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ANALYSING STUDENTS' NEEDS IN ENGLISH LANGUAGE LEARNING: DESIGNING ESP COURSE FOR XI MIPA STUDENTS AT MADRASAH ALIYAH GUPPI SAMATA GOWA

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Abstract

This study presents a systematic literature review examining the integration of generative artificial intelligence (GenAI) in English for Specific Purposes (ESP) instruction from 2020 to 2025. Using the PRISMA 2020 framework, 61 open-access empirical studies retrieved primarily from Google Scholar and complemented by Scopus were selected and analysed through a hybrid bibliometric and thematic approach. The findings reveal a significant increase in research after 2023, reflecting the rapid adoption of large language models in educational contexts. The results indicate that GenAI has transformed ESP pedagogy by shifting from product-oriented to process-oriented learning, enabling real-time feedback, iterative writing practices, personalized learning, and more authentic, domain-specific communication tasks. These changes also redefine the roles of teachers as facilitators and learners as more autonomous participants. However, the integration of GenAI presents critical challenges, including learner overreliance, concerns over accuracy in specialized domains, issues of academic integrity and assessment validity, and limited pedagogical readiness among educators. Additionally, the review identifies key research gaps, particularly the lack of integrative frameworks, longitudinal evidence, and ESP-specific ethical guidelines. This study contributes by synthesizing fragmented findings into a comprehensive understanding of pedagogical transformation in AI-integrated ESP and offers theoretical insights and practical implications for educators, curriculum designers, and policymakers in advancing evidence-based and responsible implementation of GenAI in specialized language education.

Keywords: *Generative AI; ESP; Pedagogical Transformation; SLR; PRISMA*

INTRODUCTION

English is a global language used not only in English speaking countries but also in many non-English speaking regions. It plays an important role in various fields such as education, trade, and work. Nowadays, students learn English not only to achieve good grades but also to develop their ability to communicate effectively in both written and spoken forms.

Therefore, it is important to equip students with English skills that match their specific needs. Each student requires different types of English depending on their field of study (R\izv\i, 2023). For instance, science students need English related to science, engineering students need technical English, and hospitality students need English for the hospitality industry.

This type of learning is known as English for Specific purpose (ESP), Which aims to help students master English relevant to their disciplines by providing specialized and contextual

material. ESP is based on a systematic needs analysis to identify students' learning requirements, which then determine the objectives, materials, and teaching methods used in the learning process (Mao & Zhou, 2024).

As a data collecting procedure instrument, the use of Need Analysis (NA) is unavoidable in order to gain a better perspective on language skills, English in this case, should be designed and supplied. Furthermore, need analysis is a reliable and useful tool which can help teachers in identifying students' basic needs (Govindasamy et al., 2024). This tool allows teachers to adapt the curriculum development to meet the interests of their students. As a result, Need Analysis is a valuable resource for English for specific purpose (ESP) teachers in revealing students' critical needs and determining the English abilities they need to acquire in order to achieve in the future (Santika et al., 2022).

Many research in Indonesia have researched English for specific Purpose (ESP) need for variety of study programs, like Susandi and Krihsnawati (2016) for nursing students, Diana and Mansur (2018) for ICT students, and Asripan et al (2020) for tourism department students. These researchers tried to develop the best objective topic, and learning methodologies in each study program to ensure that students have the English abilities they would need in the future. However, no research on English for Specific Purpose (ESP) for such an MIPA study program has been done, both in terms of need analysis and syllabus design.

At the current time, all MIPA study program students are learning general English, which hasn't impacted on the students' essential capacities for their future goals. As a result, the currents study contributes to existing domain of research on MIPA students' English for Specific Purpose (ESP) needs. Based on the circumstances described above, the researchers decided it was critical to investigate how MIPA students evaluate their English abilities and to identify the topics that MIPA Program students needed in English for Specific Purpose (ESP). The goal of this research is to assist English for specific purpose (ESP) teachers in Indonesia in identifying effective teaching techniques and English materials for MIPA students (Fitria, 2020). The results of the Need Analysis in this study will be used to create the syllabus.

METHOD

In a research and development (R&D) based research, Need Analysis is considered as the first move. In regard to this, this research focused on the Need Analysis of ESP for MIPA major students, therefore a triangulation research design was utilized combining both quantitative and qualitative. Quantitative method was used to gain information from all respondents (MIPA education students), meanwhile the qualitative method (interview) was used to gain more insight from the lecturer regarding their projection on the use of English for MIPA in the future.

The demographic of the respondents was as follows; 21 students but who participated only 13 students of MIPA XI (A) and 16 students of MIPA XI (B). This research has respondents 1 lecturer. All of the students were MIPA majors and the lecturer is currently teaching in the department. Their English proficiency level range was between elementary to advanced ones.

There are two categories of data: quantitative and qualitative data. The quantitative data were gathered from questionnaires responded by designated participants. The

questionnaires were distributed online. The qualitative data were gathered through interview sessions held with some of the respondents of research by transcribing the recordings in advance to facilitate the analysis stage. Then the results of the transcripts are analysed and correlated based on the theories that the researchers include in the literature review.

The data of this research were collected using an online questionnaire, survey, observation, used to know the situation of the English learning process. The survey is intended to reveal the attituded, behaviour, beliefs, and arguments of the respondents about their needs for English skills in a higher education setting.

The collect the data, the researcher distributed the questionnaires to respondents using Google.doc. The data analysis is started by downloading the answered questionnaires, and calculating the data using simple statistical procedure. In order to obtain a deeper and detailed of the findings, the researcher conducted interviews with several respondents. This oral data is used to support and confirm the finding and result of the analysis.

RESULTS AND DISCUSSION

The following section outlines the findings and discussion from the data collecting process. The researchers used questionnaires and interview with the research subjects to gather information(Kazar & Mede, 2015). The findings are classified into three sections. The first section presented the students' English proficiency. The result was to identify the level of confidence for each skill of students. The second part provides the students' wants and needs and it provides information about the language need through the selection of topics/materials needed and wanted by MIPA students to be included in the ESP for MIPA study program students. The last describes the data about a design course that was appropriate for them.

Students' English Proficiency

The description below presents respondents' perception on their English proficiency level. The researchers divided the level into 4; very weak, weak, good, and very good. The distribution of respondents' response is in Table 1.

Table 1. MIPA Students' English proficiency level

Competency	Very weak	Weak	Good	Very Good
Speaking	11%	47%	43%	-
Listening	14%	43%	43%	-
Reading	15%	45%	41%	-
Writing	14%	43%	43%	-

The data provided on Table 1 describes students' confidence in identifying their core competencies of English, which are speaking, listening reading and writing. The percentage revealed that their English skills need to be improved. The first, for speaking ability, 43% students claimed to have a very good speaking ability. Then, 47% students claimed that their speaking ability is weak and 11% of students claimed theirs is very weak. From the data, it can be seen that more than half of the students assumed that their speaking ability was still weak. Thus, it could be concluded that students were less confident when speaking in English.

Second, students' listening ability was not significantly different from their speaking ability. Table 2 above depicted that 43% of students responded that their listening proficiency was good. 43% of students stated that their listening proficiency was very weak. Then it is followed by 14% of students who believe that their listening proficiency was weak. As a result, more than half of the students believed that their listening ability was still weak. Therefore, it was assumed that generally, students are not confident with their listening proficiency (Tran, 2022).

Third, for reading skills there were 43% of students who classified their reading skills as good. Then the number of students who considered that their reading skill was weak was quite high (45%) and 15% of students felt that their reading comprehension skill was very weak. The total "weak" percentage still dominates the total responses (60%). Therefore, much as speaking and listening skills, students were not confident with their reading proficiency as well (Suratullah et al., 2023).

The fourth is students' perception of their writing skill. Based on Table 1, most students (43%) stated that their writing skill is good. Then, 43% students said that they have weak writing, and the rest (14%) claimed that their writing skill is very weak. Thus, from the data above it can be inferred that students were also not confident with their writing proficiency.

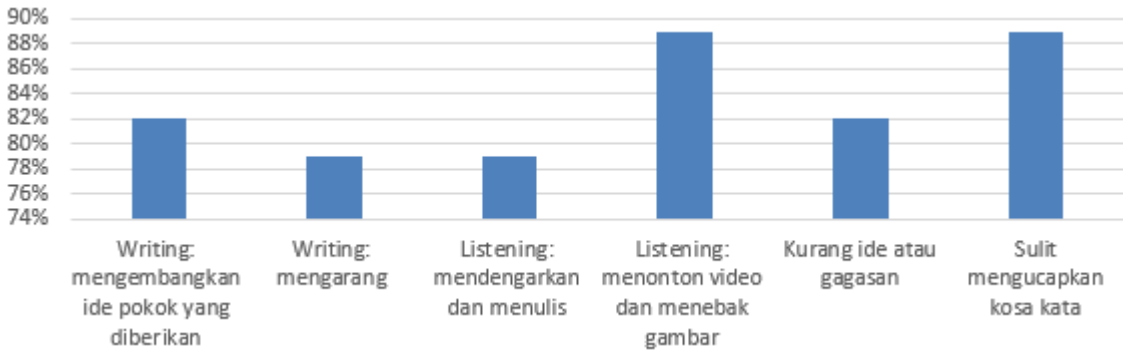


Figure 1. MIPA Students' Problem

Students' Wants and Needs

This section would focus on obtaining the target needs by consisting of necessities, wants, and the activity wanted of MIPA students. Using Questionnaire and interview methods for students, the researchers collected information related to what students' wants and needs in English learning.

Students' Necessities

Table 2. MIPA Students' Necessities

Goals	Percentage
Further education	40%
For future career	61%
Traveling to other countries	58%
To communicate with native and non-native English speakers	36%
Personal growth	33%

The findings of the distributed questionnaire revealed that 40% of students needed to learn English for further education. On the other hand, 61% of students claimed that they needed to learn English for a future job. Then, up to 58% of students claimed that they learned English in order to travel abroad. Followed by 36% of students who study English to communicate, whether with native or non-native English speakers. Lastly, up to 33% of students study English for personal growth.

Students' Wants

In this section, the researchers will discuss what students want in learning English. The results obtained from questionnaires and interviews related to teaching methods in the class.

Table 3. MIPA Students' Wants

Teaching Methods	Percentage
Games and Picture	50%
Movies and Videos	64%
Learn in Pairs	42%
Role Play	50%
Self-Study	46%
Small Group	54%
Big Group	46%

According to the analysis of student responses, half of students (50%) preferred learning English through role play, games, and pictures when the teacher taught in class (Dimastoro & Bharati, 2022). While some students (64%) responded that they wish to learn English through films and videos. Then, 42% of students prefer when their teacher instructs them to do self-study. Lastly, some students prefer to study in groups, whether in pairs (42%), small groups (54%), or big groups (46%).

The activity Wanted of MIPA Students

In this section, the researcher discussed the activities that students want to do during the learning process.

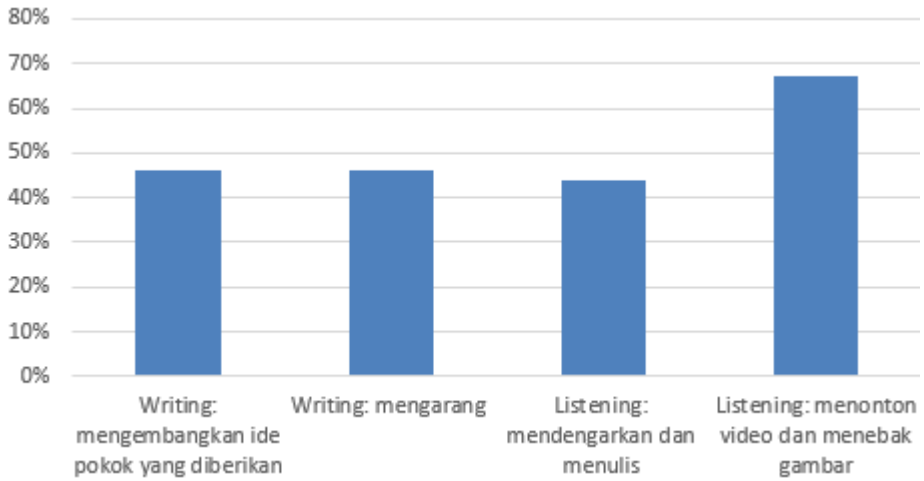


Figure 2. Activity MIPA students' Wants Percent

For writing activity, forty six percent (46%) of students wanted to be provided with the activities to develop the main idea and free writing. For example, the teacher gives a topic related to a certain theme and students will develop the topic based on their own words and sentences (Maming & others, 2022).

From the result above we can see that forty four percent (44%) of the students preferred the activity integrating listening and writing exercises at the same time, and 67% of students preferred viewing movies and guessing pictures for their listening activities. This kind of activity was considered as the easiest activity which can be understood by all the students. For example, watching a movie on cell organs and their function and asking the students to write what vocabulary the students get in the video.

The next is speaking (Table.6). For this skill, fifty percent (50%) of the students preferred to have a conversation practice for their learning activity. Then, 39.3% of students choose to do interviews for their learning activities. For example, the teacher can choose some topics of conversation that are related to science to simulate the student's speaking skill (Hamad & Alnuzaili, 2022).

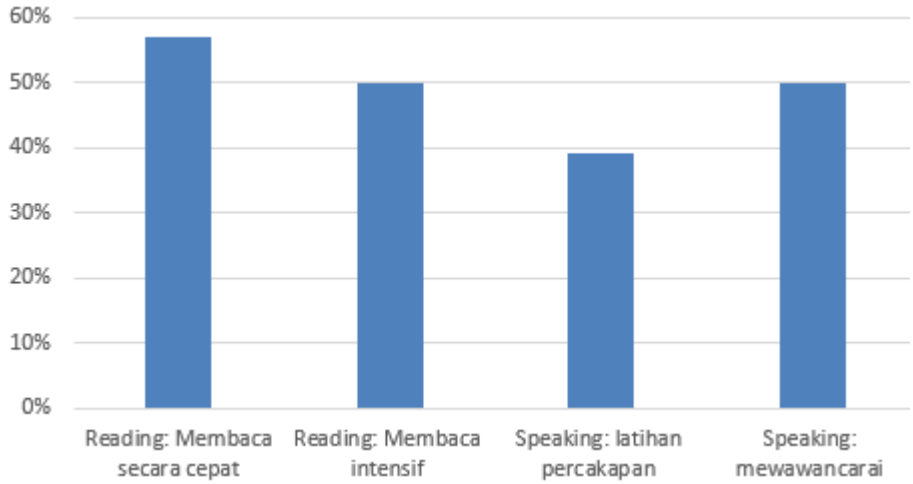


Figure 3. Activity MIPA students' Wants Percent

The last skill is reading. For this skill, fifty percent (50%) of the students preferred to do intensive reading activities for their learning activity. However, 57% choose skimming as an activity to improve their reading skills. This kind of activity was considered as one of the activities that can help the students in their reading skill. By identifying the main idea through skimming, the students will be more active to read the text and it can help the students to gain their focus (Afriani et al., 2022).

Design course

Munby (1987) viewed syllabus design as a matter of determining the content that needed to be taught and organizing it into the teaching syllabus of appropriate learning units. It included criteria consisting of (a) progress from known material to unknown material, (b) appropriate teaching unit size, (c) appropriate variety of activities, (d) teaching ability, and (e) creating a sense of purpose.

The following was a course design based on a syllabus that was related to the needs and wants of students.

CONCLUSION

Based on findings, need analysis was the process of finding and analysing the learner's needs so that learning can be performed according to the learner's wants and needs. The need analysis played an important role in education for teachers or lecturers, students, teaching materials, and educational processes through needs analysis. Everything was harmoniously connected, can enhance the student's learning process, and outline a target situation analysis framework. The researchers can conclude that the students understand foreign languages in MIPA namely biology, physics, chemistry and general subjects.

Most students at Madrasah Aliyah Guppi Samata were constrained by their teachers so that students find it difficult to understand English, from research conducted the students want to learn English well and have teachers who were experts in their field so that students can better understand English learning, especially in the MIPA namely biology, physics, chemistry and also general lesson according to the needs of student analysis at Madrasah Aliyah Guppi Samata in English. If the teacher wants the students to be more proficient in learning English, especially in the MIPA major.

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