

# ANALYSIS OF STUDENTS' NEEDS, LEARNING SITUATION, AND MEANS ANALYSIS IN LEARNING ENGLISH IN THE MEDICAL LABORATORY TECHNOLOGY STUDY PROGRAM AT MAKASSAR HEALTH POLYTECHNIC UNIVERSITY

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## Abstract

*This study aims to analyze the English language needs of students in the Medical Laboratory Technology Study Program within the context of English for Science, Technology, Engineering, and Mathematics and English for Specific Purposes. The study employed a descriptive qualitative research design supported by quantitative data. Data were collected through a questionnaire distributed to 37 students from the 2023 and 2024 cohorts who were enrolled in the English for Science, Technology, Engineering, and Mathematics course. The findings indicate that students recognize the importance of English for academic and professional purposes. Reading skills are perceived as the most essential, while speaking and writing remain the main challenges. Mastery of technical vocabulary and professional communication is also identified as an important need. Students tend to prefer interactive and practice-based learning. The study confirms the importance of needs analysis as a foundation for developing relevant and contextual ESP instruction.*

**Keywords:** *English for Science and Technology, ESP, needs analysis, medical laboratory technology students*

## INTRODUCTION

In the era of globalization and the rapid advancement of science and technology, mastery of English has become an essential requirement in both academic and professional domains, particularly in the fields of Science, Technology, Engineering, and Mathematics (STEM). English functions as the dominant language for scientific publications, professional communication, technical documentation, and international collaboration. As a result, students in health-related disciplines, including Medical Laboratory Technology, are required not only to develop technical expertise but also to acquire English language skills that are relevant to their academic and professional contexts (Hyland & Jiang, 2025).

Within language education, English for Specific Purposes (ESP) has been widely recognized as an approach that emphasizes the alignment between instructional practices and learners' actual needs. Contemporary ESP perspectives highlight that effective language instruction should be grounded in systematic needs analysis, which considers learners' goals, contexts, and communicative demands (Nation & Macalister, 2020; Basturkmen, 2022). Needs analysis typically includes examining the target situation, present abilities, learning needs, and the learning environment, all of which are essential for designing relevant and meaningful ESP curricula (Flowerdew & Habibie, 2021).

Despite the recognized importance of ESP, a significant gap remains between students' existing English proficiency and the linguistic demands of their academic and professional fields. Students in Medical Laboratory Technology programs are expected to comprehend scientific articles, laboratory procedures, and medical documentation in English, as well as to produce written reports and engage in professional communication. However, recent studies indicate that many students in health-related fields still struggle, particularly in productive skills such as speaking and writing, as well as in mastering technical vocabulary and academic discourse (Saragih et al., 2026). Preliminary findings from this study also reveal that while the majority of students (64.9%) recognize the importance of English in their field, their actual proficiency and confidence remain limited, indicating a clear discrepancy between needs and abilities.

Given this gap, this study aims to analyze students' needs, learning situations, and means analysis in learning English within the Medical Laboratory Technology Study Program at Makassar Health Polytechnic University. Specifically, this research seeks to identify students' target needs, present situation, learning difficulties, and preferences in English learning, as well as the supporting conditions that influence the learning process. By addressing these aspects, the study intends to provide a comprehensive understanding of how English learning can be better aligned with students' academic and professional requirements.

The contribution of this study lies in its integrated analysis of needs, learning situations, and contextual factors within a specific health education setting. Unlike previous studies that often focus solely on linguistic needs, this research incorporates a broader ESP framework that includes means analysis and learning context. The findings are expected to contribute to the development of more relevant, contextualized, and practice-oriented ESP materials and teaching strategies, particularly for students in Medical Laboratory Technology. Ultimately, this study offers practical insights for educators and curriculum designers in improving English instruction to better prepare students for real-world professional challenges in the medical and laboratory sectors.

## **METHOD**

This study employed a qualitative descriptive research design supported by quantitative data to describe and analyze students' English language needs in the context of English for Science, Technology, Engineering, and Mathematics (STEM) (Legaspi, 2025). This design was chosen because the study aimed to obtain an in-depth description of students' actual conditions, including their English language proficiency, needs in using English, understanding of existing skills, and expectations regarding English for Specific Purposes (ESP) learning, without manipulating any research variables. Qualitative descriptive research is considered appropriate for studying needs analysis because it allows researchers to understand phenomena contextually and holistically (Recker, 2021). By combining qualitative interpretation with simple quantitative descriptions, this study provides a more comprehensive understanding of student response patterns while maintaining contextual meaning.

This study was conducted on students in the Medical Laboratory Technology Study Program taking an English for STEM course at a healthcare educational institution. This

context was chosen because medical laboratory students are required to understand scientific literature, technical terms, laboratory procedures, and professional communication, which largely uses English. In the era of globalization and the development of medical technology, English language proficiency has become a crucial competency for accessing the latest scientific journals, international protocols, and interprofessional communication (Schkinder, 2024).

This research is based on the concept of needs analysis in ESP, which focuses on identifying learners' language needs based on their academic and professional goals. Modern needs analysis encompasses not only linguistic needs but also communicative and contextual needs in the workplace (McAllister, 2021). The analytical framework in this study includes a current situation analysis (CSA), a target situation analysis (Target Situation Analysis), learner deficiencies (deficiencies), learning needs (learning needs), and a means analysis (means analysis), as updated in contemporary ESP studies (Basturkmen, 2022). This framework allows for systematic identification of students' current abilities, academic and professional demands, and gaps that need to be addressed through learning.

Based on this framework, this study aims to identify the English language needs of Medical Laboratory Technology students in both academic and professional contexts. Specifically, this study explores the frequency of English use, perceived language proficiency, difficulties in listening, speaking, reading, and writing, as well as needs related to technical insight, report writing, and professional communication. Furthermore, this study examines students' preferences for learning methods relevant to their field, such as task-based learning, laboratory simulations, collaborative learning, and context-based approaches (Widodo et al., 2024). This understanding is crucial for designing contextual and applicable ESP learning.

Participants in this study consisted of 37 Medical Laboratory Technology students from the classes of 2023 and 2024. The participants were selected using a convenience sampling technique, as respondents were easily accessible and willing to participate. This technique is commonly used in needs-based exploratory research because it aims to obtain a contextual initial picture rather than broad generalizations (Shapiro, 2010). The diversity of participants from several cohorts also allows researchers to gain more diverse perspectives on English learning experiences.

Primary data in this study were collected through a structured questionnaire specifically designed to identify English language needs in a medical laboratory context. The questionnaire was developed based on the ESP needs analysis framework and adapted to student characteristics. This instrument covers several aspects, namely English learning experience, self-confidence level, difficulties encountered, and expectations regarding English learning for STEM. The questionnaire was chosen because it is an effective tool for systematically and efficiently collecting data from a large number of respondents, and is capable of simultaneously producing quantitative and qualitative data (Taguchi, 2025).

The data obtained were analyzed using descriptive analysis techniques. Quantitative data were analyzed using simple statistics such as percentages and frequencies to identify general patterns in student responses. Meanwhile, qualitative data were analyzed using thematic analysis techniques to identify key themes related to students' needs and difficulties in learning English (Braun & Clarke, 2021). The combination of these two

approaches allowed researchers to obtain a more comprehensive and in-depth picture of students' English language needs in the context of STEM-based ESP.

## RESULTS AND DISCUSSION

### Results

This questionnaire is designed to identify the needs of students in using English within academic and professional contexts, particularly for students of the Medical Laboratory Study Program. In an increasingly interconnected global work environment, English proficiency has become an essential skill, especially in the field of health and medical laboratories, which often involves technical terminology, scientific reports, and professional communication with medical personnel and researchers from various countries.

This study aims to obtain data on the actual needs of students (learners' needs). The questionnaire is divided into several sections that assess various aspects, including the participants' professional and personal information, current English proficiency, skill gaps, learning preferences, professional communication needs, and learning environment conditions.

#### 1. I frequently use English in my studies or work.

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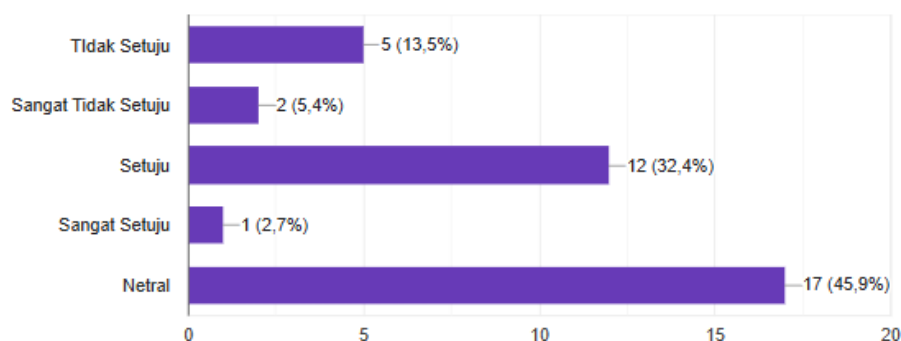


Figure 1. Personal Information about Students

Based on the questionnaire results, the majority of respondents chose neutral for this statement. A total of 17 respondents (45.9%) indicated neutrality, suggesting that they sometimes use English but not consistently in academic or professional activities.

Furthermore, 12 respondents (32.4%) agreed and 1 respondent (2.7%) strongly agreed, meaning that 35.1% of respondents generally feel they often use English in their activities. Meanwhile, 5 respondents (13.5%) disagreed and 2 respondents (5.4%) strongly disagreed, indicating that a small portion of students rarely use English in their daily activities related to study or work. Overall, these results show that the level of English usage outside formal learning activities is considered moderate—most students use it occasionally rather than routinely or intensively.

## 2. I need English to read and understand professional or academic texts

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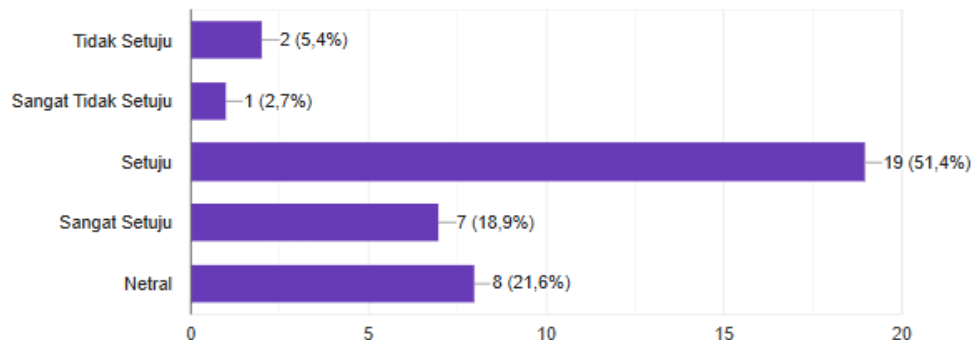


*Figure 2. Personal Information about Students*

Based on the questionnaire results, most respondents agreed that English proficiency is necessary for understanding professional and academic texts. A total of 19 respondents (51.4%) agreed and 7 respondents (18.9%) strongly agreed. This indicates that the majority of students are aware of the importance of English in their academic and professional activities. Meanwhile, 8 respondents (21.6%) chose neutral, which may suggest that they are not yet fully aware of or frequently exposed to academic texts written in English. Additionally, 2 respondents (5.4%) disagreed and 1 respondent (2.7%) strongly disagreed, indicating that only a small number of students feel that English proficiency is not particularly needed in this context. Overall, these findings show that the need for reading and understanding English texts is relatively high among students, as it is considered important for supporting their studies and future professional activities.

## 3. I need English to write reports, papers, or formal correspondence.

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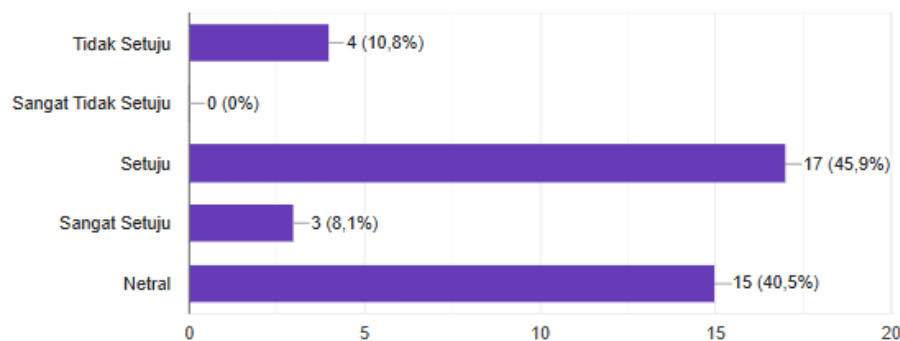


*Figure 3. Personal Information about Students*

Based on the questionnaire results, most respondents agreed that English proficiency is needed for formal writing activities such as reports, papers, or official correspondence. A total of 17 respondents (45.9%) agreed and 3 respondents (8.1%) strongly agreed,

indicating that the majority of students in the Medical Laboratory Technology Department consider English writing skills important to support their academic and professional activities. Meanwhile, 15 respondents (40.5%) chose neutral, suggesting that some students may not yet frequently write reports or official documents in English.

Additionally, 4 respondents (10.8%) disagreed, indicating that a small number of students feel that English writing skills are not yet a primary need in their activities. Overall, these findings illustrate that English writing ability is considered quite important by Medical Laboratory Technology students, particularly in academic and formal communication contexts.

#### 4. I will use English regularly in my future profession.

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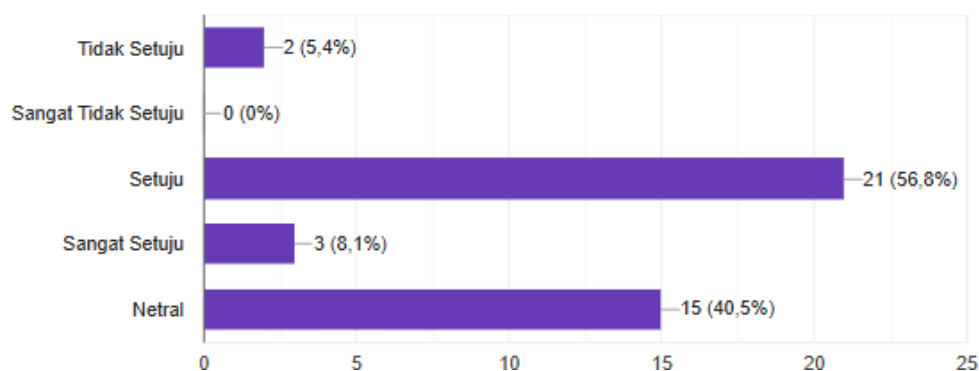


Figure 4. Personal Information about Students

Based on the questionnaire results, most respondents agreed that they would use English regularly in their future professions. A total of 21 respondents (56.8%) agreed and 3 respondents (8.1%) strongly agreed. These findings indicate that the majority of Medical Laboratory Technology students recognize the importance of English in their professional careers, particularly for reading scientific literature, communicating with international colleagues, and understanding medical instructions or reports written in English. In addition, 15 respondents (40.5%) chose neutral, meaning that some students are not yet fully certain about the extent to which English will be required in their future jobs. Only 2 respondents (5.4%) disagreed, and none strongly disagreed, showing that almost all students acknowledge the role of English, even though the degree of necessity may vary depending on their specific career paths. Overall, these results demonstrate that the majority of Medical Laboratory Technology students have a positive attitude toward the importance of English for their future careers and understand that English proficiency can serve as a valuable asset in the workforce, especially in the increasingly globalized medical and laboratory fields.

## 5. The English I need should include technical or specialized vocabulary in my field.

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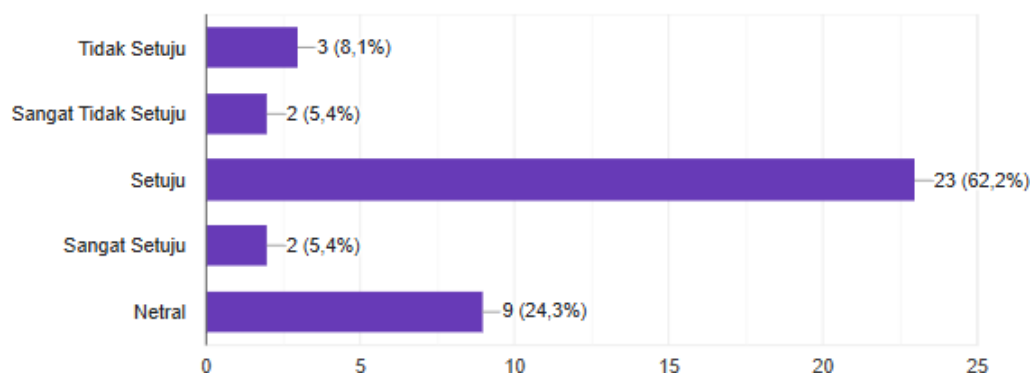


Figure 5. Personal Information about Students

Based on the questionnaire results, most respondents agreed that the English they need should include technical vocabulary or specialized terminology relevant to their field of study. A total of 23 respondents (62.2%) agreed and 2 respondents (5.4%) strongly agreed. This indicates that the majority of students in the Medical Laboratory Technology Department recognize the importance of mastering technical terms in English related to the medical and laboratory fields, such as the names of instruments, testing procedures, and scientific terminology. In addition, 9 respondents (24.3%) chose neutral, meaning that some students may not yet frequently encounter texts or communication that use technical vocabulary in English. Meanwhile, 3 respondents (8.1%) disagreed and 2 respondents (5.4%) strongly disagreed, showing that a small number of students do not yet feel an urgent need for technical vocabulary in learning English. Overall, these findings show that Medical Laboratory Technology students have a high awareness of the importance of mastering technical vocabulary in English, as it is closely related to their field of study and can support their understanding of literature, research reports, and professional communication in laboratory or medical settings.

**Personal Information about Students****Question:**

1. I have had positive experiences learning English before..

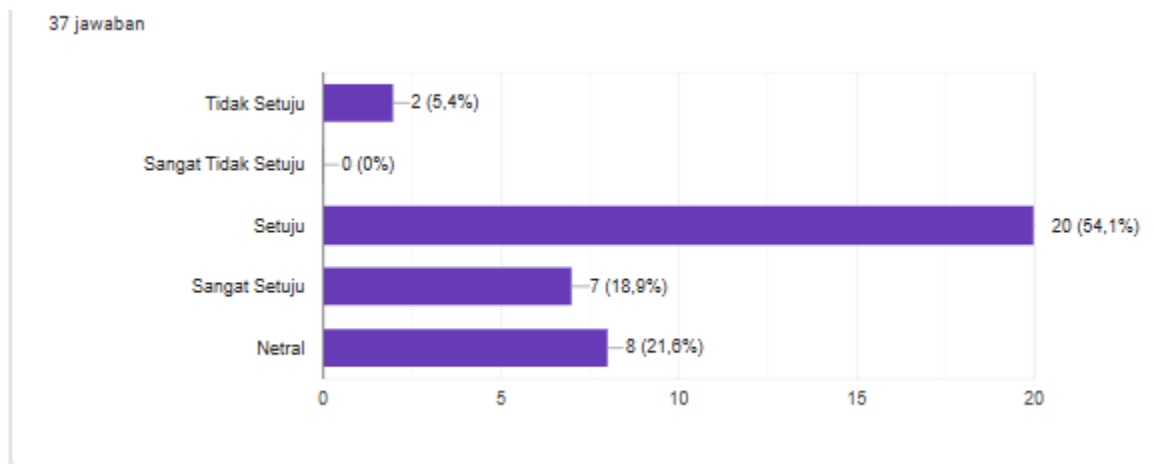


Figure 1. Personal Information about Students

Based on the questionnaire results, the majority of respondents reported having positive experiences in learning English. A total of 20 respondents (54.1%) answered "Agree," and 7 respondents (18.9%) answered "Strongly Agree." This indicates that most participants felt they had good experiences in their previous English learning. Meanwhile, 8 respondents

(21.6%) chose "Neutral," meaning they had no particular inclination toward either positive or negative experiences. Only 2 respondents (5.4%) answered "Disagree," and none answered "Strongly Disagree" (0%). Overall, these results indicate that most participants had positive experiences in learning English, with a relatively high level of satisfaction and favorable learning experiences.

## 2. My cultural background influences the way I learn English

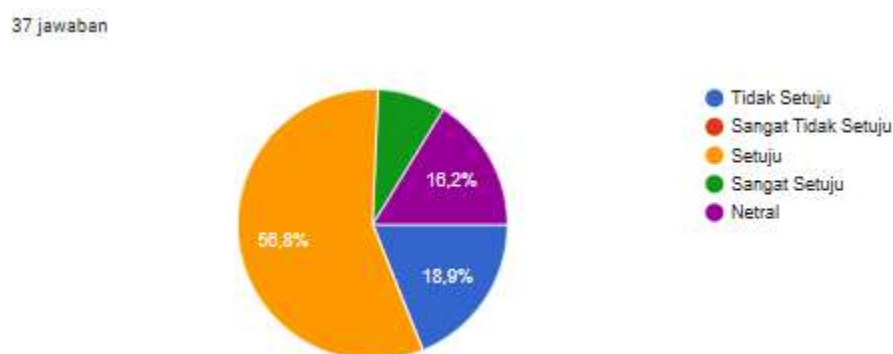


Figure 2. Personal Information about Students

Based on the questionnaire results, most respondents agreed that their cultural background influences the way they learn English. A total of 21 respondents (56.8%) chose "Agree," and 6 respondents (16.2%) chose "Strongly Agree." This indicates that

cultural factors have a considerable influence on individuals' styles and approaches to learning English. Meanwhile, 7 respondents (18.9%) answered "Disagree," and 3 respondents (8.1%) chose "Neutral." None of the respondents selected "Strongly Disagree." Overall, these results illustrate that the majority of participants are aware of the connection between their cultural background and the way they learn English, although a small portion did not perceive such an influence.

### 3. I am taking this course to improve my English skills for my studies or work.

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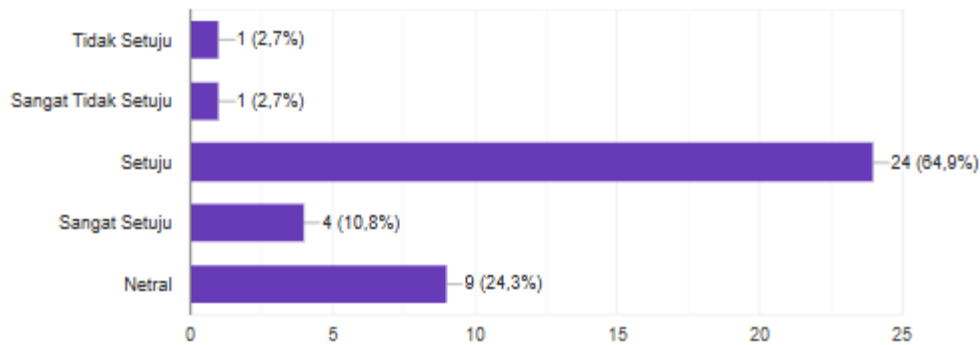


Figure 3. Personal Information about Students

The majority of respondents had a clear motivation for attending the course, namely to improve their English skills in academic or professional contexts. A total of 24 respondents (64.9%) answered "Agree," and 4 respondents (10.8%) answered "Strongly Agree." In addition, 9 respondents (24.3%) chose "Neutral," indicating that some participants have not fully made improving their English proficiency the main goal of attending the course. Only 1 respondent (2.7%) answered "Disagree," and another 1 respondent (2.7%)

answered "Strongly Disagree." Overall, these results show that most course participants have a strong orientation toward improving their English skills, particularly to support their studies and professional work.

#### 4. I enjoy learning English and consider it important.

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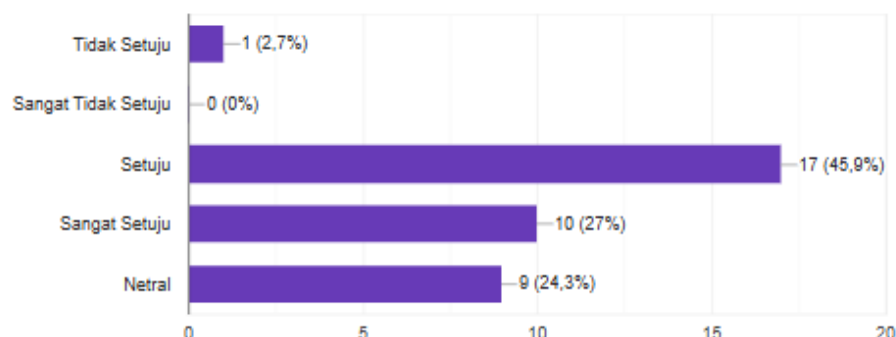


Figure 4. Personal Information about Students

The questionnaire results show that the majority of respondents have a positive attitude toward learning English. A total of 17 respondents (45.9%) chose “Agree,” and 10 respondents (27%) answered “Strongly Agree.” This indicates that most participants not

only enjoy the process of learning English but also recognize its importance. In addition, 9 respondents (24.3%) chose “Neutral,” suggesting that they may not yet have a strong opinion about how important or enjoyable learning English is for them. Only 1 respondent (2.7%) answered “Disagree,” and none answered “Strongly Disagree.” Thus, it can be concluded that the majority of course participants possess good intrinsic motivation in learning English, as they enjoy the process and understand the significant value of mastering the language in both academic and professional contexts.

#### 5. I feel confident when using English.

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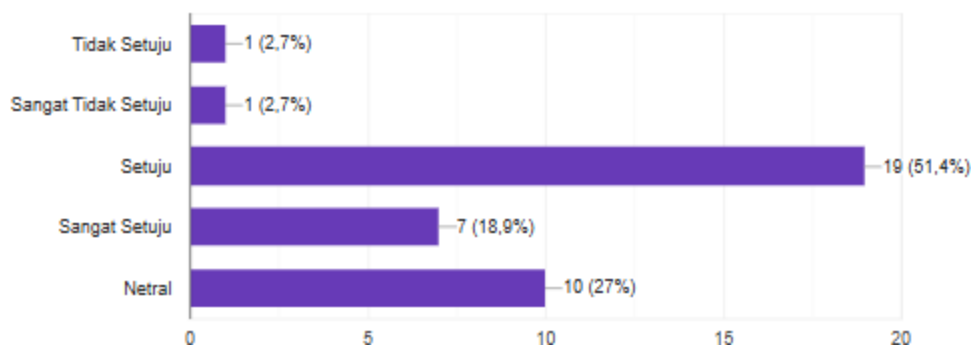


Figure 5. Personal Information about Students

Based on the questionnaire results, most respondents demonstrated a relatively high level of confidence in using English. A total of 19 respondents (51.4%) answered “Agree,” and 7 respondents (18.9%) answered “Strongly Agree.” This indicates that

the majority of participants feel fairly confident using English in both spoken and written contexts.

Meanwhile, 10 respondents (27%) chose “Neutral,” suggesting that some of them may still have doubts about their English proficiency or have not had enough opportunities to use

the language actively. Only 1 respondent (2.7%) answered “Disagree,” and another 1 respondent (2.7%) answered “Strongly Disagree.” Overall, these results show that the participants’ confidence level in using English is relatively high, although a small portion still feels uncertain about their abilities.

#### 6. I prefer learning through discussion or group work.

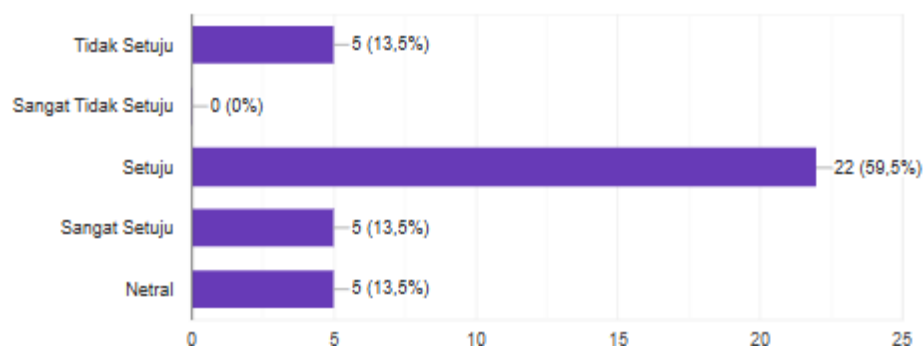


Figure 6. Personal Information about Students

From the questionnaire results, it appears that the majority of respondents prefer collaborative learning methods. A total of 22 respondents (59.5%) answered “Agree,” and 5 respondents (13.5%) answered “Strongly Agree.” This indicates that most participants feel more comfortable and motivated to learn English through social interactions such as discussions or group work. In addition, 5 respondents (13.5%) chose “Neutral,” suggesting that they do not have a particular preference for any specific learning method. However, 5 respondents (13.5%) answered “Disagree,” indicating that a small portion of participants prefer to learn independently rather than through group collaboration. Overall, these results suggest that discussion- and collaboration-based learning approaches tend to be favored by most participants, as they are perceived to enhance engagement and understanding in the process of learning English.

*“Saya sering merasa kesulitan dalam memahami tata bahasa Inggris.”*

7. I feel confident when using English.

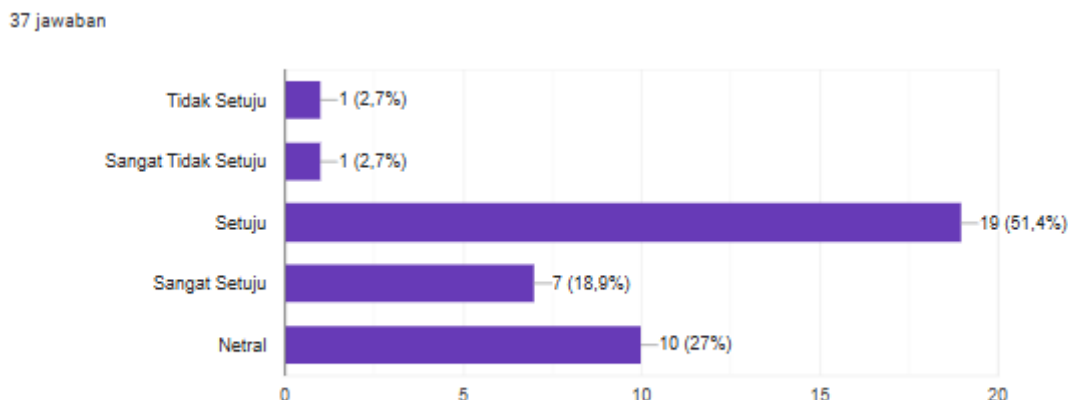


Figure 7. Personal Information about Students

Based on the questionnaire results, most respondents showed a relatively high level of confidence in using English. A total of 19 respondents (51.4%) answered “Agree,” and 7 respondents (18.9%) answered “Strongly Agree.” This indicates that the majority of participants feel fairly confident in using English, both in spoken and written contexts. Meanwhile, 10 respondents (27%) chose “Neutral,” suggesting that some of them may still have doubts about their English proficiency or have not had enough opportunities to use it actively. Only 1 respondent (2.7%) answered “Disagree,” and another 1 respondent (2.7%) answered “Strongly Disagree.” Overall, these results show that the participants’ confidence level in using English is relatively high, although a small portion still feels uncertain about their abilities

8. I want to learn more about English-speaking cultures.

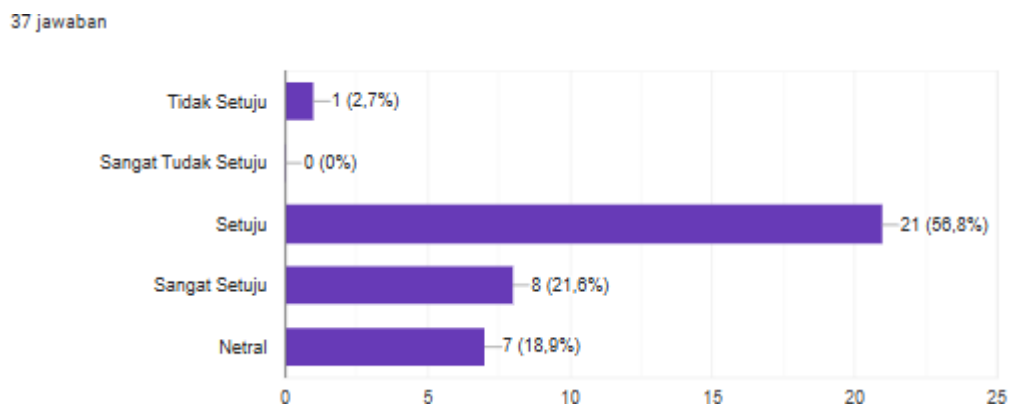


Figure 8. Personal Information about Students

The questionnaire results show that the majority of respondents have a high interest in learning about the culture of native English speakers. A total of 21 respondents (56.8%) answered “Agree,” and 8 respondents (21.6%) answered “Strongly Agree.” This reflects an awareness that understanding the culture of native speakers can support more contextual communication skills and language

comprehension. Meanwhile, 7 respondents (18.9%) chose “Neutral,” indicating that they may not yet have a strong interest in cultural aspects. Only 1 respondent (2.7%) answered “Disagree,” and none chose “Strongly Disagree.” Overall, these results show that participants are interested not only in the linguistic aspects but also in the cultural aspects inherent in the use of English, which can enrich their learning experience.

#### 9. I am motivated to master English for my future.

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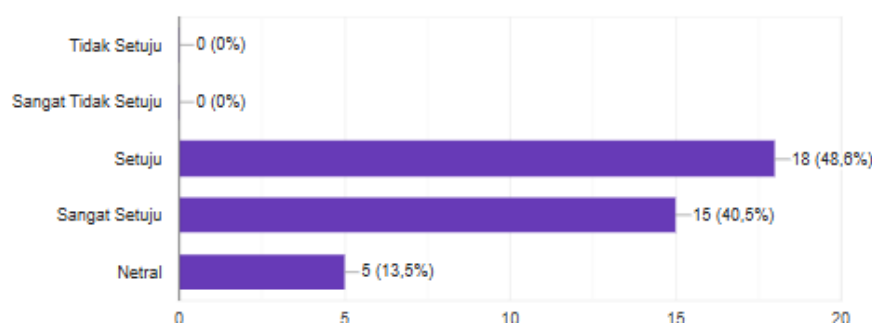


*Figure 9. Personal Information about Students*

The majority of respondents showed a positive attitude toward the statement. Most participants, 48.6%, agreed that they are motivated to master English for their future, and 40.5% even strongly agreed. Meanwhile, only 13.5% were neutral, and none of the respondents disagreed or strongly disagreed. It can be concluded that the majority of respondents have a high level of motivation to master English because they view this skill as important for their future. This positive attitude reflects a strong awareness of the role of English in career development and future opportunities.

## 10. I want to learn more about English-speaking cultures.

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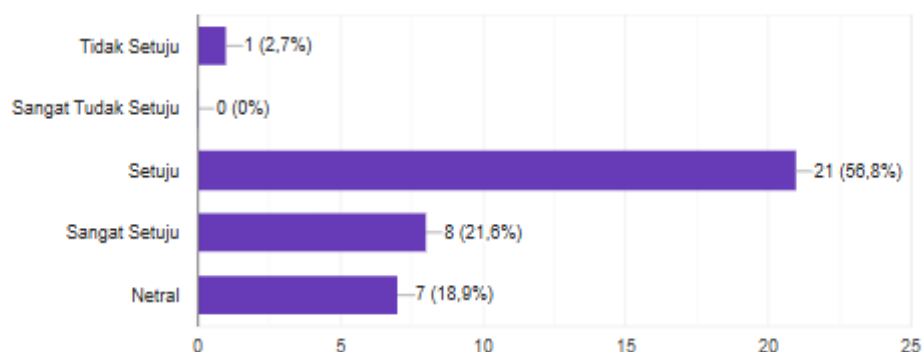


Figure 10. Personal Information about Students

The questionnaire results show that the majority of respondents have a high interest in learning about the culture of native English speakers. A total of 21 respondents (56.8%) answered “Agree,” and 8 respondents (21.6%) answered “Strongly Agree.” This reflects an awareness that understanding the culture of native speakers can enhance communication skills and language comprehension in a more contextual manner. Meanwhile, 7 respondents (18.9%) chose “Neutral,” indicating that they may not yet have a strong interest in cultural aspects. Only 1 respondent (2.7%) answered “Disagree,” and none chose “Strongly Disagree.” Overall, these results show that participants are interested not only in the linguistic aspects but also in the cultural aspects embedded in the use of English, which can enrich their learning experience.

## Information on Students' English Language Ability

### 1. My speaking ability is good enough for everyday conversation.

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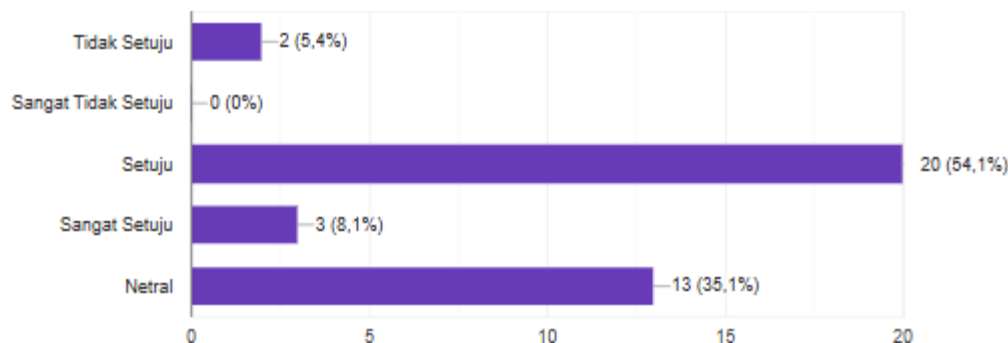


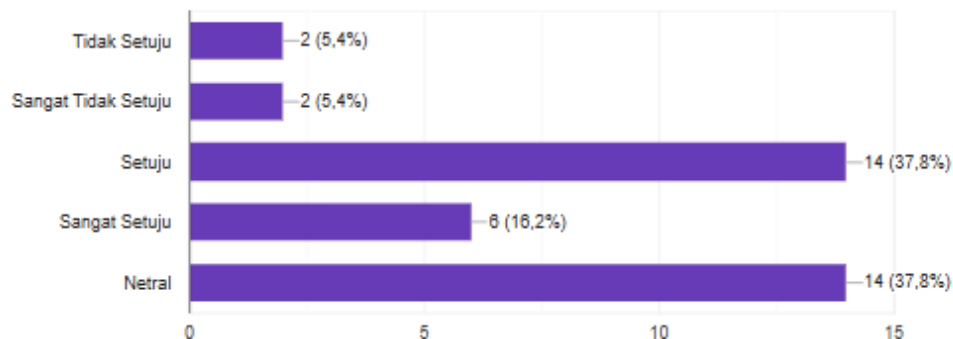
*Figure 1. Information on Students' English Language Ability*

Most respondents felt fairly confident in their English-speaking abilities. A total of 20 respondents (54.1%) agreed, and 3 respondents (8.1%) strongly agreed. This indicates that the majority of students consider their speaking skills adequate for everyday conversations. However, 13 respondents (35.1%) chose neutral, which may suggest that they are still uncertain about their speaking abilities or rarely practice speaking English in daily life. Meanwhile, 2 respondents (5.4%) disagreed, and none strongly disagreed.

Overall, these results show that students' speaking proficiency is generally good, although some still need to improve their confidence and frequency of using English in everyday communication.

## 2. I can understand lectures, presentations, or conversations in English

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*Figure 2. Information on Students' English Language Ability*

Out of a total of 37 respondents, 14 (37.8%) agreed and 8 (16.2%) strongly agreed. This indicates that most respondents felt fairly capable of understanding lectures, presentations, and conversations delivered in English. However, 14 respondents (37.8%) chose neutral, suggesting that they are at an intermediate level of understanding or may not always be able to fully follow the content of English-based lessons and discussions.

Meanwhile, 2 respondents (5.4%) disagreed and another 2 respondents (5.4%) strongly disagreed, indicating that a small portion of participants still experience difficulties in understanding English in academic or formal communication contexts. Overall, these results show that respondents' English comprehension skills are relatively good, with most being able to understand lectures or presentations in English, although there remains a group that needs improvement in listening and comprehension skills for more complex academic contexts.

## 3. I am able to read and understand academic or professional texts in English

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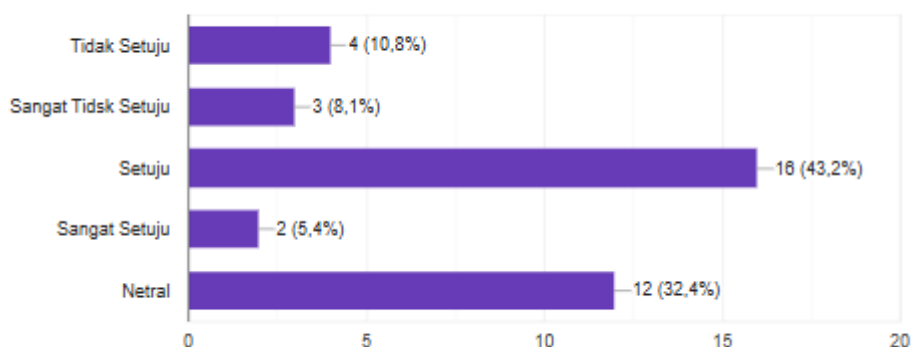


*Figure 3. Information on Students' English Language Ability*

Based on the data, most respondents agreed with this statement, with 16 respondents (43.2%) indicating that nearly half of them felt fairly capable of understanding academic or professional texts in English. In addition, 2 respondents (5.4%) strongly agreed, suggesting that a small portion were highly confident in their ability to read and comprehend advanced English texts. However, 12 respondents (32.4%) chose neutral, indicating that they were not fully confident in their abilities in this area. On the other hand, 4 respondents (10.8%) disagreed and 3 respondents (8.1%) strongly disagreed, showing that a small number still experienced difficulties in understanding academic or professional texts.

Overall, these results indicate that the respondents' ability to read and comprehend academic texts in English is generally quite good, although some still need improvement to achieve a deeper and more confident level of understanding.

4. I am able to write reports, essays, or formal emails in English.

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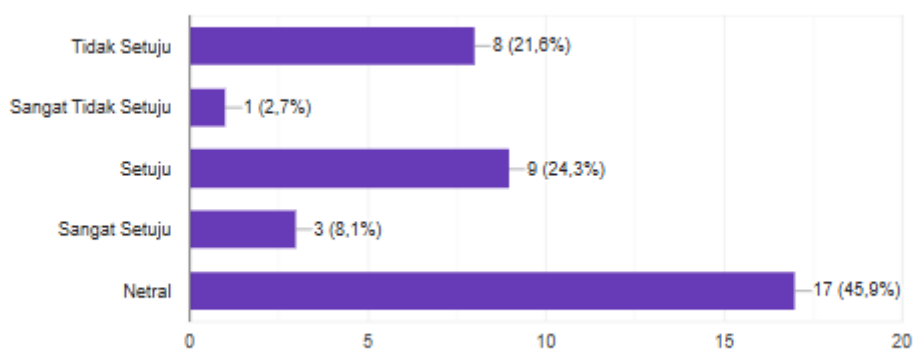


*Figure 4. Information on Students' English Language Ability*

Based on these results, most respondents were in a neutral position, with 17 respondents (45.9%). This indicates that many respondents were still uncertain

about their ability to write formal texts in English. Furthermore, 9 respondents (24.3%) agreed, meaning they felt fairly confident in their ability to write reports, essays, or formal emails in English.

There were also 3 respondents (8.1%) who strongly agreed, showing that a small portion already felt proficient in this skill. However, 8 respondents (21.6%) disagreed, and 1 respondent (2.7%) strongly disagreed, indicating that some still faced difficulties in writing academic or professional texts in English. Overall, these results show that formal writing skills in English still need improvement. Although some respondents felt fairly confident, nearly half remained unsure or felt insufficiently skilled in writing with appropriate structure and language style for formal contexts.

#### 5. I have a sufficient vocabulary for my field of study or work.

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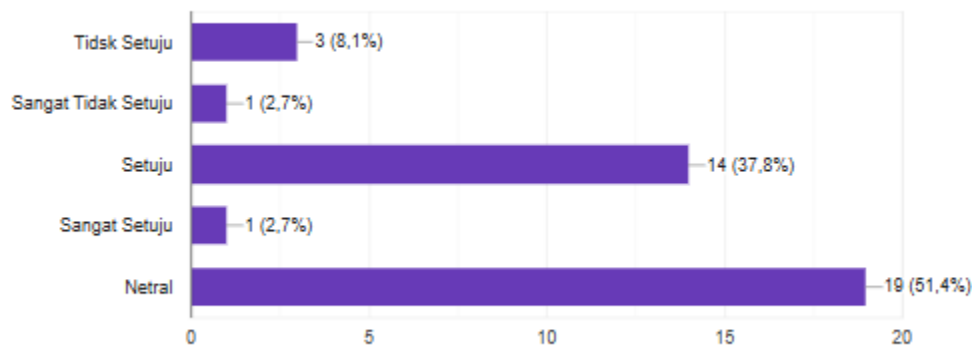


*Figure 5. Information on Students' English Language Ability*

Based on these results, most respondents were in a neutral position, with 19 respondents (51.4%), indicating that they were unsure whether their vocabulary was sufficient to support their field of study or profession. A total of 14 respondents (37.8%) agreed, suggesting that many felt they had an adequate vocabulary. Meanwhile, 3 respondents (8.1%) disagreed, and 1 respondent (2.7%) strongly disagreed, indicating that a small portion felt they still lacked relevant vocabulary. Only 1 respondent (2.7%) strongly agreed, showing a high level of confidence in their vocabulary ability. Overall, these findings indicate that although some students felt confident with their vocabulary range, more than half were still uncertain or not fully confident about the adequacy of their vocabulary in academic and professional contexts.

## 6. My English pronunciation is clear and easy to understand.

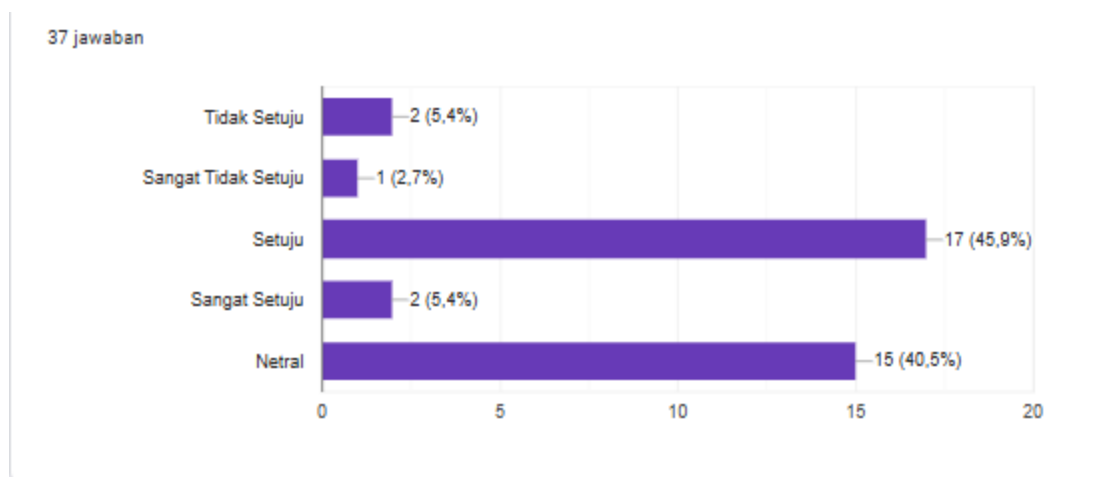


*Figure 6. Information on Students' English Language Ability*

From these results, most respondents agreed with the statement, with 17 respondents (45.9%) expressing agreement. This indicates that nearly half of the respondents felt confident in their English pronunciation skills. A total of 15 respondents (40.5%) chose neutral, meaning they were still unsure or uncertain whether their pronunciation was clear and easily understood. Meanwhile, 2 respondents (5.4%) disagreed, and 1 respondent (2.7%) strongly disagreed, suggesting that a small portion felt their pronunciation still needed improvement. On the other hand, 2 respondents (5.4%) strongly agreed, indicating that only a few were truly confident in the clarity of their pronunciation. Overall, these findings show that the majority of respondents had a fairly good level of confidence in their English pronunciation skills, although some remained uncertain and required further improvement.

## Learners' Lacks

### 1. I struggle to speak English fluently in academic or professional contexts.

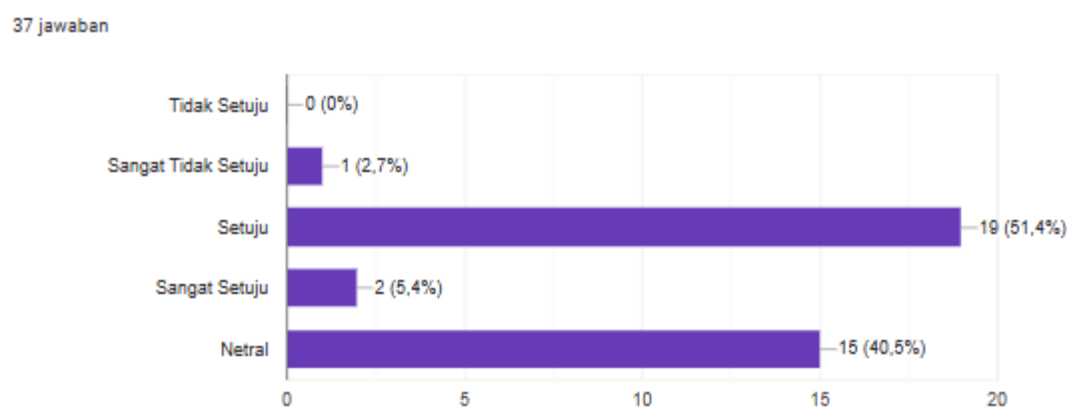


Figure 1. Learners' Lacks

Based on the results of the chart, most respondents were in the neutral position regarding the statement "I have difficulty understanding native English speakers," with a total of 16 respondents (43.2%). This indicates that many respondents are at an intermediate level in their ability to comprehend conversations or explanations from native speakers—they do not entirely struggle, but they are also not yet fully fluent in understanding fast speech or distinctive accents. A total of 14 respondents (37.8%) agreed and 4 respondents (10.8%) strongly agreed, meaning that more than half of the respondents still find it challenging to understand native English speakers. Factors such as accent, speaking speed, and limited exposure to authentic English are likely the main causes of these difficulties. Meanwhile, only 3 respondents (8.1%) disagreed and 1 respondent (2.7%) strongly disagreed, indicating that a small portion of participants feel confident in their ability to comprehend conversations with native English speakers.

## 2. I struggle to understand native English speakers.

37 jawaban

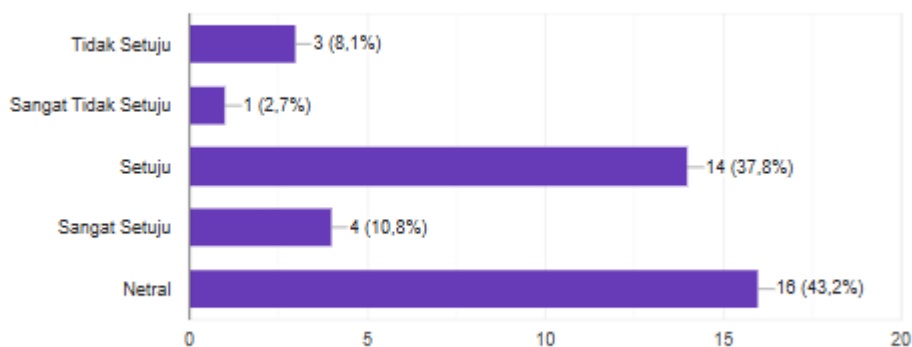


Figure 2. Learners' Lacks

Based on the results of the diagram, the majority of respondents were neutral toward the statement "I find it difficult to understand native English speakers," with a total of 16 respondents (43.2%). This indicates that many respondents are still at an intermediate level in their ability to comprehend conversations delivered by native speakers. They do not completely experience difficulty, yet they are not entirely confident in understanding spoken English fluently, especially when faced with fast speech or distinctive accents. A total of 14 respondents (37.8%) agreed and 4 respondents (10.8%) strongly agreed, meaning that more than half of the respondents still experience difficulty in understanding native English speakers. This may be due to limited exposure to authentic English conversations, accent variations, and the fast pace of native speakers, which differs from the speech style typically encountered in formal classroom learning. Meanwhile, only 3 respondents (8.1%) disagreed and 1 respondent (2.7%) strongly disagreed, indicating that only a small portion of participants feel confident in understanding conversations with native

speakers. Overall, these results suggest that listening comprehension and understanding spoken English from native speakers remain challenging for most respondents.

### 3. My writing skills are not yet sufficient for producing reports or academic writing.

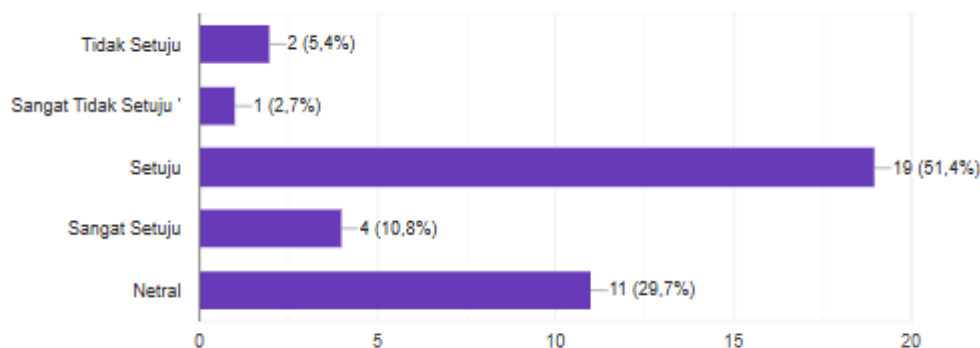


Figure 3. Learners' Lacks

|           |    |             |         |
|-----------|----|-------------|---------|
| Strongly  | 1  | respondent  | (2.7%)  |
| Disagree: | 2  | respondents | (5.4%)  |
| Neutral:  | 11 | respondents | (29.7%) |
| Agree:    | 19 | respondents | (51.4%) |

Strongly Agree: 4 respondents (10.8%) From these data, it can be concluded that the majority of respondents (51.4%) agree that their writing skills are not sufficient to produce reports or academic writing. Only a small portion disagrees (a total of 8.1%), while about one-third of the respondents remain neutral.

*I need to improve my grammar and vocabulary to support my studies/work needs.*

37 jawaban

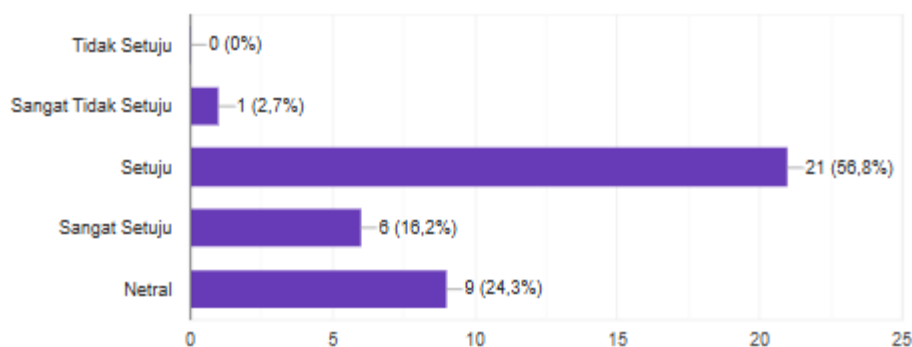


Figure 4. Learners' Lacks

Based on these data, it can be concluded that the majority of respondents (56.8%) agree that they need to improve their grammar and vocabulary skills to support their studies or work.

In addition, 16.2% of respondents strongly agree, indicating a high level of awareness of the importance of enhancing their language proficiency.

Only one respondent (2.7%) strongly disagrees, and none of the respondents disagree. Overall, these results indicate that almost all respondents recognize the importance of improving grammar and vocabulary to support both academic and professional activities.

4. There is a significant gap between my current English skills and those required in my field.

37 jawaban

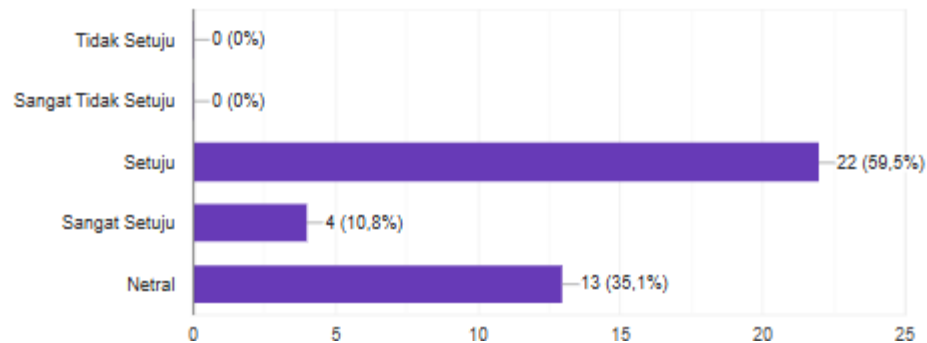


Figure 5. Learners' Lacks

From these results, it can be concluded that the majority of respondents (59.5%) agree that there is a significant gap between their current English proficiency and the level required in their field.

In addition, 10.8% of respondents strongly agree, indicating that a small portion of them perceive this gap as highly significant. Meanwhile, none of the respondents disagree, and 35.1% remain neutral. Overall, these findings indicate that most respondents are aware of the gap or deficiency in their English skills compared to the demands of their field of study or profession.

## Language Learning Information

### 1. I learn better through discussions and group work.

37 jawaban

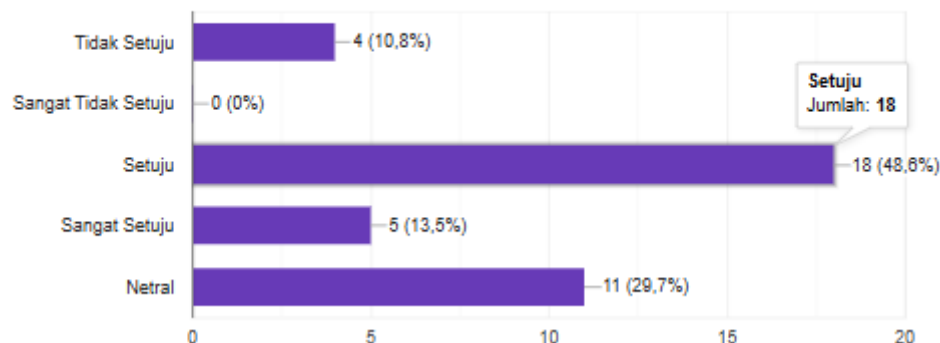


Figure 1. Language Learning Information

Based on the responses of 37 participants to the statement “I learn better through discussion and group work,” it was found that most respondents, namely 18 people (48.8%) agreed and 5 people (13.5%) strongly agreed, indicating that a total of 62.3% expressed a positive perception toward collaborative learning. Meanwhile, 11 respondents (29.7%) chose neutral, suggesting that they did not have a strong tendency toward the statement. In addition, 4 respondents (10.8%) disagreed, and none (0%) strongly disagreed. Overall, these results show that the majority of respondents believe that discussion and group work are effective ways to enhance their understanding of the material.

### 2. I prefer learning through real-life activities and simulations.

37 jawaban

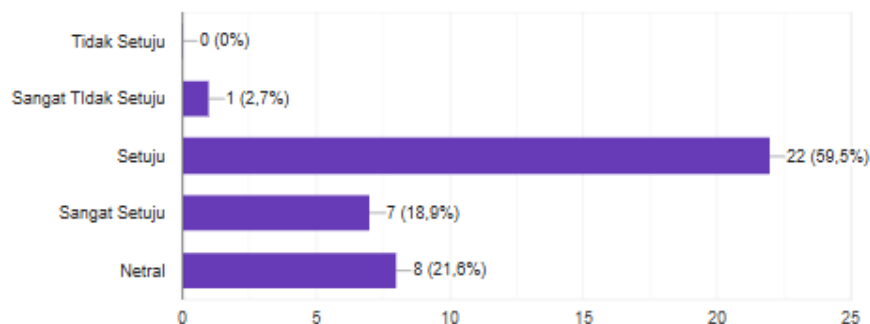


Figure 2. Language Learning Information

The results show that the majority of respondents, namely 22 people (59.5%), agreed, and 7 people (18.9%) strongly agreed. This indicates that most respondents have a positive preference toward practical or experience-based learning. Meanwhile, 8 respondents (21.6%) chose neutral, suggesting that they do not have a strong tendency toward this learning method. Only 1 respondent (2.7%) strongly disagreed, and none (0%) disagreed. Overall, these findings illustrate that learning methods based on real activities and simulations are considered engaging and effective by most respondents.

### 3. I often use videos, apps, or the internet to learn English.

37 jawaban

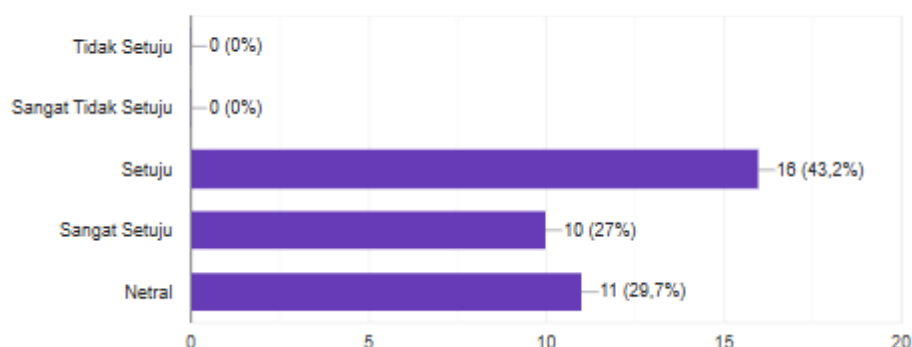


*Figure 3. Language Learning Information*

Based on the results, the majority of respondents agreed, with 16 people (43.2%)

choosing “agree” and 10 people (27%) choosing “strongly agree.” This indicates that most respondents actively use technology such as videos, applications, and the internet as resources for learning English. Meanwhile, 11 respondents (29.7%) selected “neutral,” meaning they neither fully agreed nor disagreed with the statement. No respondents chose “disagree” or “strongly disagree” (0%). Overall, these findings suggest that technology-based learning has become an important part of the English learning process for most respondents.

4. I often review English lessons outside of class.

37 jawaban

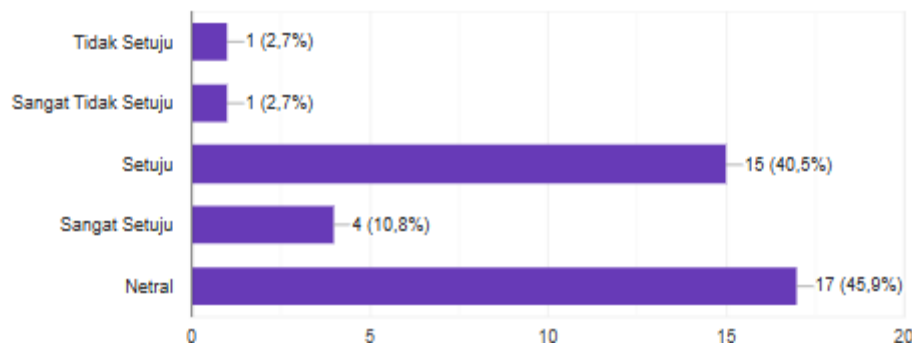


Figure 4. Language Learning Information

The results show that 15 respondents (40.5%) agreed and 4 respondents (10.8%) strongly agreed, indicating that some students have the habit of reviewing English lessons outside of class hours. However, the largest proportion came from the neutral category, with 17 respondents (45.9%), suggesting that many students do not consistently review their lessons outside the classroom. In addition, 1 respondent (2.7%) disagreed and 1 respondent (2.7%) strongly disagreed, indicating that only a small number of students do not engage in this activity at all. Overall, these findings illustrate that although some students actively review their lessons outside of class, the majority remain neutral regarding this habit.

5. I hope lecturers use interactive teaching methods.

37 jawaban

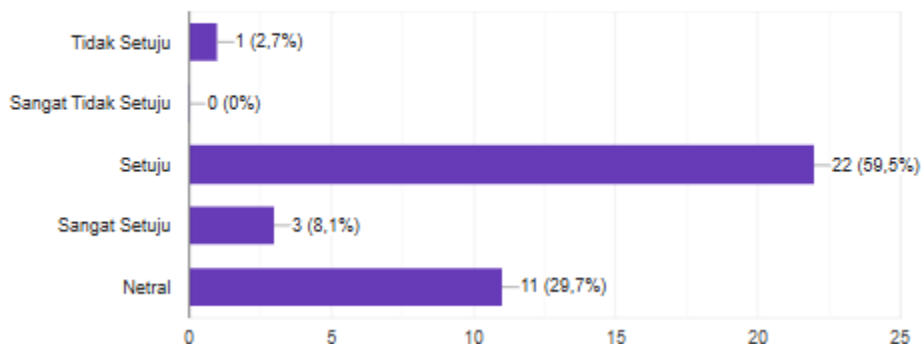


Figure 5. Language Learning Information

The results show that 22 respondents (59.5%) agreed and 3 respondents (8.1%) strongly agreed, indicating that many students hope lecturers use interactive teaching methods. However, the largest proportion came from the neutral category, with 11 respondents (29.7%), suggesting that many students do not consistently review lessons outside the classroom. In addition, 1 respondent (2.7%) disagreed and 0 respondents (0%) strongly disagreed.

disagreed and 1 respondent (2.7%) strongly disagreed, indicating that only a small number of students do not engage in this activity at all. Overall, these findings suggest that although some students actively review their English lessons outside of class, the majority remain neutral toward this habit.

6. I understand the material better when lecturers provide real-life examples.

37 jawaban

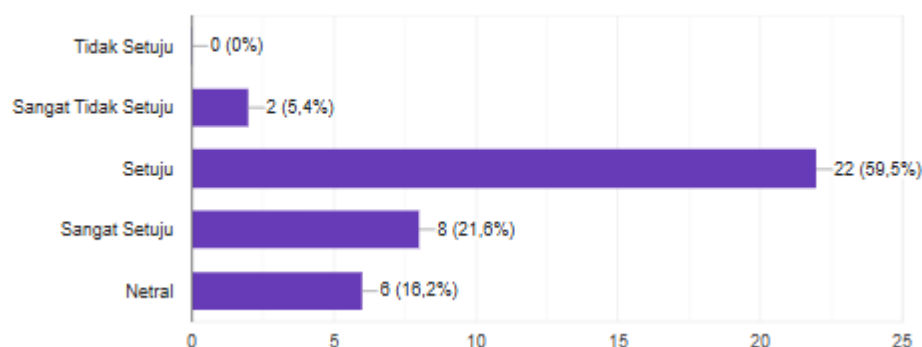


Figure 6. Language Learning Information

The horizontal bar chart presents the responses of 37 participants to the statement "I understand the material better when the lecturer provides examples." The results show that the majority of respondents, 22 individuals (59.5%), selected Agree, making it the largest category. Additionally, 8 respondents (21.6%) chose Strongly Agree, while 6 respondents (16.2%) remained Neutral. There were also 2 respondents (5.4%) who selected Strongly Disagree, and none chose Disagree. Overall, these findings indicate that most students feel they understand the material more effectively when the lecturer includes examples during instruction.

## Discussion

The findings of this study reveal that Medical Laboratory Technology students demonstrate a strong awareness of the importance of English for both academic and professional purposes. Most students acknowledged that English is necessary for reading academic texts, understanding scientific literature, mastering technical terminology, and supporting future professional careers in the medical and laboratory fields. This indicates a positive attitude toward English learning and reflects a clear recognition of English as a key competence in Science, Technology, Engineering, and Mathematics -related disciplines, particularly in health sciences. Such awareness aligns with the fundamental principle of English for Specific Purposes (ESP), which emphasizes learning English based on learners' actual academic and occupational needs.

Despite this positive perception, the results also indicate that English is not yet used intensively in students' daily academic activities. Many respondents reported only occasional use of English and selected neutral responses regarding their frequency of English usage. This suggests a gap between students' awareness of the importance of

English and their actual exposure to or engagement with the language. This limited use may contribute to students' uncertainty in several language skills, particularly in more complex academic and professional contexts.

In terms of language skills, reading was perceived as the most essential skill, especially for understanding academic and professional texts. Most students agreed that they need English to comprehend journals, reports, and scientific materials related to their field. However, a considerable number of respondents expressed uncertainty about their actual reading comprehension ability. This indicates that while reading is highly valued, students may lack effective reading strategies or sufficient technical vocabulary to fully understand specialized texts. This finding highlights the need for targeted instruction focusing on reading strategies and discipline-specific vocabulary development.

Speaking and writing skills emerged as the most challenging areas for students. Although many respondents felt relatively confident in everyday speaking, they reported difficulties in using English fluently and accurately in academic or professional contexts. Writing skills, particularly for producing reports, essays, or formal documents, were also identified as a major weakness. More than half of the respondents acknowledged that their writing ability was not sufficient for academic or professional purposes. These findings suggest that productive skills require greater pedagogical attention, as students need structured guidance, frequent practice, and clear models to develop effective spoken and written communication in ESP contexts.

The strong emphasis on technical vocabulary across multiple questionnaire items further underscores students' awareness of the linguistic demands of their discipline. Most respondents agreed that mastering field-specific terminology is essential for understanding laboratory procedures, scientific reports, and professional communication. However, the high percentage of neutral responses regarding vocabulary adequacy indicates that many students are still unsure about their lexical competence. This suggests that ESP instruction should systematically integrate technical vocabulary learning into all language skills, rather than treating it as a separate component.

Regarding learning preferences, the findings show that students favor interactive, collaborative, and practice-based learning methods. Discussion, group work, simulations, real-life examples, and hands-on practice were consistently rated positively. Students also reported frequent use of technology, such as videos, applications, and internet resources, to support their English learning. These preferences indicate that learner-centered and experiential learning approaches are particularly suitable for ESP instruction in the medical laboratory context, as they promote engagement and practical language use.

The results related to professional communication further emphasize the need for ESP-oriented instruction. Most students agreed that they need to learn how to communicate professionally, write formal documents, use polite and formal language, and understand professional interaction patterns in their field. High expectations were also expressed toward the ESP course, with students expecting it to focus on practical skills, real-world relevance, and career preparation. This demonstrates that students view the ESP course as a crucial bridge between academic learning and workplace communication.

Environmental factors also play a role in shaping students' learning experiences. While most respondents perceived the classroom environment and learning facilities as generally supportive, a large proportion selected neutral responses regarding class schedules and meeting duration. This suggests that although basic learning conditions are

adequate, there may be room for improvement in optimizing instructional time and scheduling to better support language learning outcomes.

Overall, the discussion of these findings indicates a clear mismatch between students' motivation and awareness of English needs and their current level of proficiency, particularly in productive and professional communication skills. A systematic needs analysis, as reflected in this study, provides valuable insights for designing an ESP syllabus that prioritizes practical communication, technical vocabulary, academic writing, and interactive learning strategies. Addressing these identified needs can help ensure that English instruction is more relevant, effective, and aligned with the real academic and professional demands faced by Medical Laboratory Technology students.

## CONCLUSION

The study concludes that students of the Medical Laboratory Technology Study Program have a high level of awareness regarding the importance of English in supporting their academic and professional needs. English is viewed as an essential competence, particularly for understanding scientific literature, mastering technical terminology, reading journals, and communicating professionally in medical laboratory and health-related contexts. These findings indicate that students demonstrate positive attitudes and strong motivation toward learning English, especially within the framework of English for Science, Technology, Engineering, and Mathematics and English for Specific Purposes (ESP).

Nevertheless, the needs analysis reveals a considerable gap between students' current English proficiency and the academic and professional demands they face. Reading skills are perceived as the most necessary skill; however, uncertainty remains regarding students' ability to comprehend complex academic texts. Meanwhile, productive skills, particularly speaking and writing in academic and professional contexts, emerge as the main areas of weakness. Many students feel that they are not yet capable of writing reports or formal documents effectively and lack fluency in professional communication using English.

In addition to language skills, the study also shows that mastery of technical vocabulary is a primary need for Medical Laboratory Technology students. Students recognize that discipline-specific terminology is crucial for supporting content comprehension, professional communication, and workplace readiness. However, the high number of neutral responses regarding vocabulary adequacy suggests that students still require structured and integrated instruction in technical vocabulary within English learning activities.

In terms of learning preferences, students tend to favor interactive, collaborative, and practice-based learning methods, such as group discussions, simulations, case studies, and the use of educational technology. Students also express high expectations for ESP courses to focus on workplace-relevant skills, professional communication, and real-life situations in the medical laboratory field. This highlights the importance of adopting a contextual and needs-oriented approach to English instruction.

Overall, the study confirms that needs analysis is a fundamental step in designing effective ESP instruction. The findings can serve as a basis for developing a more relevant, practical, and needs-driven English for Science, Technology, Engineering, and Mathematics syllabus for Medical Laboratory Technology students. By aligning learning materials, teaching methods, and assessment strategies with students' real academic and professional needs, English instruction is expected to enhance both language competence and students' readiness to face challenges in the health and medical laboratory professions.

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