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Bridging Language Gaps in Rollingstock Engineering: An English for Specific Purposes (ESP) Perspective in Vocational Education

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ABSTRACT

As vocational education becomes increasingly connected to global industry demands, using English effectively is important for students preparing for professional careers. This study analyzes how English for Specific Purposes (ESP) learning can better support Rollingstock Engineering students to develop their communication skills and language knowledge. Using a descriptive qualitative approach, data were gathered through a structured questionnaire administered to 114 second-semester students at the State Polytechnic of Madiun. The questionnaire focused on students' learning preferences, classroom experiences, perceptions of English learning, and expectations regarding English use in their future careers. The findings reveal that while students recognize English as essential for their professional development, current instruction remains too general and lacks authentic, industry-based content. Most students demonstrated strong career-oriented motivation and viewed English as an important tool for employability, technical communication, and workplace interaction. In addition, the data indicate that students prefer collaborative and experiential learning activities. Students also emphasized the importance of learning technical vocabulary, understanding engineering documents, and practicing communication relevant to maintenance, safety procedures, and industrial operations. These findings highlight the urgent need for a specialized ESP syllabus specifically designed for Rollingstock Engineering students. Developing teaching materials and textbooks that are combined with learning activities based on real

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workplace situations and authentic communication, is essential to reduce the gap between classroom instruction and the actual demands of the industry. The study suggests that aligning English instruction with real professional practices can better prepare vocational students to communicate effectively, confidently, and professionally in the global rollingstock engineering industry.

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1. Introduction

As industries become more connected worldwide, English is increasingly seen as an essential part of professional life rather than simply a language for everyday communication. For many people working in technical and industrial fields, the ability to use English can open wider opportunities for collaboration, career growth, and global engagement In technical and vocational fields, the ability to use English effectively is now seen as a core competency alongside technical expertise. Engineers and technicians are expected to interpret manuals, write reports, and collaborate with international teams. As industries continue to expand beyond national borders, English proficiency enables professionals to connect, share ideas, and adapt to global operational standards.

For engineering students, learning English goes far beyond basic vocabulary or grammar. It involves mastering the specific language used in technical documents, maintenance guidelines, and safety instructions. According to Basturkmen (2023) and Hyland (2019), English for Specific Purposes (ESP) helps learners develop language skills that are directly connected to the communication demands of their academic disciplines and future professions, making the learning process more relevant and purposeful. Through ESP, students do not just learn “English”, they learn the kind of English that prepares them for the communication realities of their future workplaces.

However, many vocational institutions still rely on traditional English courses that treat language as a general subject rather than a professional tool. These classes often focus on everyday conversation or abstract grammar rules, offering little connection to the technical language students will actually use in their jobs. As a result, many graduates struggle to communicate effectively in their professional environments, especially when faced with field-specific documentation or cross-cultural collaboration. This gap between classroom instruction and workplace communication remains a major concern in vocational education.

The Rollingstock Engineering program at the State Polytechnic of Madiun reflects this challenge. Although English subjects have been included in the curriculum, the program still lacks a well-structured ESP syllabus that specifically addresses the communication demands of the rollingstock engineering field. Each instructor tends to select materials independently, often without direct alignment to the industry context. This lack of structure means students have limited opportunities to learn through real examples, such as maintenance logs, safety reports, or diagnostic procedures, all essential forms of communication in their future careers.

Several studies conducted in similar contexts have raised the same issue. Research

by Jannah (2022), Akmal et al. (2023), and Efendi et al. (2024) shows that engineering students in Indonesia often struggle to apply English in professional settings because classroom content does not align with workplace expectations. These findings indicate a clear mismatch between the English skills taught in the classroom and the communication abilities students are expected to use in their future professional careers. A more context-driven, practical, and needs-based approach is necessary for ESP instruction in vocational settings.

To design effective ESP programs, educators must begin with a solid understanding of learners' needs. As Songhori (2008) and Woodrow (2020) point out, needs analysis helps teachers identify what students must know, what they currently lack, and how they prefer to learn. Beyond language gaps, this process explores students' goals, motivation, and learning styles (Nimasari, 2018; Flowerdew, 2013). By listening to learners' voices, educators can make informed decisions about course content, materials, and teaching methods that truly support students' professional growth.

For Rollingstock Engineering students, English learning should be rooted in their daily realities. They need to read technical manuals, write inspection reports, and communicate safely and clearly in maintenance and operational contexts. Their use of English is highly practical; it demands accuracy, clarity, and contextual understanding. This means that a successful ESP program should not only teach the language but also simulate the communicative situations students are likely to encounter in the field.

Guided by this perspective, the present study explores how English instruction can better support Rollingstock Engineering students through a needs-based ESP approach. Using a structured questionnaire, the research investigates students' perceptions, preferences, and communication needs. The goal is to identify how current English learning can be improved to meet professional standards in the rollingstock industry. By exploring these issues, this study aims to enrich current discussions in ESP and vocational education while providing practical considerations for educators and curriculum designers in creating English learning experiences that better reflect workplace communication demands.

2. Literature Review

2.1 English for Specific Purposes (ESP)

English for Specific Purposes (ESP) originated in response to the increasing demand for language instruction that serves the communicative needs of specific academic and professional communities. Rather than teaching English as a general subject, ESP emphasizes functional, context-based language use, focusing on what learners need to perform effectively in real-life settings (Hutchinson & Waters, 1987; Dudley-Evans & St. John, 1998). Basturkmen (2023) defines ESP as a learner-centered approach, grounded in the understanding that effective language instruction should reflect learners' actual communicative situations and goals. Similarly, Hyland (2019) argues that ESP integrates linguistic knowledge with disciplinary discourse, enabling students to engage meaningfully with the communicative practices of their fields.

Over the decades, ESP has evolved into a multi-disciplinary field drawing insights from linguistics, discourse analysis, and applied pedagogy (Belcher, 2006). It now serves not only as a framework for language teaching but also as a bridge between education and professional application. In engineering, for instance, ESP instruction supports students in developing the communicative competence needed to read manuals, produce reports, and participate in international collaborations. This integration of professional communication skills into language teaching strengthens students' readiness for participation in the global workplace, particularly in vocational higher education, where English directly affects employability and technical performance.

2.2 Need Analysis in ESP

Needs analysis is the cornerstone of ESP course design and plays a vital role in ensuring instructional relevance. It involves identifying what learners must know (necessities), what they currently lack (lacks), and what they want to achieve (wants) through language learning (Hutchinson & Waters, 1987; Songhori, 2008). Earlier approaches to needs analysis mainly concentrated on identifying learners' language weaknesses. However, more recent perspectives have expanded this view by considering learners' motivation, attitudes, and learning environments as important factors in language development (Woodrow, 2020). In addition, Flowerdew (2013) explains that an effective needs analysis should not only examine the language skills required in future professional settings but also pay attention to learners' current abilities and actual classroom conditions.

Modern interpretations of needs analysis view it as an ongoing, cyclical process rather than a one-time diagnostic (Long, 2022; Rahman, 2015). By continuously evaluating how learners' goals evolve, instructors can adapt teaching materials and strategies to ensure long-term relevance. In vocational and engineering programs, needs analysis provides critical insights into the communicative challenge students encounter in fieldwork, technical reporting, and maintenance documentation (Anthony, 2018; Richards, 2001). Such findings allow educators to design curricula that prepare students for real-world communication, ensuring that ESP courses respond dynamically to industrial changes and technological advancements.

2.3 ESP in Vocational and Engineering Education

Within vocational education, English instruction plays a transformative role in shaping students' readiness for industry-based communication. Engineering students, in particular, require more than general linguistic knowledge—they must develop technical fluency to explain systems, follow safety protocols, and collaborate with multinational teams (Poghosyan, 2016). Studies have shown that engineering graduates often struggle to meet workplace expectations due to limited exposure to authentic English tasks during their studies (Ahmed, 2021). To address this, ESP courses in engineering should integrate practical content, such as interpreting diagrams, describing machine operations, and conducting diagnostic discussions. This focus on authentic tasks enables learners to

connect language learning with technical competence, promoting both confidence and professional relevance.

In the Indonesian context, several scholars have emphasized the need for specialized ESP instruction in vocational programs. Nimasari (2016a, 2018) found that Rollingstock Engineering students benefit significantly from structured ESP materials that mirror workplace communication, such as maintenance reporting and safety briefings. Subsequent research (Jannah, 2022; Akmal et al., 2023; Efendi et al., 2024) supports the incorporation of project-based and collaborative learning strategies to enhance engagement and learning outcomes. Moreover, Sarwanti et al. (2023) and Helingo and Molou (2024) advocate integrating field-related vocabulary and hands-on activities, arguing that authentic, industry-based materials enhance both motivation and communicative competence. These insights underscore the value of designing ESP curricula that align classroom instruction with the evolving demands of the engineering workplace.

2.4 Theoretical Foundation for the Present Study

The present study is guided by ESP course design principles that emphasize learner-centered instruction supported by empirical needs analysis (Basturkmen, 2023; Woodrow, 2020). According to Long's (2022) task-based language teaching framework, authentic tasks should serve as the foundation for meaningful learning, enabling students to practice communication in realistic contexts. These perspectives suggest that effective ESP programs should combine linguistic instruction with practical activities that replicate real workplace interactions, thereby strengthening both linguistic proficiency and professional readiness.

In addition, this research draws on the integrative frameworks proposed by Hutchinson and Waters (1987) and Dudley-Evans and St. John (1998), which emphasize the interaction among learners' needs, course objectives, and instructional materials. The inclusion of recent perspectives (Nimasari, 2018; Efendi et al., 2024; Brilianti & Rokhim, 2024) reflects an ongoing effort to contextualize ESP in Indonesia's vocational education system. This combination of theories serves as an important basis for understanding the English learning needs of Rollingstock Engineering students and for developing a more relevant ESP program that supports their academic and professional preparation.

3. Research Method

3.1 Method

This study used a descriptive qualitative approach to investigate the English learning needs of Rollingstock Engineering students within a vocational higher education setting. The method was selected because it allows the researcher to understand students' experiences, learning preferences, and expectations toward English learning in a more detailed and meaningful way. Instead of relying only on statistical results, the study aimed to capture how students perceive the role of English in supporting their academic and future professional lives. This approach is closely connected to the principles of English

for Specific Purposes (ESP), which place learners' needs, goals, and learning contexts at the center of course development (Woodrow, 2020; Basturkmen, 2023).

To guide the analysis, this research adopted the needs analysis framework proposed by Nimasari (2018), which highlights several important aspects of English teaching and learning in ESP contexts. The study also considered more recent perspectives from Long (2022), particularly regarding the importance of intercultural communication and technological adaptability in modern vocational and professional environments.

3.2 Participants

The participants in this study were 114 second-semester students enrolled in the Rollingstock Engineering program at the State Polytechnic of Madiun. These students were selected because they were currently engaged in the English for Rollingstock Engineering course, which provided direct exposure to the instructional practices under investigation. The participants represented a range of English proficiency levels, academic performances, and learning motivations. They completed the data collection instruments during the 2024/2025 academic year. The large sample size provided a comprehensive perspective on how English learning is perceived and experienced in this vocational context.

3.3 Data Collection

Data were collected using two main instruments: a structured questionnaire and classroom observations. The questionnaire was distributed online through Google Forms, allowing participants to complete it more easily and flexibly. It contained 15 items designed to capture students' perceptions of English learning, preferred classroom activities, the relevance of materials, and their views on how English contributes to their future careers. The questionnaire consisted of both closed-ended and open-ended questions, enabling the researcher to identify general response patterns while also gaining deeper insights from students' personal opinions and experiences.

To complement the questionnaire, classroom observations were conducted throughout the English sessions. The observations focused on student engagement, interaction patterns, and participation during class activities. This qualitative element helped validate the questionnaire findings by providing real-time insights into how students applied English learning in practice. Combining both instruments allowed for data triangulation, strengthening the reliability of the results and ensuring that the conclusions reflected both students' stated perceptions and observed behaviors.

3.4 Data Analysis

The collected data were analyzed descriptively to identify patterns, trends, and thematic categories related to students' English needs. Responses from the questionnaire were summarized in percentages to illustrate dominant tendencies, while open-ended responses and observation notes were analyzed thematically. The analysis process involved coding and categorizing the data based on recurring themes, including students'

learning preferences, challenges, and expectations for English instruction.

To enhance the validity of the interpretation, the researcher employed triangulation by cross-referencing data from the questionnaire, classroom observations, and theoretical frameworks from ESP literature (Hutchinson & Waters, 1987; Long, 2022; Flowerdew, 2013). Through this method, the study ensured that the findings accurately reflected learners' voices and the actual conditions of English teaching in the Rollingstock Engineering program.

Overall, this methodological approach was designed to generate meaningful insights into how English instruction can be refined to support vocational students' professional readiness better. The next section presents the findings derived from this process and discusses their implications for ESP curriculum development in engineering education.

4. Results and Discussion

4.1. Results

Data were collected from 114 second-semester students of the Rollingstock Engineering program at the State Polytechnic of Madiun through a structured questionnaire and classroom observations. The questionnaire consisted of 15 items, each designed to elicit students' perceptions, preferences, and needs regarding English for Specific Purposes (ESP) instruction.

4.1.1. Motivation to Learn English

Figure 1 shows that 83.9% of students believe that English is essential for their future occupation, making it the strongest motivation among respondents. This finding clearly indicates that students view English as a professional necessity rather than merely an academic requirement. Meanwhile, 9.7% of respondents study English because it is one of the subjects in their major, and only a small percentage selected other purposes such as speaking to foreigners or personal reasons.

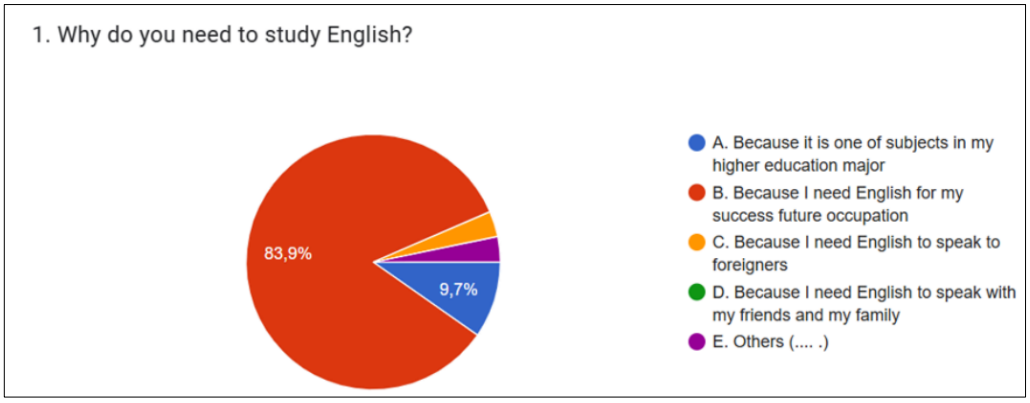

Figure 1. Percentage Result of Question 1

A large majority of students stated that English is essential for their future career development, especially for reading technical manuals, writing reports, and communicating in professional contexts. This finding shows that students' primary motivation for learning English is career-oriented rather than academic. This suggests that

an ESP curriculum in Rollingstock Engineering should emphasize workplace communication skills, industry-related vocabulary, and real professional contexts, since students are highly aware of English as a tool for employability.

4.1.2. Frequency of English Use

The responses in Figure 2 indicate two dominant contexts of English use: 38.9% of students use English only during English classes, and 33.3% use it when studying English materials related to their major. The remaining responses show limited use for social or daily home communication.

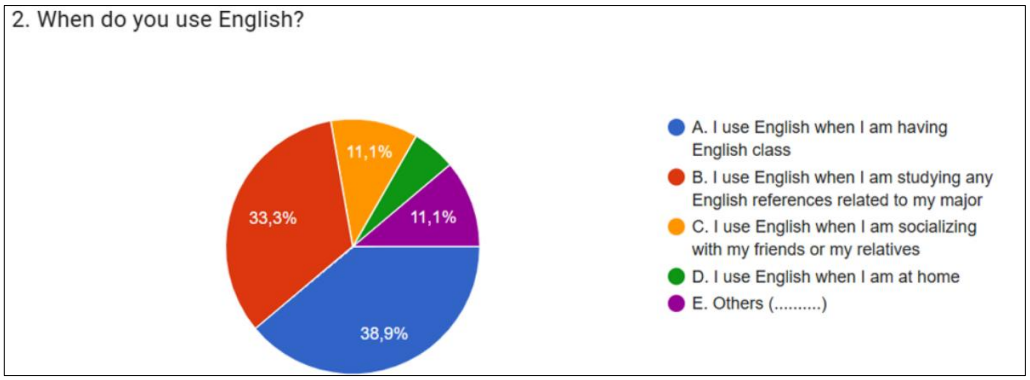

Figure 2. Percentage Result of Question 2

These findings suggest that English use among students remains limited to academic contexts, showing little integration into daily communication or professional settings. This highlights the need for more authentic, field-based language exposure beyond classroom instruction (e.g., project-based learning, technical presentations, or online forums related to engineering).

4.1.3. Future Purpose for Using English

Figure 3 shows that the majority (62.5%) reported using English for their future career, followed by 16.7% for social life, and 12.5% for postgraduate study. Only minimal responses selected other purposes.

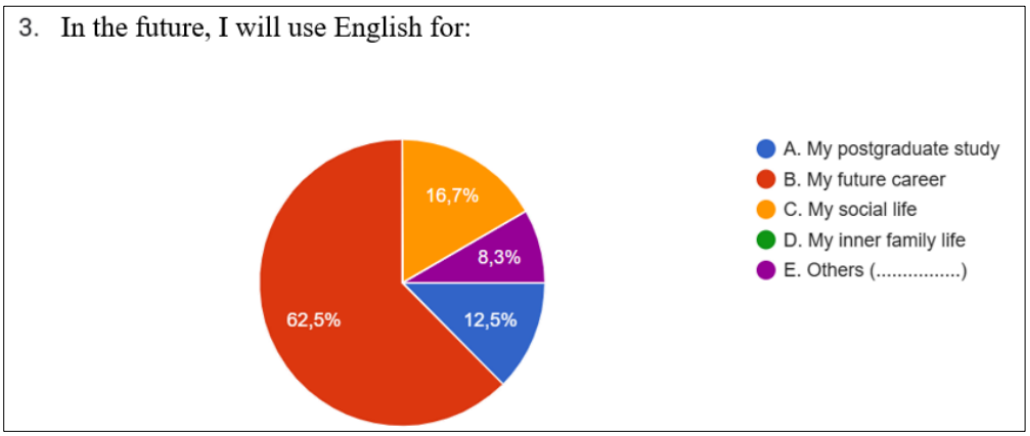

Figure 3. Percentage Result of Question 3

The data reinforce the finding from Diagram 1 that students primarily associate English with professional advancement, rather than with academic or personal goals. This again underscores the need to design a career-focused ESP program that prioritizes English for engineering communication, technical documentation, and job-related skills (e.g., reading manuals, writing reports, or explaining technical procedures).

4.1.4. English as a Core Component of Curriculum

A majority of students in Figure 4 support the inclusion of English in the curriculum; 52.6% strongly agree, and 47.4% agree. None of the respondents chose "disagree" or "strongly disagree."

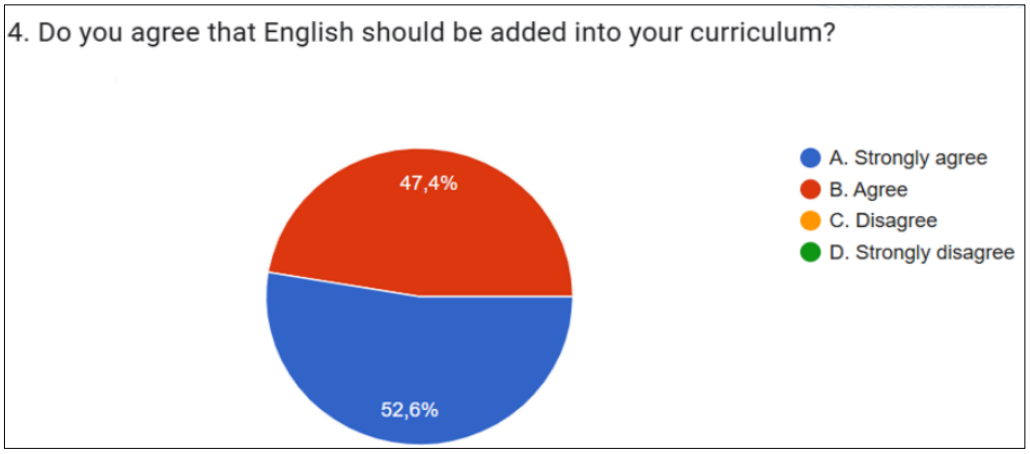

Figure 4. Percentage Result of Question 4

This near-unanimous approval shows a very positive student attitude toward English learning. They recognize its importance and are open to receiving more structured English courses, especially if the content is relevant to their field. This provides strong justification for the institution to strengthen and normalize ESP within the Rollingstock Engineering curriculum officially.

4.1.5. The Impact of Low English Competence

In Figure 5, 80.6% believe that low English competence will negatively impact academic performance, while small groups (9.7% each) selected a positive effect or no effect.

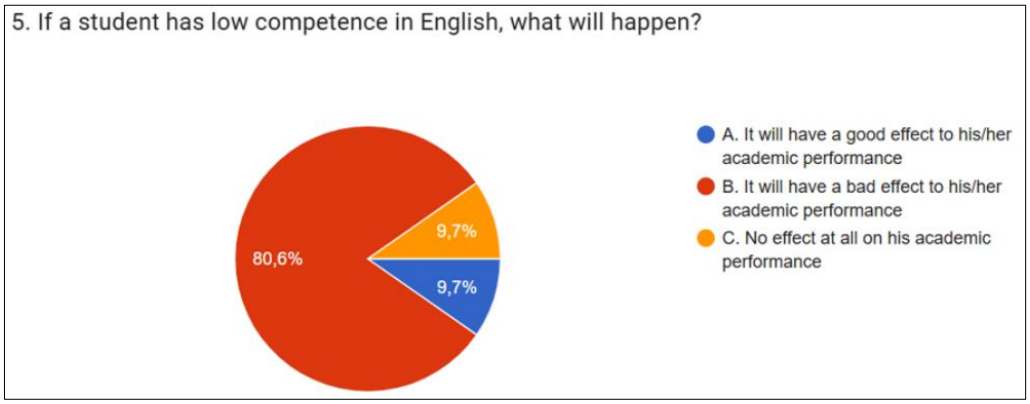

Figure 5. Percentage Result of Question 5

Students are aware of the academic consequences of weak English proficiency, especially since many engineering references, manuals, and journals are in English. Their perception aligns with global trends showing that English competence supports understanding of technical knowledge. This awareness can be leveraged to increase student motivation and to justify English as a core competency in technical education.

4.1.6. Perception of Current Course Credits (2-credit course)

Most students (75% combined) believe that the current 2-credit English course is sufficient for their program. However, a significant minority (25%) still feels that more English hours are necessary, indicating that the course may meet the general expectation but not the needs of all learners.

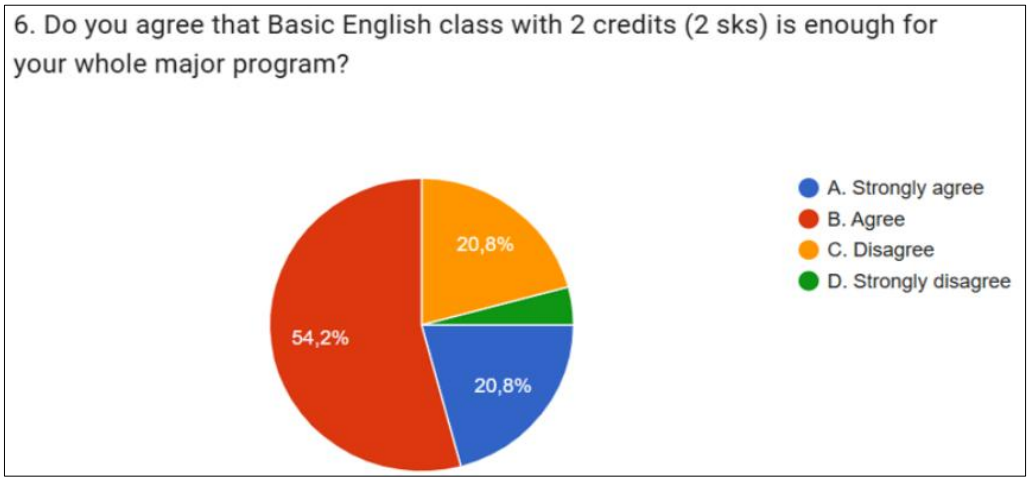

Figure 6. Percentage Result of Question 6

4.1.7. The Need for Higher-Level English Classes

Although Figure 6 shows that many students said 2 credits are enough, Figure 7 reveals a deeper insight: almost 90% (47.4% + 42.1%) still feel they need a higher level of English. This suggests that students are aware of the importance of English for their future careers, even if they accept the current credit allocation.

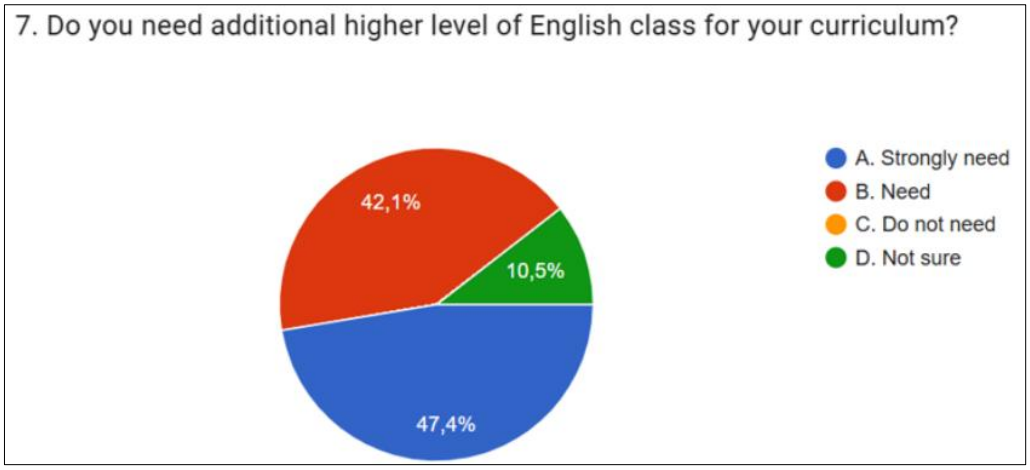

Figure 7. Percentage Result of Question 7

In short, they do not necessarily want more SKS, but they want stronger competency. Nearly all respondents supported additional English courses: 47.4% strongly needed them, and 42.1% needed them, while only 10.5% were unsure. This demonstrates students' readiness to engage in advanced ESP instruction, highlighting the necessity for progressive language levels tailored to technical content and communication tasks.

4.1.8. Suitability of Current Materials

The majority (91.7%) believe that the English material is aligned with the Rollingstock Engineering context. This shows that the material is generally relevant and contextual. However, the small percentage who disagree suggests there is still room for improvement, especially in making the content more practical, technical, or industry-based.

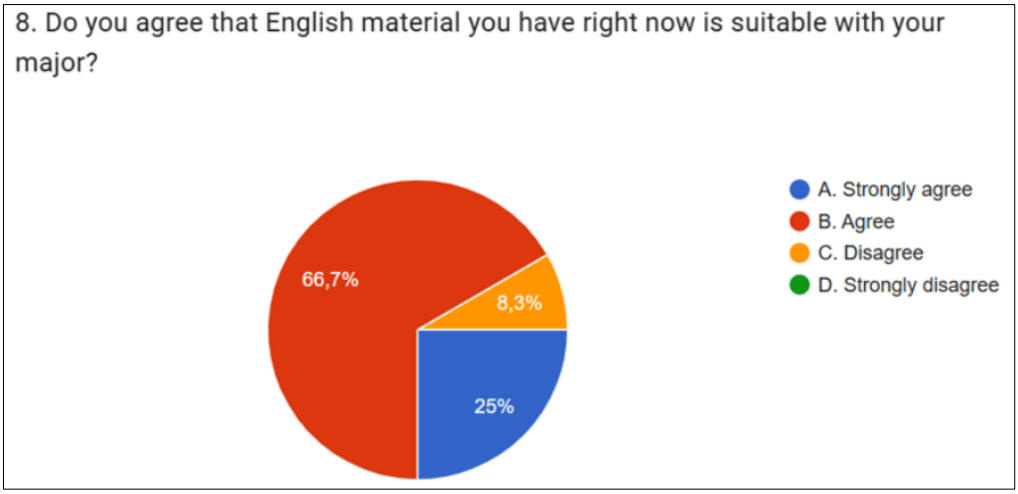

Figure 8. Percentage Result of Question 8

Overall, the findings suggest that students value practical, collaborative, and field-oriented English learning that connects closely with their professional aspirations. However, they also highlight gaps in materials, instructional time, and specialization.

4.1.9. The Need for a Specialized ESP Textbook

All respondents expressed the necessity for a field-specific textbook, with 50% strongly needing and 50% needing a dedicated English textbook for Rollingstock Engineering.

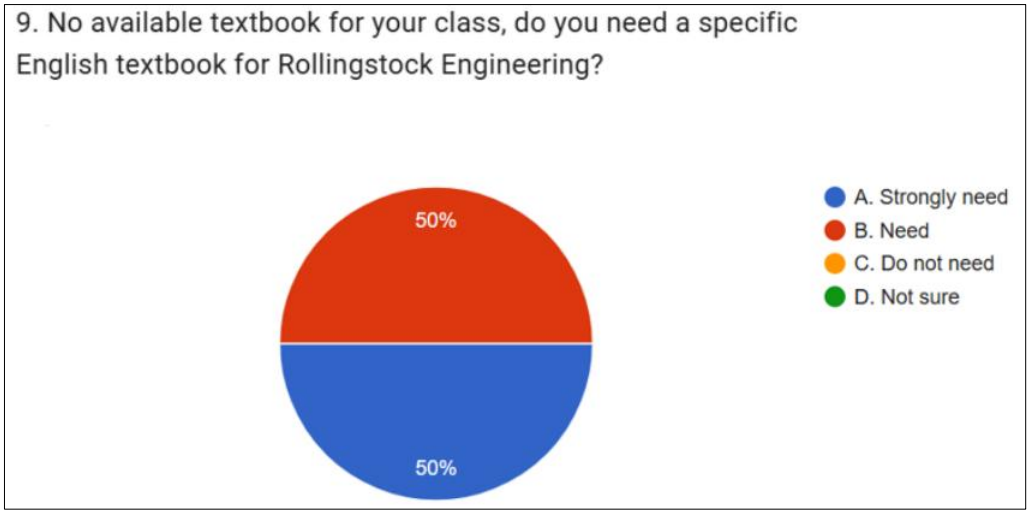

Figure 9. Percentage Result of Question 9

This unanimous response reveals an urgent need for structured, contextualized learning materials, as the absence of a textbook limits instructional consistency and practical relevance.

4.1.10. Skills to be Emphasized in the Class

Figure 10 shows that 62.5% of students chose speaking, followed by 12.5% grammar, 12.5% reading, and 8.3% listening, with the remaining 8.3% choosing vocabulary.

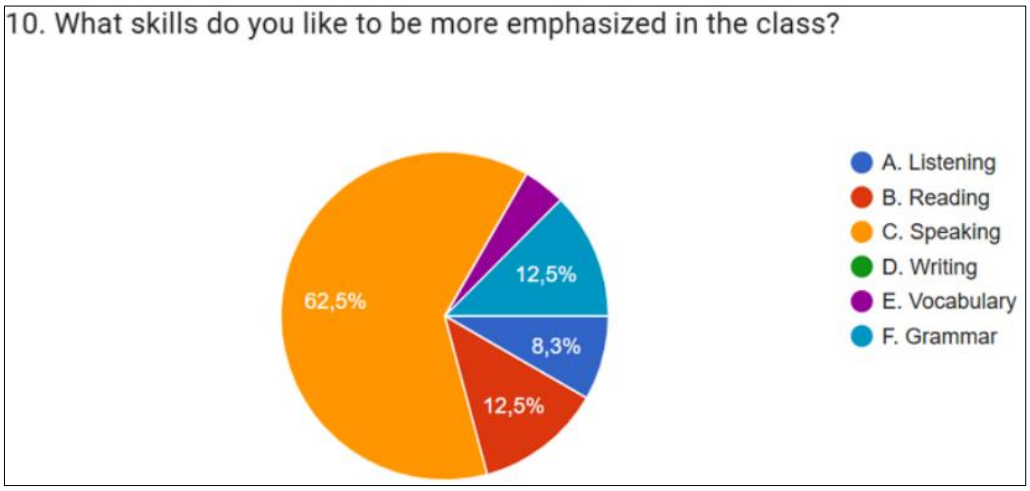

Figure 10. Percentage Result of Question 10

Students strongly prefer speaking as the main focus, showing that they want more productive and communicative skills, not just theory. Reading and grammar are considered secondary, while listening and vocabulary are the least prioritized. This means the future course design should emphasize oral communication, presentation, and technical speaking practice. This clearly shows that students prioritize productive, communicative competence over receptive or grammatical knowledge, reinforcing the

call for interactive speaking and presentation tasks within ESP classrooms.

4.1.11. Preferred Topics for ESP Lessons

The data shows that the majority of students want more emphasis on practical, technical, and maintenance-related topics in their English learning. With 58.3%, Rollingstock Engineering for Technicians becomes the dominant choice, suggesting that students feel English is most useful when it is directly connected to real tasks they will face in the field, such as inspections, repairs, troubleshooting, and maintenance procedures. This implies they want English that prepares them for hands-on work environments, not only theoretical concepts.

Meanwhile, the next two categories, Systems (20.8%) and Society/Industry Trends (20.8%), indicate that a smaller group also values English for modern technology, digital railway systems, design, software, and current industry developments. Although these groups are smaller, they show that students still recognize the importance of future-oriented competencies, such as diagnostics, programming, and keeping up with global technological developments in rolling stock.

The low percentage for "Others" shows that students have clear expectations and prefer material that stays close to their core major rather than unrelated or generic English topics.

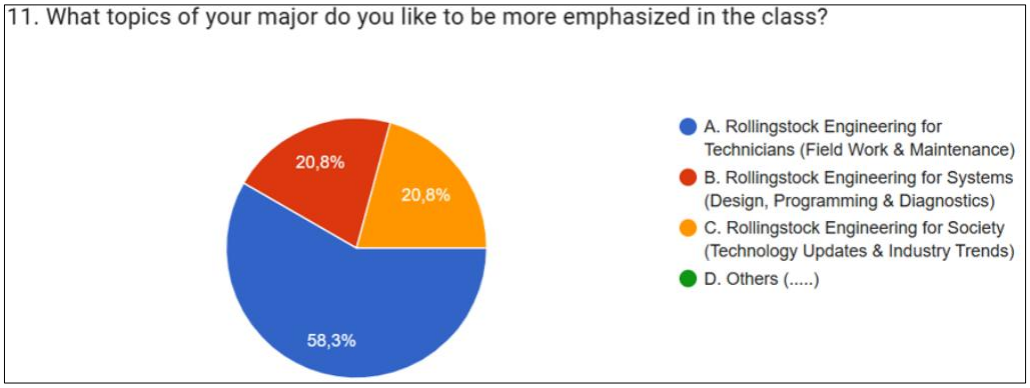

Figure 11. Percentage Result of Question 11

Students prefer practical, field-based ESP (English for Specific Purposes) that supports their future technician roles, especially in maintenance and fieldwork communication. They want English that helps them perform real technical tasks, interact in workshops, read manuals, give reports, and follow maintenance procedures. However, there is still notable interest in innovation and system-level knowledge, indicating that a balanced curriculum, practical first, advanced technology second, will effectively meet their learning needs.

4.1.12. Preferred Types of English Activities

The data show that students prefer more practical, interactive, and experiential learning in their English class. The highest preference, Outdoor Class (33.3%), suggests that students want real-world exposure, such as visiting workshops, stations, depots, or

field-related environments where they can directly connect English with authentic Rollingstock contexts. This indicates that student value situational learning and want English to feel relevant and applicable beyond the classroom.

The second-highest choice, Project-Based Learning (25%), reflects students' desire for hands-on tasks, such as creating reports, videos, posters, or technical mini-projects. This aligns with vocational and engineering learning, where students prefer learning by doing rather than solely theoretical practice. Next, Discussion (20.8%) shows that many students want more opportunities to exchange ideas, express opinions, and practice speaking in a collaborative environment. This highlights their interest in communicative learning, where interaction is central. Meanwhile, Quiz (16.7%) is still appreciated, but it ranks below interactive activities. This implies students want quizzes to support learning, not dominate it.

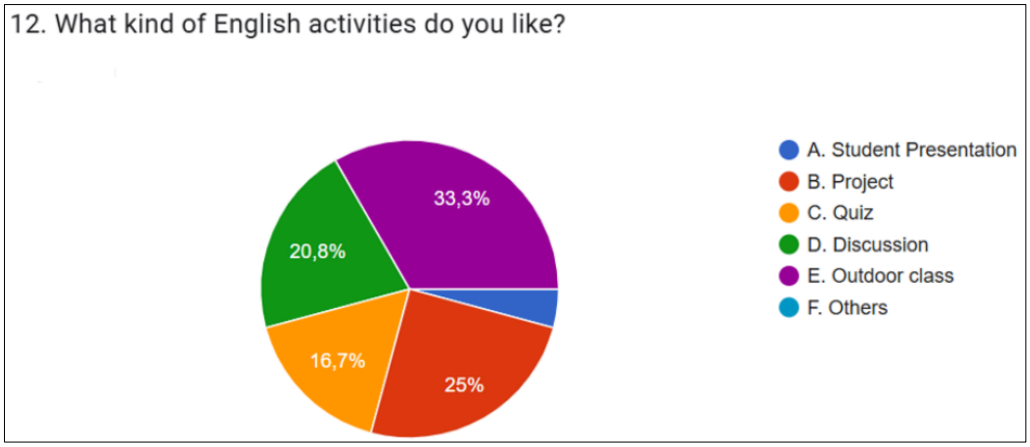

Figure 12. Percentage Result of Question 12

Students clearly prefer active, context-based, and collaborative learning, especially those that connect English with real experiences. The pattern shows a shift away from traditional, teacher-centered methods and toward ESP-based, student-centered learning, where English is practiced in authentic situations and through teamwork.

4.1.13. Preferred Form of Class Interaction

The results show that students strongly prefer group work as the main learning format, with 66.7% choosing it. This indicates that most learners feel more comfortable, motivated, and confident when working collaboratively. Group work allows students to share ideas, divide tasks, support each other, and reduce anxiety, especially in English classes where speaking and communication are involved. This result aligns with the nature of vocational learners, who often enjoy team-based, hands-on activities.

The second preference, Individual Work (20.8%), suggests that some students still value working alone for focus, independence, and personal accountability. These students might feel that individual tasks help them measure their own ability and progress without depending on others. Meanwhile, Pair Work (8.3%) receives limited preference. This may happen because students either feel awkward working with just one partner or find pair

activities less dynamic compared to group activities. In larger groups, students may feel safer because they can "blend in," while pair work sometimes requires more pressure to speak or contribute equally.

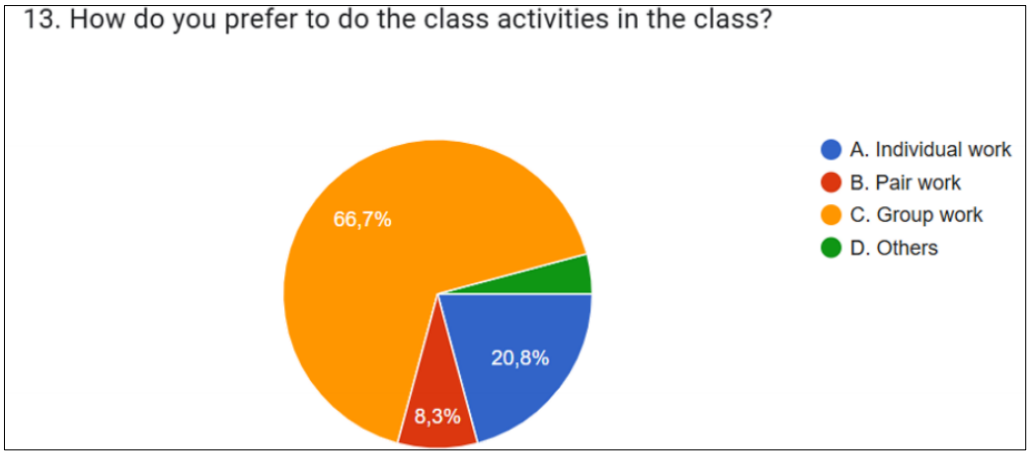

Figure 13. Percentage Result of Question 13

Students clearly prefer collaborative and team-oriented learning. For English classes, especially in a technical major, this indicates that group-based tasks, group discussions, collaborative projects, and team problem-solving activities will create the most engaging and effective learning environment. However, a small portion of the class still benefits from individual tasks, so a balanced approach, mostly group activities with occasional independent work, would be the ideal classroom strategy.

4.1.14. Lecturer's Role in ESP Class

The results show that an overwhelming majority of students (91.7%) prefer a lecturer who facilitates and guides the learning process rather than one who controls the entire classroom. This indicates that students want a more interactive, student-centered learning atmosphere where they are encouraged to explore, ask questions, discuss, and participate actively. Such a preference reflects the characteristics of modern, communicative language learning, where the lecturer functions as a mentor, facilitator, and guide, providing direction, support, and feedback while still giving students space to develop their autonomy and confidence. This finding reflects the principles of communicative and constructivist learning, which encourage students to participate actively, work collaboratively, and develop greater independence during the learning process.

Meanwhile, only 8.3% of the students prefer a lecturer who controls everything. This minority suggests that very few students feel comfortable in a teacher-centered environment where the lecturer dominates the activities. Although classroom control is still necessary, the data clearly show that students do not want a strict, one-way teaching approach.

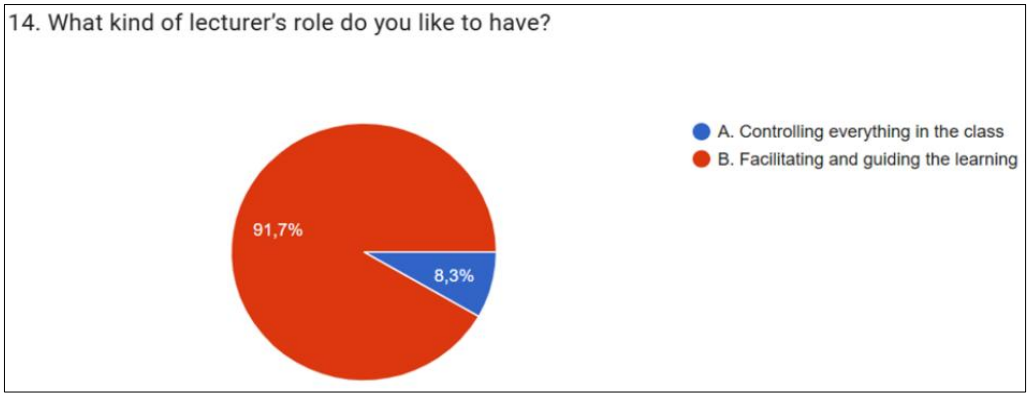

Figure 14. Percentage Result of Question 14

Students expect their English lecturer to act as a guide rather than a controller, creating a supportive environment that encourages participation, communication, and active learning. This has strong implications for instructional design, suggesting that the lecturer should integrate facilitative roles, such as group discussion, project-based learning, presentations, and guided practice, rather than relying solely on lecture-based methods.

4.1.15. Perception of English Improvement

The majority of students (83.9%) perceive that their English knowledge has improved after attending the English for Rollingstock Engineering class. This indicates that the course is generally effective in helping students build their English competence, particularly in areas relevant to their field. Such a positive perception suggests that the teaching materials, learning activities, and classroom strategies have successfully supported students' learning progress. However, a small portion (9.7%) feel that their English proficiency has not improved. This minority group might require more personalized support, additional practice, or different learning approaches to meet their needs. Meanwhile, 6.4% of students responded "not sure", which shows that some learners may not be fully aware of their own progress or may lack confidence in self-evaluating their development.

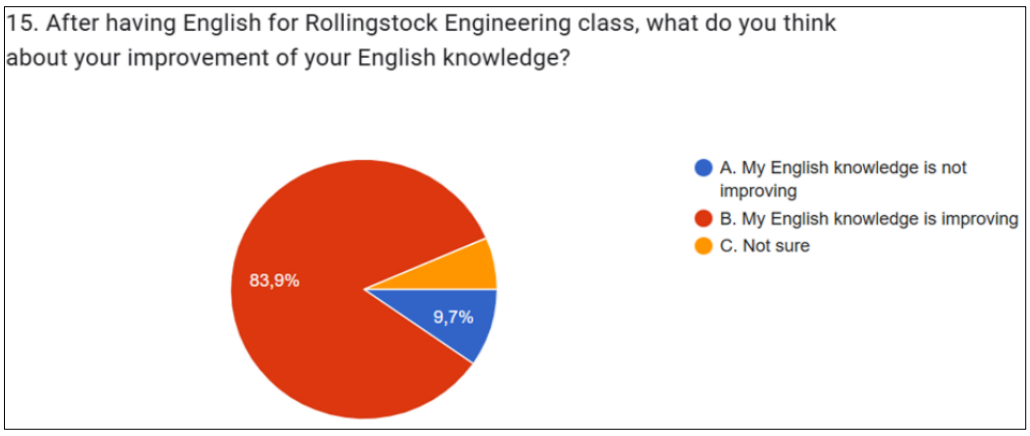

Figure 15. Percentage Result of Question 15

Overall, the data reflect that the course is on the right track. However, there is still room for improvement, especially in giving more targeted feedback, varied learning activities, and opportunities for practice so that every student can experience noticeable improvement.

4.2. Discussion

The findings reveal a consistent pattern of career-driven motivation, confirming that students perceive English primarily as a professional tool. This supports Hyland's (2019) and Rahman's (2015) arguments that ESP learners are motivated by instrumental goals related to workplace communication. In the context of Rollingstock Engineering, such motivation demonstrates awareness of English as a means for employability and global participation in the railway industry.

The students' strong preference for group work and collaborative learning reflects the communicative and cooperative nature of ESP instruction. Basturkmen (2023) emphasizes that ESP classrooms should simulate real communication environments where learners negotiate meaning, solve problems, and co-construct knowledge. Group-based activities also enhance learner autonomy and social interaction, mirroring professional teamwork in engineering contexts.

Preferences for outdoor and project-based learning indicate a desire for experiential learning in which students can apply English in practical situations. This aligns with Long's (2022) Task-Based Language Teaching (TBLT) approach, which integrates authentic tasks resembling workplace scenarios. Fieldwork and projects allow students to practice language within technical procedures, bridging the classroom and industrial setting.

The emphasis on Rollingstock Engineering for Technicians as the most relevant topic further confirms the importance of context-specific materials. As Nimasari (2016a) found in her study on ESP for Rollingstock Engineering, technical learners perform best when lessons directly reflect their fieldwork, tools, and operations. Integrating maintenance and diagnostic communication tasks could thus significantly enhance linguistic accuracy and professional competence.

Students' views of their English improvement, where most felt progress, but some remained unsure, suggest that while general English learning goals are achieved, specialized communication skills remain underdeveloped. Similar findings were reported by Ahmed (2021), who observed that vocational students often advance in everyday English but struggle with discipline-specific expressions and documentation.

The preferred lecturer role as facilitator highlights the importance of learner-centered pedagogy in ESP contexts. According to Woodrow (2020), effective ESP instructors act as guides who scaffold learning, encourage exploration, and connect linguistic forms with technical content. This preference indicates that students are ready for more participatory, self-directed learning models.

Responses regarding course duration indicate that while most are satisfied with 2 credits, a quarter find it insufficient. Flowerdew (2013) notes that time constraints often

limit the development of specialized competence in technical ESP courses. Extending class hours or supplementing them with independent projects could address this gap.

Finally, the expressed need for a textbook reflects a practical challenge in ESP delivery. Without a structured, contextually grounded textbook, instruction may become fragmented. Without a structured and contextualized textbook, instruction may become fragmented. Basturkmen (2023) and Nimasari (2018) both emphasize that customized materials provide coherence, continuity, and relevance in ESP learning. Therefore, developing a field-specific textbook that integrates terminology, maintenance dialogues, and industry-related communication is crucial.

Overall, the study highlights the strong professional motivation of Rollingstock Engineering students, their preference for interactive and applied learning, and the need for structured, context-driven ESP materials. The current course partially fulfills students' learning expectations but requires refinement in duration, material relevance, and textbook support.

These results confirm that the theoretical foundation of ESP must be grounded in the target situation (Songhori, 2008) and responsive to learners' specific communicative demands. Therefore, an improved ESP curriculum for Rollingstock Engineering should incorporate authentic workplace communication, practical task-based learning activities, and contextualized teaching materials to better connect classroom learning with the real demands of the industry.

5. Conclusion

The research identified several gaps between the current English learning process and the communication skills required in the rollingstock engineering industry. The findings revealed that although students understand the importance of English for their future careers, the existing learning materials and classroom activities are still too general and have not fully incorporated technical vocabulary, authentic materials, or workplace-related communication practices.

The findings also show that most students are more interested in project-based, collaborative, and field-related learning activities that allow them to connect classroom learning with real practices in the engineering field. They also expressed a strong desire for contextualized textbooks that reflect their major and for lecturers to act as facilitators rather than controllers of learning. Moreover, while a majority agreed that the current two-credit English course is acceptable, a considerable portion believed that additional instructional time would improve learning outcomes. These findings highlight the need for a more specialized ESP syllabus that aligns with both academic and industry-specific communication demands.

The study also demonstrates that students' motivation is primarily career-driven. English is perceived not only as a subject but as a gateway to employability and global communication within technical fields. This reinforces the theoretical perspective that ESP courses must be designed around learners' target situations (Songhori, 2008; Basturkmen, 2023) and integrate authentic tasks that reflect professional realities (Long,

2022). By aligning English teaching practices with the linguistic, cognitive, and situational needs of Rollingstock Engineering students, vocational education can more effectively bridge the language gap between academia and the industry.

In summary, the study concludes that a specialized, needs-based ESP program is essential to equip Rollingstock Engineering students with relevant communication skills. The program should include practical workplace communication, technical vocabulary related to the field, and intercultural communication skills so that students can participate more confidently and effectively in their future professional environments. Furthermore, curriculum designers and lecturers should collaborate to produce structured teaching materials and continuous needs analyses to maintain the relevance and effectiveness of ESP instruction.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this research.

Authors' contribution

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data collection, data analysis, interpretation, and discussion of the results. The authors also read and approved the final manuscript.

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