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Needs Analysis on English Language Learning of Software Engineering Students of SMK Kartika XX-1 Makassar

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Abstract
The objectives of this research were to determine: (1) the needs of software engineering students in learning English; and (2) the materials suit the English language learning of the software engineering students of SMK Kartika XX-1. This research used a descriptive qualitative research method. The participants of this research were 2 English teachers and 30 software engineering students grade X at SMK Kartika XX-1 Makassar, which were taken through purposive sampling. The instrument used in this research was a structured interview which was contained of 15 open-ended questions for students, and 10 open-ended questions for teachers. The data of this research were analysed in four stages; they were coding, data reduction, data display, and drawing conclusion or interpretation. As the result of this research, researcher found that the needs of Software Engineering students were to learn English in accordance with the teaching concepts of English for Specific Purposes. For necessities, both of the students and teachers stated that the students' need speaking skill the most. Therefore, the lacks of students were the limitation of vocabularies and the less of self-confidence in speaking. In line with the students' lacks, most of the students wanted their speaking skill and vocabulary achievement better than before. It can be concluded that some topic materials that covered four of language skills, they were; software language program for listening, software development for speaking, software introduction for reading, and the last was launch the computer program for writing.

Keywords: *English for Specific Purpose, Materials Recommendation, Vocational School*

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INTRODUCTION

The government regulation of the Republic of Indonesia No. 29 of 1990 concerning secondary education, chapter I general provisions, article 1 (3), implies that vocational education should focus on the development of students' skills in specific field. In article 3 (2), it is clearly stated that vocational education should give the priority to prepare vocational high school (henceforth VHS) students to enter the workplace and developing professional behavior. In addition, the act of the Republic of Indonesia No. 20 of 2003 on National Education System article 15 states that vocational education is secondary education program for preparing learners for a specific job.

According to Widodo, teaching English in vocational education, particularly in secondary education, should be taken into account as English for Specific Purposes (henceforth ESP) program (Widodo, 2016). However, in the context of vocational education in Indonesia, the fact revealed that both school-based curriculum (KTSP) and the curriculum 2013 (K13) of VHS and general schools have the same English learning materials. More surprisingly, most of VHS in Indonesia still have a problem related to the availability of English learning materials which are appropriate for the students. Materials which are provided by the government and launched by some publishers are still general.

Teaching material tailored to the needs of certain groups of students will likely not be available because publishers are reluctant to produce material (Marjanovikj-Apostolovski, 2019). Materials take an important part in teaching and learning process. Good and appropriate materials will give positive influence to the students' learning process. Since English teaching in SMK aims to support the students' competence in a certain study program, appropriate English learning materials for SMK should be based on the learners' needs, and they should represent the characteristics of each study program. According to (Akyel and Ozek, 2010), developing English learning materials that meet the students' future workplace requirements are challenging. This requires the need analysis that should be done by ESP learners or teachers to meticulously investigate effective ESP materials for students at vocational school (Akyel and Ozek, 2010).

The demand for mastering the English language has been increasing steadily because of advancement in science and information technology (Sujarwo, et al., 2020; Sasabone, et al., 2022; Sukmawati., et al., 2022). The language status as the international language of diplomacy and trade has also contributed to the need for English learning. Many of today's most valuable sources of information are available primarily in English. Many claims that the English language is one of the main foundations of globalization

The fewest frequency of teaching English can be commonly found in the countries where English has a compulsory subject in the curriculum, for example, in Indonesia on the teaching English in universities (Imran, M. et al., 2022).

Although the importance and usefulness of need analysis have been acknowledged around the world (Sasabone, et al., 2022; Jubhari, et al., 2022), it is hardly surprising that only a small number of contemporary studies has been

reported in the context of vocational education in secondary level, particularly in Indonesia. To fill this void, the researcher conducted the research which is entitled "*Needs Analysis on English Language Learning of Software Engineering Students of SMK Kartika XX-1 Makassar.* It was conducted in order to find out the students' needs in order to propose the appropriate recommendation of materials that suits their English language learning.

METHOD

This research was conducted throughout the Descriptive-Qualitative Method. According to (Suharsimi Arikonto, 2014), descriptive research is studies which are designed to obtain information concerning the current status phenomena. In qualitative research, there is little or no statistic. While qualitative is the interpretive approach which generally uses words (qualitative data) rather than numbers or concepts that can be quantified, rich description of phenomena can be produced (Akyel and Ozek, 2010).

The population of the research consisted of the whole students of computer engineering program academic year 2018/2019 which was divided into 4 classes (3 classes of Computer Engineering & Networks and 1 class of Software Engineering). But, since this research was a qualitative research, so the researcher used purposive technique sampling or also known as selective sampling to select the subjects of the research. According to (Suharsimi Arikunto, 2014), *purposive sampling is a sampling technique that qualitative researcher use to recruit participants who can provide in-depth and detailed information about the phenomenon under investigation*. Thus, the subjects of this research were two English teachers and the X grade students of software engineering program academic year 2018/2019. There was only one class of software engineering program which consists of 30 students that the researcher chose as the participants.

In obtaining the data of this research, there was only one instrument used to collect the relevant and accurate data; It was called interview. Interviews were particularly useful for pursuing in-depth information from the subjects (Harrison, R. L., Reilly, T. M., & Creswell, J. W, 2020). *Interview is a method of data collection with the question and answer unilateral and done in a systematic and based on the research objectives (*Klassen, A. C., Creswell, J., Plano Clark, V. L., Smith, K. C., & Meissner, 2012). *In general, two or more people to be physically present in the process of question and answer*. The researcher used "structured interview" or also known as a formal interview in which the researcher needs to follow a formalized list of questions and the questions were asked in a set of order. The interview questions were also developed from Hutchinson and Waters' theory of needs analysis. It consisted of 15 open-ended questions for students' interview, and 10 open-ended questions for teachers' interview which covered the 3 categories of target needs: necessities, lacks and wants. It was also conducted in Indonesian to ensure better understanding.

Furthermore, in this research, the researcher used a qualitative data analysis technique. This research could be broken down into four stages; they were

Coding, Data Reduction, Data Display, and Drawing Conclusion or Interpretation.

RESULT AND DISCUSSION

The needs analysis was conducted on June, 10th – 24th, 2019 by conducting the needs analysis interview to 30 students grade X of Software Engineering Program and two English teachers in SMK Kartika XX-1 Makassar. The interviews are intended to elicit information on the students' needs. Students' needs in learning English deals with target need and learning need.

In this research, the researcher has found the students' needs according to the students' and teachers' point of view. According to Hutchinson and Waters, target needs cover three aspects; they are necessities, lacks and wants. The term "necessities" represents what the student has to know in order to function effectively in the target situation; "lacks" identifies the learner's current language proficiency (to decide in which of necessities the student lacks); the term "wants" identifies the learner's subjective wants to learn English (Hutchinson and Alan Waters, 1987).

1. The Result of Students' Interview

The researcher was conducted the interview to 30 students of software engineering program. The finding of the research in term of necessities, lacks, and wants are explained in the following terms:

1.1.1. Necessities. Necessity here deals with the language used and needed by software engineering students to support their performance in the real field. To know the necessities of software engineering students, the researcher already asked some questions during the interview. The necessities are revealed through the questions number 2, 6, and 7.

On the question number 2, the researcher asked the students about what skill that they needed the most. The result shows in the following table:

Table 3.1: Students' language skill necessity

Language Skills	Amount of Students
Listening	-
Speaking	23 students
Reading	7 students
Writing	-
Total	**30 Students**

Next, on the question number 6, the researcher asked the students about the materials given by the teacher in the classroom, whether it is related to the students' study program or not. According to some of the students' responses, most of the students answer that the materials given to them are still general. From 30 students, 29 of them answer that the materials are too general, the students think that it is not supposed to be like that.

Then, because the type of material that being taught to the students has been revealed, the researcher intends to know what kind of material that the

students needed the most. So, on the question number 7 the researcher asked the students about what kind of material that they needed the most, the researcher limited the answer by giving 3 options for the students, as follows:

Table 3.2: Materials needed by the students

Type of materials needed by the students	Amount of students
Materials that related to the study program.	26 students
Materials about daily life.	4 students
Materials about grammar or tenses.	-
Total	**30 Students**

Thus, according to all of the questions about students' necessities, the researcher concludes that from four of the basic skills, most of the students choose speaking as the skill that they needed the most, because speaking can help them communicate with other people and also can improve their public speaking. While for the material, most of the students choose the material that related to their study program, for example; software design, software testing, project management, software maintenance, etc. because their target is to find a job after graduated from school, and the students also say they needed to master their study program before entering the workplace. It means that the students need ESP in learning English, but in fact they learn EGP in the classroom.

1.1.2. Lacks. In this research lacks deal with the gap between learners' proficiency and target situation necessities. To know the software engineering students lacks, the researcher had to compare the necessities and the student prior knowledge according to the interview to find out what the gap of those two terms. The researcher already asked some questions during the interview. The lacks are revealed through the questions number 3, 5, and 8.

On the question number 3, the researcher asked the students to rank the skill that they thought to be the easiest and the hardest one for them. This question was intended to find out the students' level of proficiency.

Table 3.3: Students' Level of Proficiency

Language Skills	Level of Proficiency	
	Easiest	**Hardest**
Listening	6 students	-
Speaking	-	30 students
Reading	14 students	-
Writing	10 students	-
Total	**30 Students**	

After analyzing the students' level of proficiency, the researcher asked the students about their difficulties in learning English on the question number 5. This question is aim to find out the students' lacks or obstacles in learning English. And the result shows that almost all of the students answer that their difficulties are they have a lack of self confidence if they asked to speak in the front of the classroom. They also state that their vocabulary is still limited, so it is really hard for them to speak English fluently.

Then the researcher would like to reveal whether the students use a textbook in learning English or not. This question found on the number 8 and intended to find out the source of learning material that given to the students. And the result from the students' statements, all of the students have an English textbook but they rarely use it in teaching and learning process. The teacher mostly used Projector or also known as "LCD" to explain the materials to the students.

Thus, from all of the explanation above, the researcher concludes that from four of the basic skill, speaking is the hardest one for the students, and the students' difficulties also related to the hardest skill for the students. As shown on the result above, the student's lacks are the limitation of vocabulary and the less of self confidence, so that the students tend to be hesitate or ashame when they have to speak English in front of the class. Other than that, in teaching the students of SMK Kartika, the teacher rarely use textbook that provided by the government.

1.1.3. Wants. The last term of target need is "wants". Student's wants deals with the student awareness of learn the language. In this case, the students' aware of the role of language to support their work in the work field. It deals with the desire of learn the language in a certain purpose. The researcher asks some questions during the interview to the students. The students' wants are being revealed through the questions number 4, 9, 10, 11, 12, 13, 14, and 15.

Begin with the question number 4, the researcher asked the students whether English language learning should make them to be a student who can used English in oral or written. This question intends to find out the students' wants as the output of learning English, whether they want to be the student who can use English in verbal or non-verbal way. Then, the result shows on the table and students' interview below:

Table 3.4: English Output

English Output	Amount of Students
Use English better in Oral	30 Students
Use English better in Written	-
Total	**30 Students**

The next question about students' wants found on the question number 9. In this question, the researcher asked the students about the type of learning model that they like the most. The researcher gave 3 options to the students, they are individual, pairs, or group. And the result shows that there are 10 students that choose individual, 3 students choose pairs, and 16 students choose group. Even though most of the students chose group, it can be seen that there are also many students that choose individual.

After analyzing the students' wants about the English output and learning model, the researcher tries to find out the best input in four language skills of software engineering students. The researcher would reveal those items on the interview questions number 10-13 by giving some options for the students to be chosen.

Table 3.5: Listening Input

Listening Input	Amount of Students
Dialog and completing the blank spaces due to the text.	4 Students
Dialog then answering the question.	24 Students
Dialogue/Monologue and write down the information in details.	2 Students
Total	**30 Students**

Table 3.6: Speaking Input

Speaking Input	Amount of Students
Daily activity.	12 Students
Role play.	2 Students
Software field.	16 Students
Total	**30 Students**

Table 3.7: Reading Input

Reading Input	Amount of Students
Read a text and find the main idea.	-
Find the meaning of vocabularies in text.	16 Students
Read a text and answer the comprehension question.	14 Students
Total	**30 Students**

Table 3.8: Writing Input

Writing Input	Amount of Students
Arrange jumbled sentences to be a text.	25 Students
Describing the pictures in detailed into a text.	5 Students
Total	**30 Students**

Then, the researcher analyzes the learning methods that the students want through the question number 14. The researcher gave 3 options to all of the students, whether they want lecturing, discussion, or practice in learning English. And the result shows that from 3 options that the researcher gives to the students, none of the student chooses lecturing, 9 of them choose discussion, and most of them (21 students) choose practice as the best learning method for them. Most of the students choose practice because practice can improve their spirit, it is also more interesting, and of course it can make them gain a better understanding towards the materials.

The last question on the students' interview is conducted to reveal the students' expectation towards the English language learning in the future. The researcher asked the students about their expectation towards the English subject to measure how deeply the students' want to learn English in the future.

And according to some of the students' statements, the researcher concludes that most of the students want their speaking skill and vocabulary achievement better than before, they also hope that English helps them to find a job easier in the future. The students' expectation towards English is actually related to their necessaries and lacks that the researcher have found on the previous part.

2. The Result of Students' Interview

In addition to the students' interview, the researcher also conducted the interview to 2 English teachers of SMK Kartika XX-1 Makassar to strengthen the data of needs analysis. The teachers' interview consists of 10 open-ended questions which covers the students' need. According to the principle of ESP, the English teacher of vocational school should be considered on necessities, lacks, and wants in formulating the course design. In this term, the researcher explains the necessities, lacks, and wants of software engineering student according to the teacher perception.

On the question number 1, the researcher asked the teachers about the software engineering students' level of proficiency. According to their perception, the software engineering students are categorize as "beginner" in which they can only understand simple sentences and expressions that often appear in daily life.

The researcher then intends to find out the students' lacks toward the English language learning by asking the teachers about the students' difficulties and their weaknesses in the classroom. And the responses given by the teacher shows that most of the students are difficult in speaking. The students are lack of self confidence if they are asked to speak in the front of the class by the teacher.

In line with the students' difficulties, the researcher then asked the teachers about what materials that the teachers use to overcome the difficulties faced by the students. And the teacher says to overcome the students' difficulty in speaking English, she usually gives a chance for students to tell a story in front of the class by using English language.

Furthermore, the researcher then asked the teacher about the materials needed by the students according to the teachers' perception. And according to the teachers' statements, the student should be provides by the specific materials due to they are a vocational student. It is a must for them to have professional skills in a specific field.

While talking about the learning strategies, the teachers say that they always combine the learning methods in teaching English. Sometimes they use lecturing, discussion or practice. But mostly they use lecturing because the English materials are still less to be practiced. According to the students' want towards the learning methods that the researcher has found before, most of the students choose practice. It means that the students' wants and the reality are not in line.

Thus, from the interview that conducted to 2 English teachers, the researcher concludes that the English teacher should teach the student according to their needs related to the program that has been selected. The researcher finds that the teachers have been applied various strategy and method in teaching English to the students. Through this way, the teachers use projector in teaching

and learning process to make the students more interested to learn English. Meanwhile for the materials, the teachers still use the material which provides by the government. And unfortunately, the material is the same as the senior high school, while actually vocational students should be equipped by a specific material before entering the work place.

After analyzing the needs of the software engineering students that have been revealed through the students' and teachers' interview, the researcher suggests a suitable topic material which is designed to meet the students' needs that have been done.

CONCLUSION AND RECOMMENDATION

From the result of the research that has been discussed, the researcher concludes that in terms of goals, most of the students have motivation to learn English in order to get a job after they finish their vocational school. And related to English proficiency, the students are categorized as beginner. While for the language skills, both of the students and teachers state that the students' need of language skills is speaking. Therefore, according to both of students and teachers interview, the lacks of students are the limitation of vocabularies and the less of self-confidence. In line with the students' lacks, most of the students want their speaking skill and vocabulary achievement better than before.

In line with the students' need, the researcher formulates the recommendation materials due to the students' need English learning materials which related to their study program and support their future job. The researcher suggests some of the topic material that covers four of language skills. In listening, the researcher suggests the material about software language program, which is consists of software application, installation of the software, and operate the software in the computer. In speaking, the researcher suggests the material about software development, which is consists of how to develop the software, types of software, and software developer. While in reading, the researcher suggests the material about software introduction, which is consists of introduction to software engineering, software development life cycle, and software programmer. The last skill is writing, the researcher suggests the material about launch the computer program, which is consists of how to launch Microsoft word, difficulties in running the program, and implementing the user interface in the program. Thus, from all of the recommendation materials above, the researcher wishes that the teacher may find the suitable worksheets for the software engineering students related to their study program.

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