

THE EVALUATION OF ESP (ENGLISH SPECIFIC PURPOSES) FOR MATHEMATIC EDUCATION DEPARTMENT STUDENTS BASED ON NEED ANALYSIS APPROACHES

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Abstract:

English for specific purposes (ESP) is an approach to learning English. ESP be main approach in English language teaching for the English learner who has particular purpose based on needed. Need analysis is part of ESP course because this is first step that must be taken by ESP teacher before beginning ESP course. Evaluation is important that must be taken at the end of learning ESP because it can measure whether the goals of an ESP course have been meet and ensures the program continuous improvement. The purpose of this study is to find out the need of students in learning English in their major and to know about the evaluation of the teacher in learning English for specific purposes in the ESP course or program for Mathematics Education Department at Universitas Muhammadiyah Sukabumi. The researchers using theory from Hutchinson and Water to analyze of student need and course evaluation by the teacher. This research uses descriptive qualitative to collecting, analyzing and describing the data. Data is taken from observation, interview, questionnaire and documentation. The population of this research are 14 people, that are 1 lecturer and 13 students. The data found from observation and interview using a table and from students need at questionnaire answer using a pie chart for data overview. The result from this study found that the average students in Mathematics Education Department has basic English level, they need to mastery English speaking skill (92,3%) to support academic and for career. English is used to understand meaning of sentences (53,8%) for their study literature in their major. The evaluation carried out in the course is done by monitoring evaluation.

Keywords:

ESP; The Evaluation;
Need Analysis



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INTRODUCTION

English for specific purposes (ESP) is an approach to learning English. Hutchinson and Water (1987) stated that ESP an approach rather than the product. It means that ESP not involved a particular kind of language teaching materials or methodology. In other words, ESP is an approach to language teaching which aimed to meet the needs of particular learner. English for specific purposes involved teaching and learning of specific skills by particular learner for a particular purpose.

English is a subject or course in higher education that must be taken by students. Courses that are intended for certain students are called ESP. English for specific purposes has a specific purpose, that are to develop skills, knowledge or a particular profession field. Such as professionals in academics or education, in the fields of health (medicine), engineering, economics, business, law, and so on.

Based on the English for specific purposes (ESP) tree of language teaching by Hutchinson and Water, ESP has three kinds that are English for Science and Technology (EST), English for Business and Economics (EBE) and English for Social and Sciences (ESS). In each kind, there are divided into two kinds that are English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). In English for Science and Technology, it consists of English for medical studies and for Technicians. In English for Business and Economics, it consists English for Economics and English for Secretaries. Meanwhile, in English for Social and Sciences, it consists of English for psychology and English for Teaching.

In ESP teaching, a teacher or practitioner must first conduct a need analysis of the learners to find out the weaknesses, needs and desires of the learners. Widdowson (1983) is of the opinion that “ESP” is simply a matter of describing a particular area of language and then using this description as a course specification to impart to learners the necessary restricted competence with this particular area. Need analysis is a key component in the design and development in ESP teaching. From the need analysis, the teacher will arrange what kind of material the learners need to be applied and evaluated at the end of the course. This need analysis is necessary and conducted by ESP teachers to as much information as possible about the needs of their learners in order to provide effective and efficient teaching. In addition, ESP is not just about teaching English, but about teaching specialized English, so that learners can get benefit and succeed in the field they are in.

The pedagogical implication of such variation is that students should get teaching materials that are appropriate to the type of language they will use in the working or academic world. Robinson (1991) supports this view by explaining that one of the criteria of English for Specific Purposes (ESP) is goal orientation, which means that English learning should be based on the specific needs of students, both for academic and professional purposes.

Basturkmen (2006) provides a practical guide to needs analysis, offering a range of techniques and strategies for identifying learners' language needs. She also discusses the challenges and limitations of needs analysis. In other hand, Carter and Nunan (2001), provide a general overview of English language teaching, including a discussion of needs analysis. They emphasize the importance of tailoring instruction to the specific needs of learners.

Similarly, In Indonesia, English is known as a foreign language and is in high demand. The need for English as a foreign language has increased significantly, this is influenced by the demand for English language skills in various fields, especially education and employment. English learning in Indonesia starts at the primary, secondary and tertiary levels. Three levels of English learning in Indonesia are for general English but for majors

in university using English for specific purposes. We can still witness that demand for ESP continues to increase and expand throughout the world (Dudley-Evans, 2001).

In higher education or university level, English courses must be taken by students especially for non-English majors. The purpose of English courses for certain majors is that students of the majors can recognize and be able to use English according to their field of study. For example, with English courses, students who are in Chemistry, Mathematics, Geography, History or others will know and be able to use English terms that are directly related and specific to their field of study.

Mathematics is one of the branches of science that has an important role in the development science and technology, both as tool in the application of other fields of science and in the development of Mathematics itself. Sari, Andini Septama dan Yuliana (2022), in the mathematics education department, students are required to take English courses because the word in general English is different from words that contain special foreign mathematical terms.

The needs analysis is the base for the ESP course and material design for teaching English in specified students' target situations. The needs analysis describes the students' necessities, lacks, and wants in the ESP courses (Hutchinson & Waters, 1991). The necessities are any part of the language that functions effectively in the target situation. The lacks are the gap between learners' knowledge and the target situation. Meanwhile, the wants are the learners' subjective needs which are not directly related to the ESP courses. Research on needs analysis is vital for designing an effective ESP course and material development. (Septian Dwi Cahyo, Azwar Abbas, 2023).

According to Hutchinson and water as cited in Aris Setiawan Muhammad, Ayuni Tri Utami (2023:1524) needs analysis is the first step that needs to be done in the preparation of the ESP English learning program. Needs analysis is defined as an analysis of students' English needs in designing effective and suitable learning materials for student. Tsou & Chen (2014) have explored practical issues surrounding language program/course evaluation and identified key aspects that need to be considered by evaluators when planning and implementing this process. In this research, we focus particularly on the following: evaluation purposes and evaluation methodology in terms of participants, evaluation instruments, components, and time and frequency of administering evaluation. Evaluation in ESP is a critical component of assessing the effectiveness of language programs designed to meet the specific needs of learners in professional or academic contexts. Alderson (2000) provides a comprehensive overview of language assessment, including a discussion of the principles and practices of evaluation in ESP. He emphasizes the importance of validity, reliability, and fairness in assessment. So, this research entitled **“The Evaluation of ESP (English Specific Purposes) for Mathematic Education Department Students Based on Need Analysis Approaches”**.

METHOD

In this research, the researcher used Descriptive Qualitative method in collecting, analyzing and describing the data that was found in the field. According to Fraenkel and Wallen (1993), descriptive method is a method to explain, analyze and classify something from various techniques such as survey, interview, questionnaire and test. This researcher

analyzing, collecting and describe the data from data based on observation, interview, questionnaire and documentation.

This research was conducted at the Mathematics Education Department at Teaching Training and Education Faculty in Muhammadiyah University of Sukabumi which is located at Jl. R. Syamsudin, S.H. Cikole, Sukabumi city. The research subjects were lecture and students in the Mathematics Education Department. The researcher conducted interviews with English language teaching lecturer and distributed questionnaires to students in the Mathematics Education Department.

Figure 1 Roadmap of the research



RESULTS AND DISCUSSION

Results

Based on the results of research conducted at Mathematics Education Department in Muhammadiyah University of Sukabumi, the researcher conducted interview with one English lecturer and distributed questionnaire about need analysis to students using Google form. The result from the data found in the field, the researcher an analysis of the data obtained, namely as follows:

Data of Interview	
Interviewer	Respondent (lecturer)
What is the concept of ESP according to your knowledge?	In the course itself here is called EFM (English for mathematics) a. Concept: referring to the final achievement that you want to get like what happens to the expected learning outcomes for the course here, in essence, is that they have a provision of vocabulary related to mathematical sentences because it is somewhat different from English in general with English in math books, there are

<p>What is the most important thing for math study program students to master besides English vocabulary?</p>	<p>several different contents. So, they learn the vocabulary like what to increase the vocabulary. b. How they explain/teach when later they have graduated, they are expected to teach in English. The most important thing is that they can teach, so not only do they know but they can also convey their vocabulary during math lessons in English, because now many bilingual schools or require the teacher to be able to speak English, and their English because it is different from ordinary English, they must be no longer shocked when they enter as teachers.</p>
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A. *The Course Evaluation*

Based on the results of interviews with English teaching lecturers in the mathematics study program, he explained that the evaluation of English learning courses in the study program there is a routine from the university called learning assistance, then the lecturer will be given a score related to the learning of the courses taught. Course evaluation is seen from 3 aspects, namely:

1. The learning process, in the middle of the semester did the lecturer take 8 learning meetings or not? because there are 16 meetings in total. If the lecturer never enters the study program leader will contact the relevant lecturer.
2. After the Midterm Examination there is monitoring of learning evaluation. The leader or supervisor will observe the class during the learning process, whether a lecturer uses the RPS as a supporting learning tool or not, so that it will be assessed directly.
3. By students, students at the end of each learning at the end of the semester will fill out a questionnaire first before seeing the value of their learning outcomes. By filling out the questionnaire, they will assess the lecturer's performance on the learning that has been carried out.

So, evaluation is not only done to students with summative or student assessment, but lecturers are also assessed by students. The results of the evaluation will be used as a reflection for the improvement of the next course learning.

B. *The Need of Students*

In collecting information data related to English language needs of students in mathematics study programs, researchers found that the application of English is very important and has been well implemented in mathematics study programs. On average, students need English to make it easier for them to understand reading such as international journals or English books that contain mathematical material.

In addition, students want to master English speaking skills to support their learning and facilitate their future careers. In the Mathematics study program, it is expected that after graduating students will become professional teachers. Nowadays a professional teacher must be able to compete and have many abilities or multitalents, the demands of the times and the number of schools that implement bilingualism are an encouragement to facilitate future careers.

In ESP there are many branches, one of which is English for Social Sciences (ESS) which then has another branch, namely English for teaching. The need for English

learning in mathematics study programs is closely related to the urgency of teaching skills. The students need English to teach. By mastering English skills, especially speaking skills, students become more confident and have more value, with English they can communicate without limits with people around the world.

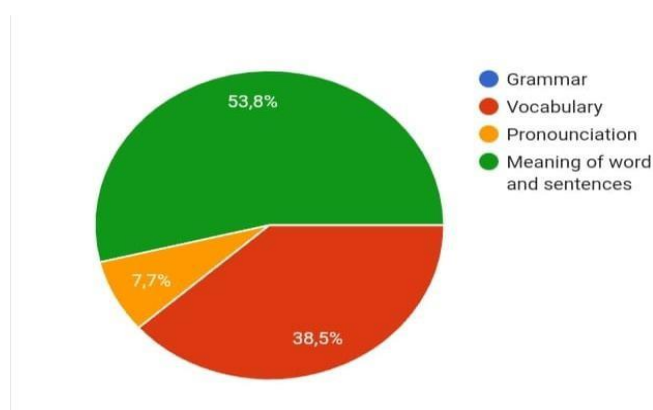
The purpose of the outcome of learning English for Mathematics (IFM) is English for teaching so they as students have a learning experience like learning English to analyze foreign words in English because mathematical English is different from general English. They underline and enrich vocabulary to support learning, besides that they also practice writing in English and practice microteaching using English.

Discussion

1. *The need for English language skills for academic*

Based on the results of the data found and depicted in the table above, the majority of respondents answered that the most prioritized component of learning English in mathematics study programs is to understand mathematical words and sentences in English.

Picture 1.2 Diagram of the need of English language skill for academic



The majority (53.8%) chose the priority of learning English in mathematics study programs is to know and understand the meaning of reading both words and sentences in foreign language journal studies and foreign language mathematics books. Mathematical terms are different from ordinary English so students must be able to learn English to understand specific terms.

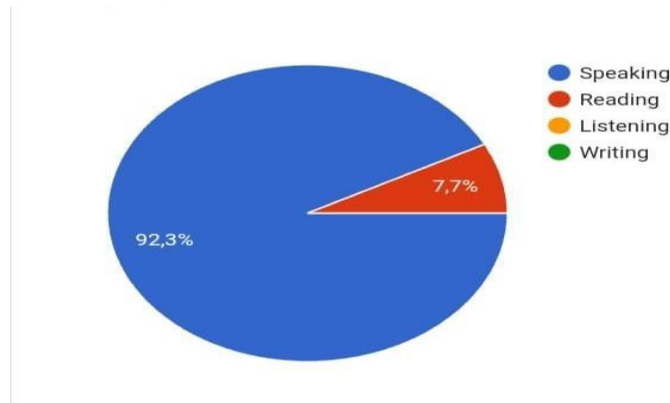
A total of (38.5%) results show that in addition to understanding words and sentences, learning English is expected to enrich the mastery of vocabulary. Then only a few, namely (7.7%) who chose pronunciation. This means that even though speaking is the goal of learning English.

2. *The need English language skill for work*

From the results of the data above, the dominance of respondents as much as (92.3%) chose that speaking is an English language skill that is very important and most want

to be mastered to support work. The prospect of mastering English is very useful for career development and advancement. The main output of learning a language is the use of the language itself, this is highly correlated between a teacher will definitely talk a lot to convey material in learning. Therefore, the most important English language skills for mathematics study program students to support careers in the world of work is speaking. They as prospective teachers are needed to have good language and public speaking skills.

Picture 1.3 Diagram of the need of English for work



Based on the results of the data found above by analyzing the needs for mathematics education students at the Faculty of Teacher Training and Education, University of Muhammadiyah Sukabumi, it is found that English language teaching has been well implemented, as for what students need is to learn English to make it easier for them to understand the study of foreign reading materials (7,7%), they need to enrich their vocabulary to understand words and the meaning of a sentence, especially for mathematics material.

Another need is that they need English skills for reading, and writing. In addition, English is considered very important in the world of work, especially mastering the ability to speak English. As students from the faculty of teacher education and science, when they graduate, they will become teachers. So, it can be said that learning English in the mathematics study program aims at English for teaching.

From the needs of the students above, then the researchers will study and plan the design of learning materials in accordance with the needs. The content of the learning material is interesting and enjoyable material with topics and tasks at the basic and intermediate levels to support learning needs.

In relation to course evaluation, evaluation is carried out by the university, supervisors from the study program and students to the teaching lecturers. So that from there the lecturer will know the shortcomings and advantages of teaching materials, learning process activities and the success of a course learning that is applied. Course evaluation

will be a reflection so that a teacher will improve, develop and improve course learning to be of higher quality.

CONCLUSION

Based on the results of the research conducted, the purpose of learning English in the mathematics education study program is to prepare students optimally to play a role in their field, namely teaching. When students are learning English, they need English to enrich their vocabulary so that it makes it easier for them to understand words and sentences specific to foreign languages in mathematics materials. After graduation, they need the ability to speak English to support their work as a teacher. So, the main purpose of English teaching in this study program is English for teaching. With these skills, they will be more confident, have superior competence and be able to compete professionally. Course evaluation is carried out by the teaching lecturers with related parties such as the university, study program, and students. With the course evaluation, the quality of learning can be improved.

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