

CHAPTER I

INTRODUCTION

This chapter provides an overview of the research, which explains the importance of this research and is supported by the theories related to this research. It consists of the background, research questions, research scope, hypotheses, and previous studies.

A. Background

This study aims to determine the student interaction with English in JavaScript programming. The study also intends to evaluate and understand more completely how pupils who frequently use computers and programming languages correlate with their language skills. Vocabulary has long been recognized as the key to successful reading (Homby, 2015). This is critical because English is the major language used in computer programming (Puspitasari, 2013). English is widely regarded as the lingua franca of all computer activities, including JavaScript development (Rao, 2019). As a result, students who are in contact with programming languages and find words such as cut, replace and copy more frequently may have stronger English than students who rarely interact with programming languages.

Becker (1994), cited in Rybarra (2003), states that learning computer software can provide many intellectually exciting educational experiences. They also emphasize that when learning computer programs, students use a wide variety of computer software, including a word processor, spreadsheet, simulation, programming language, database program, graphing program, logic, and problemsolving programs, writing tool, and electronic bulletin-board communication (Rybarra, 2003). Therefore, the use of software can develop students' vocabularies, even arising students' internal motivation, and provide materials for English language learning, so learning will be a meaningful experience for them (Solikhah, 2020).

In terms of education, SMK is one of the institutions that can incorporate JavaScript as one of the lessons in the curriculum. Because the educational orientation used in vocational schools is primarily to assist students in meeting the competencies required by industry (Newhouse & Suryadarma, 2011), this is also

consistent with the mandate in the 2013 curriculum, which emphasizes students' ability to pick what they want to learn (Kemendikbud, 2018). Of course, vocational schools do this since students can choose the vocational school offered by the vocational high school from the beginning. Until now, students majoring in Software Engineering (SE) and Informatics Engineering had at least two times a week to study JavaScript and other programming languages.

Based on limited observations of a number of Software Engineering students at SMKN 4 Bandung, it appears that pupils continue to struggle with understanding English in the programming language. As a result, people must consult a dictionary or seek it up online to determine the meaning of the programming language they see in JavaScript. This is intriguing since it turns out that for certain students, the long and routine interaction with JavaScript does not always cause them to recall the English vocabularies in the programming language. However, it is probable that some of the pupils' assumptions were incorrect. As a result, the researcher is curious as to how closely the intensity of students' contact with the JavaScript application correlates with their capacity to master English.

Several studies related to the students' intensity in interacting with the English language utilized in JavaScriptTM and their vocabulary learning have been undertaken. Faulina (2016) did a study about the students' English vocabulary mastery on computer instruction at SMK Muhammadiyah 3 Banjarmasin. The study examines how students respond to terminology in computer instructions and their level of comprehension. The second research is conducted by Shi (2017), who investigates the use of multimedia technology in teaching English vocabulary to engineering students. The third research is conducted by Ningsi (2021), which discusses the correlation between the habits of Raha State Vocational School students in watching English Movies with the vocabulary mastery score obtained. However, even if the preceding research is similar to the topic of the current research, this research is distinct from earlier studies. The reason for this is that the prior studies concentrate on English language skills based on students' computer skills. Meanwhile, the current research focuses on more specific computer software, which is JavaScript.

B. Problem of Research

Based on the explanation above, this research raises various questions, which will be addressed in the parts that follow.

1. What is the students' intensity in interacting with the English language used in JavaScript program?
2. How is the students' mastery of computer vocabulary?
3. What is significant correlation between the students' intensity in interacting with English in JavaScript and their vocabulary mastery?

C. Research Purposes

Based on the research question above, this research is aimed at obtaining the three following objectives.

1. To describe the students' intensity in interacting with the English language used in JavaScript program.
2. To describe the students' mastery of computer vocabulary.
3. To find out correlation between the students' intensity in interacting with English in JavaScript and their vocabulary mastery.

D. Research Significances

Theoretically, this research is expected to find out the benefits of using is to determine the benefits of using JavaScript in English, which may have an impact on students' vocabulary mastery. This research is also predicted to be useful in the academic field, particularly in terms of developing vocabulary mastery through JavaScript programming.

Then, practically, this research is expected to be viewed as a response to the rapid flow of informatics, where students can learn and at least be aware of English from the things they do on a daily basis in the computer domain.

E. Research Scope

In the data collection process carried out by the author, this research focuses on how intense the interaction Software Engineering students and the JavaScript program that uses English as the language of instruction. Then, this study also focuses on the relationship between the intensity of student interaction with the JavaScript program and computer vocabulary mastery.

F. Theoretical Framework

Having a solid basis in researching and even observing anything is something that should be done in research (Hammond & Wellington,2020). Similarly, there are various ideas that support and underpin the author's research on this topic, ranging from the theory about the necessity of vocabulary learning to how Software Engineering students learn JavaScript.

To begin with, knowing and mastering vocabulary is critical in learning English. This is predicated on the requirement to master vocabulary as a foundation for studying English or other languages (Susanto,2017). Furthermore, vocabulary contains the meaning of words in a language.

Then, according to Alqahtani (2015), mastery of language is equivalent to total knowledge. Hence, comprehensive knowledge is the ability to recognize an object using words spoken in the target language (Alqahtani, 2015). Aside from having a thorough knowledge of vocabulary, having a large vocabulary is also an important component in learning English as a foreign language.

Then, in the computer context, English is the lingua franca (Rao, 2019). In other words, English is the universal language for computer-related vocabulary, which includes everything from the names of the hardware installed to the vocabulary found in every software programming language, including JavaScript. As a result, persons who frequently use computers may be able to learn more vocabulary in English, particularly English found in every computer component such as hardware and software.

Language learning via computers has also been known in the contemporary era of computing and learning is known as Computer Assisted Language Learning. Computer-assisted language learning (CALL) is widely regarded as a technique that can be utilized to aid in the process of learning English (ELT). From both a learning and teaching standpoint, the usage of CALL has become a potent medium for language learning (Khamkhien, 2012). However, including the CALL program into the instruction language necessitates a certain level of sensitivity and comprehension of how to implement the appropriate program. Although in the context of this study, the use of computer English is not directly taught to students, Software Engineering students have gotten quite familiar with English and English terminology on computers. These vocabularies are contained

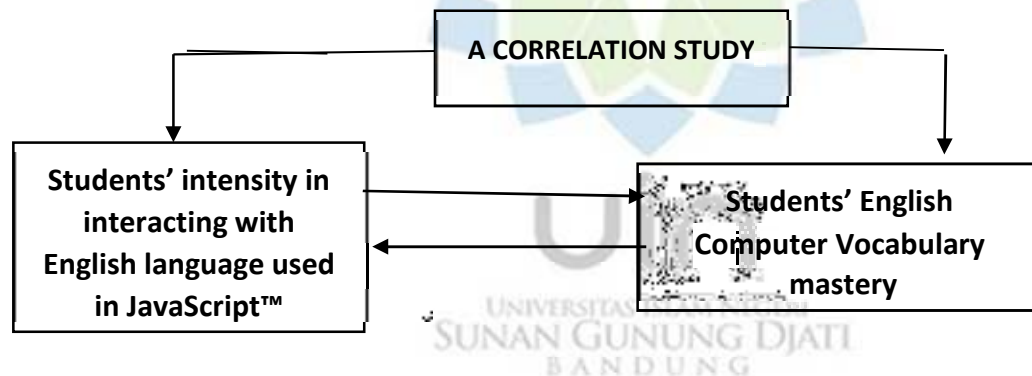
in a computer program, the JavaScript program, which is utilized as one of the subjects on their curriculum (Wulandari et al., 2019).

JavaScript itself is a programming language that is extensively used in the creation of computer programs (Flanagan, 2015). This JavaScript programming language enables us to construct programs dynamically, update webpages, animate graphics, manage multimedia, and so on (Dorman, 2020). Then, in its application, English is present as the language utilized in creating scripts for the aforementioned functions. As a result, users who use JavaScript frequently will see and write in English, even though the English that appears in the program are just translated using a dictionary.

The sample of this research used two kind of variables. The first is the students' intensity in interacting with the English language used in JavaScript™ as the "X" variable, and their computer vocabulary mastery as the "Y" variable.

The study can be seen in the figure below :

Figure 1. 1 Framework of the research



G. Hypothesis

Based on Creswell (2012), a hypothesis is a prediction which the researcher makes about the expected relationship between the independent variable and the dependent variable. The independent variable of this research is the intensity of student interaction on JavaScript, and the dependent variable of this research is students' vocabulary mastery. The hypothesis is obtained from the data collected from the samples (Creswell, 2012). The hypotheses in the study are the alternative hypothesis (Ha) and the null hypothesis (Ho). The formulated hypotheses as follows:

Ha: there is a significant correlation between the students' intensity in interacting with the English language used in JavaScript™ and their computer vocabulary mastery.

Ho: there is no significant correlation between the students' intensity in interacting with the English language used in JavaScript™ and their computer vocabulary mastery.

H. Previous Studies

Several studies have been conducted in the past that are connected to the issue that the researcher is currently researching. The first study is the research from Faulina (2016) entitled focusing on the students' English vocabulary mastery on computer instructions at SMK 3 Muhammadiyah Banjarmasin. This study investigates the ability of Software Engineering students to grasp the terminology contained in computer instructions, as well as what vocabulary the students can and cannot understand. The research took a sample of 35 students, the research then used several techniques in the process of carrying out the research, such as observing the learning process at school, creating a test in the form of a cloze test to measure students' vocabulary mastery skills, and a questionnaire to find out macro-level vocabulary that they find difficult to understand. According to the findings of this study, school pupils have strong vocabulary mastery because the average value obtained from the supplied exam exceeds 65.9. Even though the students had good grades, they encountered several difficulties in specific language that they did not comprehend (Faulina, 2016).

The second study, done by Shi (2017), investigates the use of multimedia technology in teaching English vocabulary to engineering students. Shi is currently experimenting with Computer Assisted Instruction, which is thought to make teaching more innovative. So this study took 2 freshmen classes from the school of engineering. Moreover, this study used an experimental study by doing step of experiment study and test his hypothesis. There are four steps of an experiment that the researcher did such as, testing the hypothesis, subject testing, preparing learning material, and testing the data collection. The trial results show that utilizing Computer Assisted Instruction to study and teach makes the information and knowledge presented easier to understand and can be recalled longer in students' memories than standard language teaching approaches (Shi, 2017).

The next is a study conducted by Ningsi (2021) which discusses the correlation between the habits of Raha State Vocational School students in watching English Movies with the vocabulary mastery score obtained. The study used a quantitative approach to 32 students in carrying out the research and used questionnaires and made tests for data collection. Then, the result of the analysis shows that students' habits in watching English movies have a positive correlation with their vocabulary mastery. It can be concluded that H_a is accepted and H_o is rejected. This indicates that there is a significant correlation between students' habits in watching English movies and their vocabulary mastery. (Ningsi et al., 2021).

However, while the prior studies focused on nearly the same themes, such as vocabulary mastery and showing the association between computer-facing habits and language skills, the current study differs from past studies in some ways. First, unlike past findings, this study focuses on the application used by Software Engineering students throughout several semesters, which is JavaScript. Second, this study examines the association between the intensity of students' interaction in JavaScript and their English language skills, specifically in reading, rather than only the correlation between habits and vocabulary mastery. In a word, the focus of the current research is something new on this topic. The third gap is the participant, and the method of this study is different from the previous study. While the previous study uses an experimental study and a quantitative method for collecting and analyzing the data from engineering students, this study used quantitative data to collect and analyze the data from Informatics Engineering Major.