CHAPTER I

INTRODUCTION

This chapter explains a general outline of the study It covers the study background, the research questions, the purpose of the study, the scope of the study, significances of the study, clarification of related terms, and state of the arts.

1.1. Background of the Study

The role of education becomes increasingly important in preparing the next generation to have learning and life skills since the development of innovation and technology occurs rapidly. According to (UNESCO, 2015) it leads to the acquisition of skills and knowledge needed by students to survive and succeed in the twenty-first century. Students now live in an interconnected, diverse, and rapidly changing world (OECD, 2018). These individuals increasingly need to develop skills for new ways of working, living, learning, and thinking.

Furthermore, a new concept has recently emerged focusing on these prospects, which are so-called 21st-century skills. Teachers also need to understand how to equip students with 21st-century skills competencies to foster students' content knowledge while developing their understanding. However, a key challenge in bringing about desired improvements lies in the lack of context-specific understanding of teaching practices and meaningful ways of supporting teacher professional development (Kim et al., 2019). The situation encourages teachers to look for a suitable model of learning since the teaching and learning process will be ineffective without it. (Behar-Horenstein & Seabert, 2012).

Model of learning that enhances century skills should be student-centered learning where problems encountered in students' daily lives can be used as learning topics. It is intended to apply the concepts of knowledge that students have acquired into the real matter (Saavedra et al., 2012). Model of learning represent a learning environment that has many uses, ranging from planning curriculums, courses, units, and lessons to designing instructional materials, multimedia, programs, and computer-assisted learning programs (Joyce et al., 2015). There exist many popular learning models, nonetheless, one of a dynamic approach suited to teaching in which students explore real-world problems and challenges, simultaneously developing 21st-century skills while working in small collaborative groups is a Project-Based Learning (J. Stivers & Brandon, 2010).

Furthermore, (Barron & Chen, 2008) find that Project-Based Learning essentially involves the following things as follow; students learning knowledge to resolve real problems as they would be solved in the real world, increased student control over his learning, teachers serving as coaches and facilitators of inquiry and reflection, and students working in pairs or groups. (Pearlman & Thomas, 2000) propose Project-Based Learning model as complex tasks, based on challenging questions that involve students in design, problem-solving, decision making, or investigative activities. This provides students the opportunity to act independently over extended periods and the lead-up to realistic products or presentations. Despite the challenges of its implementation, Project-Based Learning still can be introduced into classrooms in several ways (Condliffe et al., 2017). For instance, teachers and schools use the externally developed Project-

Based Learning curricula. They are equally able to develop their Project-Based Learning approaches or a part of a whole-school innovation effort. Another point of view comes from (High Quality Project Based Learning, 2017) that Project-Based Learning is a critical teaching method that enables students to improve academic skills and content knowledge, gain essential skills for career achievement, and develop the personal agency necessary to tackle life's and the world's challenges. As a result, students practice *deep content knowledge* as well as critical thinking, collaboration, creativity, and communication skills to make decisions and solve problems precisely.

The American Association of Colleges for Teacher Education (AACTE) and the Partnership for 21st Century Skills (P21) believe teachers must be equipped with 21st-century knowledge and skills and learn how to integrate them into their classroom practice (AACTE & P21, 2010). The central issue of how teachers prepare students with the 21st skills competencies becomes a challenging task. Since teachers need to find an approach that systematically thrives students' competencies within the school context that supports positive in-school and post-school outcomes for all students (Noonan & Erickson, 2017). Therefore, it is important to know more about what skills should be developed during the learning experience.

The National Academy of Sciences recently defines the skills necessary for success in the 21st-century as falling into three domains, such *as intrapersonal, interpersonal, and cognitive*. **The cognitive domain includes competencies such as problem-solving, creative thinking, organization, critical thinking, time**

management, learning schema, and content and technical skills. Students who have these competencies understand more course content and retain more information, can effectively process new information in working memory, and generalize information to apply multiple contexts. These students make better decisions in complex situations and can adapt to changing work environments.

Moreover, (Griffin, P., McGaw, 2012, p.36) classify more detail ten essential skills in the 21st-century that consist of *Ways of Thinking*: (1) Creativity and innovation; (2) Critical thinking, problem-solving, decision making; (3) Learning to learn, metacognition), *Ways of Working*: (4) Communication; (5) Collaboration/teamwork), *Tools for Working*: (6) Information literacy; (7) ICT literacy, *Living in the World*: (8) Citizenship; (9) Life and career; (10) Personal and social responsibility. Even though these abilities are variously described and classified from one framework to another, they consider widely comprehensive to deal with all approaches. For shortness, the framework skill of ways of thinking or can also be called cognitive competencies, chiefly centered to critical thinking, problem-solving and decision making which are beneficial for increasing students' interest in learning and will encourage them to learn new ideas, also develop their self-regulation, working memory and cognitive flexibility.

Other researchers (Tuzlukova & Usha-Prabhukanth, 2018) focus on Critical thinking and Problem-solving Skills: *English for Science Foundation Program Students' Perspectives*. The objective is to present a comprehensive view of how critical thinking and problem-solving skills teaching and learning approaches, models, and practices are adopted in the context of the ESP foundation programs

in Oman. In line with the previous statement (Laia & Iskandar, 2020) studies the ways of thinking skills - critical thinking, problem-solving, and decision making are inseparable skills. All require collaboration to gain the desired outcome. Acquiring critical thinking immediate positive impact on solving current problems, and has important long-term benefits with decision making as the result.

Furthermore, critical thinking, problem-solving, and decision-making are vital component skills as the basis to the common core learning standards. Since those skills are beneficial to prepare all students adequately for the fast-moving future for college and careers (NYSUT, 2015). Afterward, it needs to teach students how to think on their own for creating individuals as 'problem solvers'. They need to be fully responsible for their experience of creating meaning from extensive ideas (Budgen, 2007). The implementation of teaching competencies well, however, is not without hurdles. The common issue emerges such as competency development isn't gradually absorbed but it should be learned. The thing takes practice over time like learning anything else. Even though the competencies are relatively simple to define, these terms are complex to teach and learn. Besides, they are typically not addressed in a systematic way for all students (Bhehlol & Cajkler, 2018).

Meanwhile, Indonesia's government found English to be the most significant foreign language. Therefore, English is treated as a compulsory foreign language subject that students must learn from elementary school to university (Sari, 2016). One of the content subject in English Language Education Study Program that need to be considered is grammar. (Gerot & Wignell, 2010) suggest

that students who study a language at a higher educational institution are necessary to master four English skills. Furthermore, as a person who studies language in some depth, the student will find that grammar is way more useful. The need for grammar or language theories helps students understand how texts work. Teachers are required to consider how texts work to assist students to acquire how to deeply understand and produce texts, in various contexts for diverse purposes. (Akbari, 2014) also found that grammar is used as a tool to develop and simplify reading comprehension. Students held a sense of self-satisfaction, more effective reading comprehension, and students were naturally motivated to read English academic texts as they gained a lot of perspectives towards the role of grammar through understanding. The students experience the significance of grammar in helping them understand texts, rather than memorizing a set of patterns for doing exercises.

Moreover, (Purnawati & Iskandar, 2019) claim that grammar is language awareness that influences the four language skills by affecting the properness of students writing and speaking as well as students understanding while catching meaning in reading and listening activities. There is a clear relationship between the four areas of speaking, listening, reading, and writing. Progress in one of these skills can be a precondition and a step towards progress in other skills (Nassaji & Fotos, 2004). Some studies state grammar knowledge leads to advanced accuracy and fluency among students of the second or foreign language. However, (Hudson, 2005) argues uninteresting lessons of grammar make a counterproductive sense towards grammar teaching and learning. Unfortunately, most English grammar classes are uninteresting and thus students lose interest in learning grammar.

The following are several previous kinds of research related to Project-Based Learning or cognitive competencies in grammar classes and any other language skill classes in Indonesia. The first was (Chikita et al., 2013), who carried out the effect of Project-Based Learning and students' perceived learning discipline toward the writing competency of the eleventh-grade students. Based on the analysis, Project-Based Learning has a positive effect on students' writing competency. Another study (Nurcahyoko, 2014) was about Project-Based Learning in teaching grammar for high and low-motivated students, the finding showed that both techniques are effective to improve students' grammatical accuracy for high and low motivated students. Next, there was (Putri, 2018) talked about the effect of Project-Based Learning implementation on students' participation and achievement in English speaking courses. The result found that using Project-Based Learning encouraged students to participate actively in the learning process, for example, discussing in groups, asking questions, sharing ideas, etc. The other related study conducted by (Jusmaya & Efyanto, 2018), the analysis showed that critical thinking skills can be increased by using the Project-Based Learning method.

After reviewing the advantages and positive effect of Project-Based Learning execution in the educating and learning process, it can be concluded that teachers, particularly English teachers, should be equipped for developing or carrying out Project-Based Learning. Project-Based Learning is designed to help students become more engaged, creative, innovative, constructive, and communicative in all aspects of the learning process. In addition, by infusing

cognitive competencies into classroom learning process should be considered as a main strategy in teaching and learning process. However, the researcher considers that there are still unavailable studies dealing with developing a Project-Based model of learning, infusing with Cognitive competencies in the grammar class of English Language Education Study Program.

In accordance with the above consideration, the urgency of developing a new model of learning is because of some reasons; the teaching and learning process will be ineffective if the model of learning is absence in the classroom; the model of learning has a significant role in education to assist students achieve new ideas, skills, and experiences; the model of learning is intended to engage the teaching and learning process, accomplish the best learning outcome, and time efficiency; the model of learning are useful in developing cognitive abilities of the students. It helps in selecting and stimulating situations which causes the desirable changes in students; in the 21st-century, a dynamic learning model which suited to teaching in which students explore real-world problems and challenges while working in small collaborative groups is a Project-Based Learning; by infusing Cognitive competencies in the model of learning can contribute significantly to students' ability to achieve, accomplish objectives and professional development, and the whole teaching and learning progress for instance for students who study Grammar at a higher educational institution. For that reason, the researcher determined to conduct a study entitled *"Developing Model of Project-Based and Cognitive Competencies-Infused Learning in the Grammar Class of English Language Education Study Program."*

1.2. Research Questions

Based on the study background, the research questions are outlined as follow, The main question of the research is: **How is the model of Project-Based and Cognitive competencies-infused learning in the grammar class of English Language Education Study Program?**

The main research question is divided into sub-research questions, which are:

1: To what extent have the existing models of learning in grammar classes of English Language Education Study Program employed Project-Based Learning and been infused with Cognitive competencies?

2: How are the procedures to develop the model of Project-Based and Cognitive competencies-infused learning in the grammar class of English Language Education Study Program?

3: How are the development of the model of Project-Based and Cognitive competencies-infused learning in the grammar class of English Language Education Study Program?

1.3. Purposes of the Study

In line with the research questions above, the main purpose of the study is: **To develop the model of Project-Based and Cognitive competencies-infused learning components in the grammar class of English Language Education Study Program.** Besides, the sub-purposes of the study are:

1: To analyze the use model of Project-Based and Cognitive competencies-infused into the existing models of learning in the grammar classes of English Language Education Study Program.

2: To describe the procedures of developing the model of Project-Based and Cognitive competencies-infused learning components in the grammar class of English Language Education Study Program.

3: To develop the model of Project-Based and Cognitive competencies-infused learning in the grammar class of English Language Education Study Program.

1.4. Scope of the Study

The research focuses on developing a model of Project-Based and Cognitive competencies-infused learning in grammar class of English Language Education Study Program. The product of this research is a model of Project-Based and Cognitive competencies-infused learning in the grammar class, to equip the lecturer with the process of teaching and learning in English Language Education Study Program grammar classes. This study is limited to observing several classes of English Language Education Study Program in four different universities. Afterward, this study will apply the method of Design and Development Research (DDR). This research used the data of the existing models of learning obtained from class observation and syllabus documents. Moreover, the data from the existing models of learning were analyzed to describe how deep the use of Project-Based and Cognitive competencies-infused into the existing models of learning in grammar classes of English Language Education Study Program.

1.5. Significances of the Study

The research is expected to give contributions to both theoretical and practical aspects for the educational field, mainly in grammar classes of English Language Education Study Program. **Theoretically**, it is expected to give an

explanation and profound understanding about developing model of Project-Based and Cognitive competencies-infused learning components in grammar classes of English Language Education Study Program.

Besides, **practically** the study is expected to give beneficial information as follow:

(1) For students - The study can be used to support the students' learning experience using a model of Project-Based Learning in grammar classes. It is also expected that the learning quality of students will be successfully integrated with 21st-century cognitive competencies emphasis on a deeper understanding of critical thinking, problem-solving, and decision making.

(2) For teachers - The result of this study can be applied in teaching and learning activity using model Project-Based Learning in grammar classes, at the same time promoting 21st-century competencies. It is also useful in giving teachers reference and insight in applying the learning model since they serve as coaches and facilitators of inquiry and reflection.

(3) For other researchers - The study can develop the previously existing data into new research, then it also supports the future research so that other researchers who are willing to continue the study may use the outcome of the study as a reference.

1.6. Clarification of Related Terms

To avoid misunderstanding and misinterpretation, there are many some terms used in this research that need to be clarified, including:

a. Project-Based Learning (PBL)

Based on (Pearlman & Thomas, 2000) study the Project-Based Learning (PBL) is supposed to be long-term, requires teamwork among students, and

results in a substantial final. From the recent study of (Pham, 2019) Project-Based Learning is a model that meets the needs of both teachers and students in teaching and learning a foreign language effectively. Project-Based Learning allows teaching and learning following skills, engage students in the learning process, motivates, and develops students' creativity. Therefore, it can be implied that Project-Based Learning is a method in which the students are learning through a project that they decide to find their paths with the teacher's assistance so that students can be actively engaged in the learning process. It is necessary to admit the obstacles that might emerge in Project-Based Learning.

b. Cognitive Competencies

Cognitive competencies highlight creative and critical abilities that help improve decisions, solve problems, and learning (Sun & Hui, 2012).

- *Critical thinking* is characterized by being: fair and open-minded; active and informed; skeptical; independent. Critical thinking consists of making informed, evaluative judgments about claims and arguments.

- *Problem-solving* is about the use of logic to address real-life situations and aid decision-making. The fundamental skills of problem-solving are: selecting relevant data, finding appropriate procedures, and comparing data. (Butterworth J., 2013).

- *Decision-making* is a process of identifying and evaluating choices that create some impacts. (Laia & Iskandar, 2020)

c. Grammar

Grammar is defined as a theory of language, of how language is put together and how it works (Gerot & Wignell, 2010). Some studies suggested that grammar knowledge leads to advanced accuracy and fluency among students of the second or foreign language. It is a language awareness that influences the four language skills.

1.7. State of the Arts

Prior studies of Project-Based Learning were plenty and available. Some studies related to Cognitive competencies-infused learning for teaching and learning EFL is available as well. However, developing the model of Project-Based and Cognitive competencies-infused learning in the grammar class of English Language Education Study Program is not available. Therefore, the current study is expected to develop a model of Project-Based and to give novelty contribution to the education which infused Cognitive competencies: *critical thinking, problem-solving, and decision-making* in curriculum, mainly learning that covers teaching method and planning in grammar classes of English Language Education Study Program.