed learning environment provoked considerable improvements in some system thinking skills during a relatively brief learning process. Also, Azzahra et al. (2023) tried to find out how good the system thinking competence of students in elementary schools is. Then, in logbook writing, systems thinking improved students’ content relevance, critical analysis, and integration of ideas (Lee & Kirwan, 2024).

Based on the findings above, this research is conducted to fulfil the gap since there is a lack of system thinking skills being infused in English language learning in elementary school, specifically in the writing learning material to improve students’ writing skills. In this attempt, the writer wanted to focus on English learning material in grade 6, specifically in writing. Thus, this research conducted entitled “**Designing Systems Thinking Skills-Infused English Writing Learning Materials for 6th Grade Students**”.

1.2 Research Questions

Based on the background of the research that the research problem of this research is formulated as the following research questions:

1. To what extent have the existing writing learning materials for 6th grade students infused with Systems thinking skills?

2. How is the procedure of designing Systems thinking skills-infused English writing materials for 6th grade students?
3. How is the design of Systems thinking skills-infused English writing materials for 6th grade students?
4. How is the feasibility of Systems thinking skills-infused English writing materials for 6th grade students?

1.3 Objectives of the study

According to the problems of research, the purposes of research could be outlined as follows:

1. To analyze to what extent the existing writing materials for 6th graders have infused systems thinking skills.
2. To describe the procedure of designing Systems thinking skills-infused English writing materials for 6th grade students.
3. To describe the design of Systems thinking skills-infused English writing materials for 6th grade students.
4. To measure the feasibility of Systems thinking skills-infused English writing materials for 6th grade students.

1.4 Scope of the study

The study focuses on designing Systems thinking skills-infused English writing materials for 6th grade students. It outlines the production of a series of English learning materials for 6th grade student's context by infusing systems thinking skills. In addition, this study used the research and development, the Successive Approximation Model (SAM), as the research design. The model comprises three phases of instructional design and development: Preparation phase, Iterative Design, and Development Phase.

1.5 Significance of the research

It is expected that this study will be perceptive and contribute for improving the quality of instruction throughout the teaching and learning process theoretically and practically. The results of this study may be used as benchmark for further research, especially in material development study and research and development.

Therefore, this study is expected to contribute to the literature on the systems thinking skills in English language education in Indonesia as the topic has lately been become prominent. Practically, this study can guide English teachers in composing lessons that are personalized to the needs of their students who are as the part of Sustainable Education. As a result, students might get the benefit of enhancing the systems thinking skills to have a sustainable future. Systems thinking competencies include the ability to know and understand relationships, analyse complex things, think about how systems are embedded in different domains and at different scales, and to deal with uncertainty (UNESCO, 2017).

1.6 State of the Art

Sustainable Development Goals (SDGs) is a 2030 agenda comprised of 17 goals. One of these goals, the fourth, pertains to Quality Education and includes indicator 4.7, Education for Sustainable Development (ESD), as one of its achievements. The implementation of ESD in education targets the instillation of systems thinking competencies within learning objectives. Consequently, students are expected to possess systems thinking competencies as a direct outcome of the learning process. Since it is crucial, it should be taught from the early. There is evidence from Benson, T. A (2007), as one teacher has shared, *“As I integrate systems thinking into my classroom, I continue to be amazed at what my students can do, the complexity of their thinking and the ease with which they express their ideas”*.

Recent researches have shown interest in systems thinking skills through various educational approaches. Earth systems education has been shown to improve students' system thinking abilities, with progress occurring in hierarchical stages (Assaraf & Orion, 2005). Project-based learning in multidisciplinary environments also enhances systems thinking capacity among engineering students (Kordova, 2020). Both work experience and diversity in research areas contribute significantly to the development of systems thinking skills, with these factors potentially compensating for each other (Padhi et al., 2018). Outdoor education for sustainable development has been found to improve specific systems thinking skills in pre-service science teachers, such as considering past-present-future relationships and developing empathy with non-human beings (Karaarslan Semiz

& Teksöz, 2019). In engineering education, integrating systems thinking skills through a vertical course thread can foster deep, connected learning (Robinson-Bryant, 2018). These skills can be developed through various educational approaches. Earth systems education has been shown to improve students' system thinking abilities, with progress occurring in hierarchical stages (Assaraf & Orion, 2005). Project-based learning in multidisciplinary environments also enhances systems thinking capacity among engineering students (Kordova, 2020). Both work experience and diversity in research areas contribute significantly to the development of systems thinking skills, with these factors potentially compensating for each other (Padhi et al., 2018). Outdoor education for sustainable development has been found to improve specific systems thinking skills in pre-service science teachers, such as considering past-present-future relationships and developing empathy with non-human beings (Karaarslan Semiz & Teksöz, 2019).

Based on the studies above, it can be seen that systems thinking skills have never been included in English language learning. As a matter of fact, in foreign language teaching, implementing problem-based learning through communicative tasks can help develop systems thinking while mitigating the negative effects of clip thinking (Shpak, 2024). Dealing with writing skills, in logbook writing, introducing systems thinking habits helped students improve content relevance, critical analysis, and integration of ideas (Lee & Kirwan, 2024).

As for that, this study contributes to design a specific learning material for English language learning for students in grade 6th and gaining not only language skills but also systems thinking skills.

1.7 Definition of Key Terms

The following is the definition or explanation of key term found in this research:

1. Systems Thinking Skills is an important cognitive skill for comprehending the interconnections between system components and their broader context (Kordova et al., 2021)
2. 6th Grade Students denotes the primary school level in the foreign language class. Here, this study focuses on learners who are in range of 11-12 years of age.