

STUDENTS' PERCEPTION TOWARDS ENGLISH VOCABULARY IN LEARNING COMPUTER PROGRAMMING

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Abstract: This article aims in knowing students' perception towards English Vocabulary Mastery in Learning Computer Programming at a Vocational High School of Malang. The research design of this study is qualitative research with a narrative inquiry method. The subjects were four second-grade students from the Software Engineering class at Vocational High School 9th of Malang. A semi-structured interview is used as the research instrument in collecting the data. Based on the data taken, there are five points of the students' perceptions. First, they started learning programming in a Vocational High School. Second, their learning difficulties are a lack of vocabulary and grammar. Third, students think English is important in programming. Fourth, students use several learning strategies and tools in learning programming. Last, their motivation for learning English and Computer Programming is career driven. It is suggested that educators provide structured English instruction in programming lessons and provide additional resources with bilingual explanations for them. Since this study had a limited scope and limitations, it is expected that future researcher to use another instrument and a different method.

Key Words: Students' perception, English vocabulary, Computer programming

INTRODUCTION

The fourth most populated country in the world is Indonesia, with more than 250 million people. Considering the large population, the country has a tremendous amount of data both offline and online. In 2022, Indonesia encountered some online data leak cases from a wide range of aspects, such as bank data, hospital patient data, internet provider user data, toll-road user data, SIM card registration data, et cetera.

The data breaches are done by those who can crack the system, which are usually performed in programming languages with hacking tools. To prevent more data breaches, cybersecurity must be enhanced. The IT security is authorized by cybersecurity engineers who have the capacity to defend against hacking and maintain the system safe. Security engineers need to learn and master programming languages to be able to secure the system more efficiently.

There are some programming languages that cybersecurity engineers need to be proficient in, such as Python, C++, Java, Ruby, Node.js, Go, and / PowerShell. As stated by Veerasamy & Shillabeer (2014)(Veerasamy & Shillabeer, 2014), that computer is able to perform several tasks because it is run by each programming language that has its own grammatical rules (syntax) and set of vocabulary (keywords). Most of the programming

languages are English-based programming languages, which means it is important for non-native speakers of English to learn English, since it will help them to get easier access to learning.

In previous studies by Zainal et al. (2012, 277) reported that compared with other types of motivations, students who have intrinsic motivation perceived high programming skills and displayed excellent performance. The study then recommends further investigation into other possible factors that contribute to students' achievements, such as educational background, personality, learning style, and other related skills. Based on the background above, the researcher is motivated to understand the students' perception of their English vocabulary mastery in learning programming at Vocational High School 9th of Malang.

METHOD

This research aims to understand the students' perception of English Vocabulary Mastery in Learning Programming. Based on the purpose of the study, the research design used in this study is a narrative inquiry design. This research adopts a qualitative approach since the study explores the students' perception of English vocabulary mastery in a Programming class. The researcher collected the research data using a semi-structured interview during the study to compile a detailed description of students' individual experiences.

The subject in this study are six students from the RPL or Software Engineering class. Since students in Vocational High School 9th Malang who are learning programming and the English language are suitable for conducting this study. All of the participants were interviewed with twenty semi-structured interview questions about English in learning Computer Programming. Field notes are used for observation during data collection. Documents from the participants, such as academic scores in English and or programming courses, are also used as valid evidence.

To get the correct interpretation of the data, the researcher has to implement procedures such as triangulation and reflexivity. In the process, the researcher went through a series as follows. In the beginning, purposive sampling was used to gather the sample, which was then applied in the second grade of the Software Engineering class, in Vocational High School 9th of Malang. Then, the researcher gave the selected participants an explanation of the purpose of the research. After that, the researcher conducts the data collection. At the end, the data from the data collection will be processed and analyzed.

A data analysis spiral was used to analyze the data. The data analysis spiral will process the data in three stages. The first stage is organizing and familiarizing, the second stage is coding and reducing, and the last stage is interpreting and representing. The two main datasets were

collected by using interviews and documents as the data collection instruments. Data analysis application such as Atlas.ti is used in analyzing the data.

FINDINGS AND DISCUSSIONS

The data were collected from a semi-structured interview on July 30, 2024. By using data analysis spiral, the findings of this study are, namely: difficulties, experience, knowledge, learning strategies, and motivation. The participants had their own past experiences before studying English and programming languages in Vocational High School 9th of Malang. Students' direct encounters with learning materials shape their perception of English vocabulary, as it enhances comprehension (Fitriani et al., 2023). Most of the participants said that they studied the English language starting in elementary school and then began to learn programming in Vocational High School. However, they did not have prior experience in programming before entering Vocational High School.

The students expressed that they had some challenges in learning programming related to the English language, such as not knowing the meaning of some English terms. This is also in line with Anwar et al. (2020) findings that the beliefs of native speaker attributes as the target learning are held despite the students' preference in learning English. The students mentioned grammar as another difficulty, which is correlated with Ruscandi et al. (2019), where the more vocabulary students acquire then the better their grammar skills.

Despite the students acknowledging their limitations in fluency, they stated that they understand English in a receptive mode such as using listening skills when they are actively learning. This aligns with Hadfield and Hadfield (2008) as cited in Rubilar et al., (2010) which stated that by encouraging them to think about why the students are reading and what information exactly they are looking for, they can be focused on reading. From the students' answers, it is clear that they think they need it as basic knowledge. This is in line with Rapiudin's (2019) findings, which indicate that most of the students believed in the value of learning English.

There are some learning strategies used by the students. The participants stated that they use Google Translate and ChatGPT as a helping tool when they find unknown English words. According to Yazid and Dzulfikri (2024) each learner's unique needs are met with the individualized approach in ChatGPT that allows focused scaffolding and assistance. Some participants ask the teacher or their friends when they find unknown vocabulary or difficulties in learning programming. This corresponds to Mistar's (2011) findings, where communication strategies are the most explanatory factor of strategy. Since the students are using Replit and Visual Studio, the English words that are found by participants will be in the context of learning

programming. The contextualization correlates with the findings of Heriyawati et al., (2018) where students better understand the writings if they are familiar with the content of the writings.

The students are learning English because they think it is important to study the international language and they want to have the skill. They also think that English in programming is very beneficial for their career in the future because that allows them to work with foreigners and get more work opportunities. This is parallel to the findings of Rapiudin (2019) which indicated that the students are learning English as a tool to learn and communicate. They believed in the significance of learning English and considered that it is important to help them realize their dream, such as having a student exchange program with foreign countries, since it will allow them to use and learn English more. The findings of this study imply that English for Specific Purposes should receive more attention from the English Education Program.

CONCLUSIONS AND SUGGESTIONS

Based on the results, five main points were identified: experience, difficulties, knowledge, learning strategies, and motivation. In brief, it is concluded that the participants recognized English vocabulary as an important part of learning Computer Programming, and it is beneficial to improve it as they believe it will benefit them in their current learning activities and their future career.

For educators and schools, it is expected that they can provide structured English vocabulary instruction in programming lessons to help the students understand more easily. It is also expected that they could provide additional resources such as coding tutorials or materials with bilingual explanations, and more computers or gadgets for them to be used for practicing the programming language.

The researcher hopes for the students or beginners to practice programming earlier and more often, as recommended by the participants. The students can also use multiple learning strategies, such as learning from YouTube tutorials, using ChatGPT, and Google Translate, in learning both programming and English.

The findings of this study are anticipated to be able to provide more information for future researchers who are willing to conduct the study on a related or similar topic by using different instruments and methods. The researcher is also aware that this research has some limitations, thus, it is highly anticipated that future researchers can use SPLS to gain a better understanding of the relationship between students' perception, their English vocabulary, and learning programming.

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