UNDERGRADUATED THESIS
NEEDS ANALYSIS OF TEACHING MATERIALS FOR INFORMATICS
ENGINEERING STUDENTS' UNIVERSITY OF SULAWESI BARAT

By:

MUHAMMAD USWAH RAMADHAN

H0118338

This Undergraduate Thesis was written and submitted in a part-fulfillment
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MUHAMMAD USWAH RAMADHAN
H0118338

Has successfully defended the thesis in front
of the Examiner Team of Faculty of Teacher
Training and Education on: June 30th, 2025

EXAMINATION

Chair of the examiner	: Dr. Nur Aisyah Humairah, S.Si., M.Si.	(	)
Secretary of Exam Committee	: Hustiana, S.Pd., M.Pd.	(	)
Supervisor I	: Fajriani, S.S., M.A.	(	)
Supervisor II	: Dwi Adi Nugroho, S.S., M.Hum	(	)
Examiner I	: Amrang, S.Pd., M.Pd.	(	)
Examiner II	: Rahmatullah Syaripuddin, S.Pd., M.Pd.	(	)

Majene, June 30th, 2025

FACULTY OF TEACHER TRAINING AND EDUCATION

UNIVERSITAS SULAWESI BARAT

Dean,

Prof. Dr. H. Ruslan. M. Pd
NIP. 196312311990031028

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The one who is filed below

Student's Name   : Muhammad Uswah Ramadhan

NIM   : H0118338

Study Program   : English Education Study Program

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Signed by

Muhammad Uswah Ramadhan
H0118338

ABSTRAK

MUHAMMAD USWAH RAMADHAN : Analisis Kebutuhan Bahan Ajar Bagi Mahasiswa Teknik Informatika Universitas Sulawesi Barat, **skripsi, Majene, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sulawesi Barat, 2025.**

Tujuan penelitian ini adalah untuk mengetahui: (1) Bahan ajar yang sesuai untuk teknik informatika. (2) tantangan bagi mahasiswa teknik informatika ketika belajar bahasa Inggris. Penelitian ini menggunakan metode deskriptif kualitatif. Partisipan penelitian ini adalah mahasiswa teknik informatika dengan menggunakan teknik purposive sampling. Data penelitian diperoleh dengan menggunakan kuesioner dan wawancara. Hasil penelitian ini menunjukkan bahwa mahasiswa membutuhkan bahan ajar yang berfokus pada kosakata teknis, membaca dokumentasi perangkat lunak, menulis laporan proyek dan menyampaikan presentasi. Selain itu, mereka menghadapi tantangan seperti kosakata yang terbatas, kepercayaan diri yang rendah dalam berbicara dan kesulitan memahami bahasa Inggris lisan di lingkungan teknis.

Kata Kunci: Analisis kebutuhan, Bahasa Inggris untuk Tujuan Tertentu, Teknik Informatika, Bahan Ajar.

ABSTRACT

MUHAMMAD USWAH RAMADHAN : Needs Analysis of Teaching Materials for Informatics Engineering Students University of Sulawesi Barat, **undergraduate thesis, Majene, Faculty of Teacher Training and Education, university of Sulawesi Barat, 2025.**

The purpose of this study is to find: (1) The suitable materials for informatics Engineering. (2) the challenges fro informatics engineering students whens learning english. This study used qualitative descriptive method. The paraticipants of this study were students of informatics engineering using a purposive sampling technique. The research data was obtained by using questionnaire and interview. The results of this study showed that the students needed materials that focused on technical vocabulary, reading software documentation, writing project reports and delivering presentations. In addition, they faced challenges such as limited vocabulary, low confidence in speaking and difficulty understanding spoken English in a technical environment.
Keywords: Needs analysis, English for Specific Purposes, Informatics Engineering, Teaching Materials.

CHAPTER I
INTRODUCTION

A. Background

English is an international language that plays an important role in education, technology and global communication. In Informatics Engineering, the use of English is very dominant, especially in software documentation, programming, scientific references, and professional communication between developers in various countries. Therefore, Informatics Engineering students are expected to have adequate English skills, especially in reading and understanding academic and technical texts, and communicating professionally.

However, based on initial observations and literature studies, many English teaching materials used in higher education are still general in nature (General English) and have not been fully adapted to the specific needs of Informatics Engineering students. In fact, the English for Specific Purposes (ESP) approach emphasizes that English teaching must be adapted to the context and needs of a particular field of study or profession.

The English for Specific Purposes (ESP) approach emphasizes the importance of teaching English tailored to students' academic and professional needs. The first step in this approach is to conduct a needs analysis, which is a systematic process to identify the linguistic and non-linguistic needs of learners. This analysis includes the identification of target needs and learning needs, which form the basis for designing relevant curriculum and teaching materials. For example, research by Nugrahini and Rakhmawati (2024) shows that proper needs analysis can improve the effectiveness of ESP learning in higher education settings.

Teaching materials are an important component in the learning process. Effective teaching materials should be relevant to the students' learning context, interesting, and able to develop language skills comprehensively. In the context of ESP, teaching materials must be designed based on the results of a needs analysis, so that they are suitable for students' scientific fields and professional goals. Research by Damanik (2020) emphasizes the importance of developing teaching

materials that suit the specific needs of students to improve their English competence.

The gap between English teaching materials used and the real needs of Informatics Engineering students can demotivate learning and prevent the achievement of expected competencies. Therefore, research is needed to identify and analyze the needs of teaching materials systematically.

The researcher interested in further researching the needs of English teaching materials for Informatics Engineering students. This research is important to identify the extent to which the materials used so far match the needs of students in their academic and professional contexts. The results of this research are expected to contribute to the development of more relevant and contextualized teaching materials, especially in ESP learning.

With this needs analysis, it is expected that the English learning process in Informatics Engineering can be more effective and applicable. Students not only learn the structure of English in general, but also understand vocabulary, texts, and communication situations relevant to their field.

Based on the relevant considerations, the researcher took the initiative to explore further the English teaching materials who's majoring informatics engineering. Therefore, the title of this research is entitled "**needs analysis of teaching materials for informatics engineering students in University of Sulawesi Barat**"

B. Problem Identification

Most of the English teaching materials in University of Sulawesi Barat are still general in nature (general English), whereas informatics engineering students need more specific and contextual material, such as:

1. Technical terms in programming and technology.
2. Reading and understanding software documentation.
3. Writing professional emails, project reports or scientific abstracts.
4. Oral communication in teamwork or presentations.

C. Research Focus

To avoid research that is too broad in scope, researchers limit the focus on research:

1. What are the suitable English materials for informatics engineering?
2. What are the challenges for Informatics engineering students when learning English?

D. Research Objective

Based on the problem identified above, the research aims:

1. To identify the suitable English materials that meet the academic and professional needs of informatics Engineering students at the university of Sulawesi barat.
2. To explore the challenges faced by informatics Engineering students at the university of Sulawesi barat in learning English.

E. Research Benefits

This research is expected to provide both theoretical and practical contributions to the field of English language teaching, particularly in the context of English for specific purposes (ESP).

1. **Theoretical significant**

   the result of this study is expected to enrich the body of knowledge in the area of English for specific purposes (ESP), especially in relation to the teaching of English for students in technical and scientific fields such as informatics engineering. By identifying the specific needs if these students, this research can support the development of theories on needs analysis and material development within the ESP framework.

2. **Practical significant for informatics engineering students**

   this study is expected to indirectly improve their English learning experience by promoting the use of materials that better match their academic and professional realities.

CHAPTER V
CONCLUSION AND SUGGESTION

A. Conclusion

1. The Challenges of Informatics Engineering Students When Learning English

In the learning process, Informatics Engineering students face a number of challenges that hinder their English language skills. These challenges include:

   a. Lack of technical vocabulary, which makes it difficult for students to understand English materials, especially those related to programming and documentation.

   b. Difficulty in listening, especially when it comes to understanding explanations from video tutorials or technology presentations in English that are fast and concise in terms of terms.

   c. Lack of confidence in speaking, especially when doing project presentations or technical discussions in English, due to lack of practice speaking in a professional context.

   d. Conventional learning methods, such as lectures and general problem exercises, without direct links to the world of technology, reduce student motivation and learning engagement.

These challenges indicate a gap between the teaching materials provided and the real needs of students in the field of informatics engineering.

2. The Suitable English Materials for Informatics Engineering Students

Informatics Engineering students need relevant and applicable English materials according to their subject of study. These materials are not just general grammar or daily conversation, but should focus on specific skills that support academic and professional activities in the field of information technology. The most needed materials include:

   a. Reading technical documentation and technology articles

   b. Writing project reports, code comments, and professional communications such as emails.

   c. Technical vocabulary directly related to terms in coding, software development, and information systems.

d. Speaking for the purposes of project presentations, technical discussions, and pitching technology ideas

Students felt that learning would be more useful if the material was adapted to the informatics context, as most learning resources and jobs in this field use technical English.

B. Strengths and Limitations of This Study

One of the main strengths of this study lies in its qualitative descriptive approach, which allowed for an in-depth exploration of the real language needs and learning experiences of Informatics Engineering students. By employing both questionnaires and semi-structured interviews, this research captured not only quantitative trends but also rich, contextual insights into students' perceptions, motivations, and challenges. The use of triangulation in data collection strengthened the credibility of the findings and allowed for more nuanced interpretations. Furthermore, this study contributes to the limited body of literature on English for Specific Purposes (ESP) in the context of Informatics Engineering, particularly in a local institutional setting such as the University of Sulawesi Barat an area that has not been extensively investigated in previous ESP studies.

Additionally, the study provides practical implications for English lecturers and curriculum developers, offering clear, data driven recommendations for the design of ESP materials tailored to students in technical disciplines. The inclusion of students' voices ensures that the results are grounded in real classroom realities, making the findings more applicable and learner centered.

Despite its strengths, this study also has several limitations. First, the sample was limited to students from one department and one institution, which may affect the generalizability of the findings to other contexts or fields. The small sample size, especially for the interview component, may not fully represent the diversity of students' needs and experiences. Second, while qualitative methods are valuable for capturing depth, they rely heavily on the subjective interpretation of both the researcher and the participants. This may introduce biases or limit the objectivity of the results.

Another limitation is that the study did not involve English lecturers or subject matter experts from the Informatics department in the data collection process. Including their perspectives could have enriched the understanding of

teaching challenges and material development from the instructor's point of view. Lastly, the study focuses primarily on identifying needs and challenges but does not measure the actual effectiveness of proposed materials or teaching methods in practice. Future research is needed to build upon these findings through experimental or action-based studies.

C. Implication of the Study

The findings of this study hold several important implications for English language instruction, particularly in the context of vocational and technical higher education. First, the study emphasizes the importance of adopting a needs-based approach to English for Specific Purposes (ESP). By identifying students' real academic and professional needs such as reading software documentation, writing technical reports, and presenting IT related content educators can design more targeted and relevant instructional materials. This ensures that language instruction is not only more effective but also more meaningful and motivating for students.

Second, the study suggests that collaboration between English language lecturers and Informatics Engineering faculty members could significantly enhance curriculum development. Such interdisciplinary cooperation can result in the creation of materials that integrate both linguistic and technical elements, reflecting authentic tasks students are likely to encounter in their future careers. This integration is aligned with the ESP principle that teaching content must be situated within learners' specific disciplinary contexts.

Furthermore, the study implies that traditional, one size fits all English instruction may no longer be sufficient for students in specialized fields. Educators and policymakers should consider restructuring English courses to be more flexible and responsive to the dynamic needs of each department. This may include offering tailored ESP courses, implementing blended learning models with industry-based materials, and providing training for instructors to effectively deliver ESP content.

Finally, the findings may serve as a foundation for future research in ESP, especially in underexplored contexts such as regional universities and technical programs in Indonesia. Future studies may build on this research by evaluating the impact of ESP materials developed based on students' needs or by involving instructors and subject matter experts in material design and implementation.

In conclusion, this study has examined the English language needs and challenges of Informatics Engineering students at the University of Sulawesi Barat through a qualitative descriptive approach. The findings revealed that the existing General English instruction does not sufficiently support students' academic and professional needs in their field. Instead, students require English materials that are highly contextualized, task based, and aligned with the linguistic demands of their discipline. The most essential skills identified include understanding technical vocabulary, reading software documentation, writing reports and emails, delivering project presentations, and comprehending spoken English in digital environments.

The challenges experienced by the students such as limited vocabulary mastery, lack of speaking confidence, difficulties with listening comprehension, and low engagement with traditional materials highlight the need for a more learner centered and discipline specific approach to English instruction. These findings support the ESP framework, particularly the concepts of target need and learning needs, which emphasize the necessity of designing instruction based on what learners must do with language in real life situations.

Through the application of needs analysis, this study contributes to the broader field of English for Specific Purposes by providing practical insights into how English instruction can be more effectively tailored to students in technical fields. It also emphasizes the importance of integrating authentic materials, interactive learning strategies, and interdisciplinary collaboration in curriculum development. While this research focused on a single department within a single institution, its implications may be relevant to other universities offering programs in science, technology, and engineering.

Ultimately, this study underscores that English education for Informatics Engineering students must move beyond generic content and embrace a more functional, contextual, and responsive model of instruction. By doing so, educators can better equip students with the linguistic tools they need to succeed both academically and professionally in a globalized and digitally driven world.

D. Suggestion

after conducting the research and getting data approximately English language needs of informatics engineering students at university of Sulawesi barat. Based on these conclusions, the researcher would like to give some suggestions:

1. For English Lecturers or Teachers

   Lecturers are expected to compile and develop ESP (English for Specific Purposes) based teaching materials tailored to the context of Informatics Engineering. The materials should include learning that emphasizes understanding documentation, technical vocabulary, report writing, and speaking in the context of technology projects. In addition, project-based learning and case study approaches are strongly recommended to increase student participation and motivation

2. For Students

   Students are encouraged to actively improve their English skills through self-learning, such as reading opensource documentation, watching technology tutorial videos in English, and joining international technology forums. Presentation exercises in English and technical project writing practice are also highly recommended to build confidence.

3. For Future Researchers

   Further studies can expand upon this research by involving multiple institutions and larger samples to increase the generalizability of the findings. Future researchers are also encouraged to include lecturers' and practitioners' perspectives to obtain a more comprehensive understanding of the instructional context. In addition, researchers could explore the development, implementation, and effectiveness of ESP based instructional materials through experimental or action research methods to determine their actual impact on students' language proficiency and academic performance.

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