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Exploring English communication needs in the heavy equipment industry: Insights from industry practitioners

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ABSTRACT

The heavy equipment industry requires employees to possess not only technical expertise but also adequate English communication skills to interact effectively in multinational workplaces. This study aims to explore the English communication needs of professionals in the heavy equipment sector as a basis for designing an industry-oriented English curriculum. Data were collected through semi-structured interviews with industry practitioners from leading heavy equipment companies in Indonesia. The findings reveal that English is primarily used in technical documentation, safety communication, and daily interaction with expatriates, with writing and speaking skills being the most crucial. Furthermore, specific vocabulary related to machinery operation, troubleshooting, and safety procedures emerged as essential for workplace communication. The results suggest that an English curriculum for heavy equipment engineering programs should integrate task-based activities, workplace simulation, and multimodal strategies to bridge the gap between academic instruction and industry demands. This study provides valuable insights for curriculum developers, vocational educators, and policymakers in aligning English teaching with national human capital development goals.

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INTRODUCTION

The rapid development of Indonesia's industrial and infrastructure sectors has significantly increased the demand for a technically skilled workforce that can operate in multilingual and multinational environments. Within the heavy equipment industry, from operators to engineers must often communicate using English for various functions, such as interpreting technical manuals, coordinating safety procedures, and collaborating with foreign experts. English has thus become an essential operational language rather than merely an academic requirement which is called as English for Specific Purposes (ESP). Despite this importance, many vocational English courses in Indonesia remain general in nature and do not fully address the specific communicative needs of various technical disciplines (Fadlia et al., 2020; Sari et al., 2021).

Moreover, most existing research in ESP and vocational education has primarily focused on identifying English needs from the learners' or students' perspective. These studies typically analyze what vocational students expect to learn or the challenges they face in using English, leading to curricula that center on classroom-based competencies. However, there remains a significant lack of research exploring the needs from the industry's side that is, how industry practitioners perceive, define, and prioritize English communication competencies required in real workplace contexts.

Moreover, according to Hutchinson and Waters (1987), ESP emerged from the belief that language instruction should be oriented toward the learners' goals and the contexts in which the language will be used. Within the framework of vocational education, ESP is often referred to as English for Vocational Purposes (EVP), a program aimed at equipping students with English language competence relevant to their professional fields (Mukadimah & Sahayu, 2021). This approach emphasizes the integration of linguistic competence with professional skills and communicative practices in real industrial settings (Helingo & Molou, 2022). ESP instruction therefore extends beyond grammar and general vocabulary; it includes technical terminology, workplace communication, and socio-professional discourse that align with students' future careers.

In vocational education contexts, English for Vocational Purposes (EVP) is part of the broader ESP paradigm, focusing on learners' specific professional or technical needs rather than general English proficiency (Purwanti, 2018). Vocational students, especially those in technical divisions such as heavy-equipment engineering, require communicative competencies aligned with workplace demands (Mahbub, 2018). These include specialized vocabulary, interaction in industry settings, and the ability

to interpret multimodal materials such as diagrams, safety signage, or machinery manuals (Hamidah, 2022). However, multiple studies have shown a persistent gap between general English instruction and authentic workplace communication in vocational settings, for instance, Muliyah and Aminatun (2020) found that English teachers in vocational schools often hold ESP-oriented beliefs but continue to use teacher-centred and general-English materials in practice. This misalignment suggests that an industry-aware English curriculum is necessary to bridge the gap (Aziz & Anjaniputra, 2025; Nasihin et al., 2022).

Curriculum development for vocational English must adopt a needs-analysis approach that involves industry stakeholders, technical instructors, and language teachers (Masykar, 2019). In addition, Wulandari et al. (2023) highlighted the importance of curriculum flexibility to accommodate technological changes and evolving workplace demands. A competency-based curriculum is particularly suitable for vocational contexts because it allows for measurable outcomes and focuses on real-world performance indicators. This is also supported that the implementation of an English Curriculum Based on Industry Needs (ECBIN) model has shown positive impact in vocational schools by aligning course content with workplace communication situations (Nasihin et al., 2022). It can be seen that the integration of ESP into vocational curricula has been recognized as an effective approach to link language learning with students' professional contexts.

Yet, studies highlight issues such as limited teacher competency in technical content, shortage of authentic materials, and curricular misalignment with national frameworks (Aziz & Anjaniputra, 2025). Septiana (2018) also observed that many ESP instructors still rely on traditional, grammar-oriented methods that fail to reflect authentic vocational contexts. In contrast, task-based and communicative approaches are more effective in developing students' practical communicative competence. Further evidence from Sintia et al., 2025 identified at least five major challenges faced by ESP instructors, including insufficient subject-matter knowledge, lack of authentic learning materials, weak needs analysis, and limited curriculum alignment. These findings reinforce the conclusion that the effectiveness of ESP programs heavily depends on teachers' professional readiness and their ability to contextualize English within the learners' occupational environments. It is also stated by Dwinalida and Setiaji (2022) that these challenges resonate with previous findings showing that ESP programs often fail to achieve their intended vocational orientation because teachers are not fully equipped to plan field-specific lessons. Therefore, a system or strategy to cope with the situation is needed.

Syairofi and Suwarno (2025) proposed a model for ESP course-design that integrates macro-level industry demands (such as industry partner input), meso-level syllabi

(vocational major-specific content), and micro-level learning activities (multimodal and digital resources). The model emphasises collaboration with industry and embedding real-world tasks, for example, reading machine manuals, ordering spare parts, role-plays in English into the syllabus. Research therefore endorses a curriculum that is not only technically informed, but also communicatively oriented, thereby serving the dual purpose of language proficiency and vocational readiness. It can be seen that the learning process should have some variations which it is called as multimodality. (Havwini et al., 2024) also found that technical vocabulary mastery remains a major obstacle for vocational students, significantly affecting their professional communication skills. Consequently, teaching strategies that combine language learning with authentic workplace contexts are essential to help students use English effectively in real job situations. Therefore, technical vocabulary mastery should be included in the curriculum for vocational school. Helingo and Molou (2022) also emphasized that successful ESP implementation relies on accurate needs analysis, institutional support, and collaboration between educational institutions and industries. Integrating these components ensures that ESP curricula genuinely reflect professional communication demands in the workplace.

Multimodality is the use of multiple modes such as visual, textual, audio, and gestural elements which have emerged as a promising strategy in vocational ESP teaching. Multimodality refers to the use of multiple semiotic modes, such as linguistic, visual, audio, gestural, and spatial resources to create and convey meaning (Kress, 2010; Unsworth, 2020). Each mode contributes uniquely to communication, and their combination allows for richer and more authentic meaning-making processes, especially in educational and vocational contexts.

The five main types of multimodality that are frequently identified in the literature are linguistic, visual, audio, gestural, and spatial mode. The linguistic mode involves the use of spoken or written language. It is the most traditional and fundamental form of communication used in education. In EVP, the linguistic mode can be seen in technical instructions, job interviews, workplace reports, or manuals describing machine operation. It focuses on grammar, vocabulary, and discourse structures relevant to the learners' professional domains. In engineering or technical context, it can be seen in reading and interpreting a safety manual or conducting a maintenance briefing in English. Second, the visual mode refers to images, colors, layouts, symbols, and other visual representations that complement linguistic information (Kress & van Leeuwen, 2006). In vocational settings, this mode is crucial for understanding diagrams, blueprints, and visual signage. Visual literacy enables students to interpret technical schematics and contextualize textual explanations. For example, analyzing a diagram of a hydraulic system or identifying warning signs on heavy equipment. Third, the audio mode encompasses elements of sound, such as tone, pitch, volume, and rhythm. It also includes environmental or background sounds that convey meaning. In

classroom settings, audio materials, such as recorded conversations, machinery sounds, or instructional videos help learners develop listening comprehension and contextual awareness. For example, listening to a conversation between a supervisor and a technician or identifying equipment by its operational sound. Fourth, gestural mode involves body movement, facial expressions, hand gestures, and posture. These non-verbal cues enhance communication and meaning interpretation (Jewitt, 2014). In EVP classrooms, gestural elements are essential when performing role plays, demonstrations, or simulations where learners imitate professional interactions. For example, practicing customer service communication in a workshop or simulating a tool inspection process. Fifth, the spatial mode refers to the arrangement of elements in physical or digital space, including proximity, position, and layout. In teaching, spatial mode is observed in how classroom materials, screens, or tools are organized to facilitate interaction. In vocational training, spatial awareness relates to the setup of machinery, workspace layout, or even the positioning of learners during a group task. For example, designing a workshop layout diagram to optimize safety and workflow communication.

By incorporating authentic industry visuals, for example, equipment images, workflow diagrams, and interactive simulations, the lecturers can better address learners' professional literacies and engagement (Hamidah, 2022). Armawan et al., (2023) observed that vocational writing classes which used multimodal pedagogy improved student engagement and recall compared to traditional text-only approaches. In industry-oriented English courses, multimodality becomes crucial because students need to navigate instruction manuals, hazard signage, and collaborative digital platforms rather than only textbooks (Rofiawati & Wirza, 2022). Nevertheless, the literature also points to under-preparedness of instructors who have many lack training to design multimodal tasks and integrate technology meaningfully (Armawan et al., 2023; Izzah et al., 2025). Thus, investigating instructors' preparedness for multimodal strategies is timely and significant.

The study from Kim (2021) investigated the routine communicative practices in English among fifty-one employees working in Korean corporations revealed that workplace English needs are multidimensional, encompassing both transactional and non-transactional communicative genres. However, the significance of each genre varied depending on the employees' professional contexts and responsibilities. These findings emphasize that English communication in corporate environments cannot be understood through a one-size-fits-all perspective, instead, it requires attention to the nuanced demands of different job roles. Moreover, the study underscores the necessity of integrating needs analysis as a fundamental and ongoing process in the design and revision of workplace language programs, ensuring that they remain responsive to evolving communicative practices in globalized business settings. (Puspandari et al., 2025) also revealed that proficiency in English for Professional

Business Communication constitutes a crucial requirement for the establishment of modern enterprises. Such competence is not merely an added value but a fundamental prerequisite for organizations aiming to position themselves competitively on a global scale. In an era where international collaboration, cross-border transactions, and intercultural interactions are increasingly common, the ability to communicate effectively in English enables companies to enhance their operational efficiency, foster partnerships, and sustain competitiveness in the worldwide market.

Despite the growing body of research on ESP and vocational English, very few studies have examined English communication needs from the perspective of the industry itself. Most prior works have primarily investigated English needs from the viewpoints of students or teachers, focusing on pedagogical challenges rather than the actual communicative demands identified by industry practitioners. As a result, there is limited empirical evidence regarding how English is used in the heavy equipment industry as a sector where communication is multimodal, safety-critical, and embedded in technical documentation such as machinery manuals and hydraulic system procedures. Moreover, while previous literature has long advocated the use of task-based and multimodal approaches in ESP, there remains little integration between these approaches and direct validation from industry stakeholders. In other words, current curricula are often designed around assumed learner needs rather than authentic workplace expectations. Moreover, while existing studies have addressed needs analysis in vocational English (Mahbub, 2018; Masykar, 2019) and the importance of industry-based curricula (Aziz & Anjaniputra, 2025; Nasihin et al., 2022), few have specifically focused on vocational English for heavy-equipment engineering contexts. Moreover, the intersection of instructor preparedness, industry-aligned curriculum, and multimodal pedagogy remains under-explored. This gap justifies the present study, which aims to explore English instructors' readiness to employ multimodal strategies within an industry-based curriculum for heavy-equipment engineering students, thereby contributing to both theory and practice.

Recognizing this gap, the present study focuses on exploring the industry-driven English communication needs in the heavy equipment sector and using those findings as the foundation for developing an industry-based English curriculum prototype. The novelty of this research lies in shifting the analytical lens from students to industry professionals as the primary source of data, thereby producing a curriculum model grounded in real workplace practices and communicative tasks. This approach not only strengthens the relevance of English instruction for heavy equipment engineering students but also supports national goals of improving graduate employability, ensuring workplace safety, and enhancing the overall quality of human capital development in industrial contexts.

Theoretical foundations and previous research on ESP emphasize that curriculum design must be grounded in a context-specific needs analysis and task-oriented approach. ESP is inherently learner-centered and should tailor learning materials to professional demands, ensuring that instruction is relevant and transferable to workplace settings (Hutchinson and Waters, 1987, p.19). Designing effective ESP courses therefore requires a detailed understanding of the communicative tasks learners will encounter in their professional environment.

Empirical studies highlight that language needs in vocational contexts are often genre-specific and skill-focused rather than requiring broad general proficiency. In many vocational domains, reading technical documents such as manuals, parts catalogs, and standard operating procedures (SOPs) is prioritized, since operational accuracy and safety depend heavily on understanding written instructions. Research on effective reading instruction for vocational education stresses the importance of using domain-specific corpora and teaching reading strategies that enable learners to comprehend technical terminology, abbreviations, and procedural text structures. These findings are directly relevant to the heavy equipment industry, which relies extensively on English-language technical documentation.

In many instances, acquiring engineering knowledge within the domestic context can pose significant challenges due to the limited availability of comprehensive resources. It is because the technological development in Indonesia is still in a relatively early or developing stage, which results in a scarcity of detailed references, case studies, and empirical data in the field of engineering. This contrasts sharply with developed countries, such as the United States or Germany, where extensive research, documentation, and practical applications in engineering are widely available and easily accessible. As a result, students and practitioners often need to seek information and insights from international sources to supplement their understanding.

Moreover, the majority of high-quality engineering publications are written in English, emphasizing the necessity for students to develop proficiency in the language. Mastery of English enables engineering students not only to comprehend complex technical materials but also to critically analysed, compare, and integrate information from multiple international sources. This proficiency also enhances students' ability to participate in academic discussions, collaborative research, and professional communications in a global context, thereby bridging the gap between domestic knowledge and international standards. Ultimately, the ability to access, understand, and utilize global engineering knowledge through English competency becomes a crucial factor in producing engineers who are well-prepared to contribute effectively to both local and global technological advancements.

According to Uztosun (2014) in the study of Musmulyadin and Puspitasari (2023), there are several language learning strategies commonly used by students, each serving

distinct functions and applications. Memory strategies help students master subject matter and reapply it during communication, often implemented through learning activities that utilize picture and sound media, encouraging students to actively engage in exercises. Cognitive strategies aim to enhance students' understanding of the learning objectives by presenting the subject matter in language that is easily comprehensible, ensuring that learning targets are achieved. Compensation strategies enable students to use newly acquired language skills even when their proficiency is limited; this can involve guessing words or meanings verbally to reduce difficulties in communication and narration. Metacognitive strategies allow students to regulate their own learning processes, with educators helping to plan, organize, and evaluate learning activities to optimize language acquisition. Affective strategies support students in managing their emotions, fostering enthusiasm, developing understanding skills, and maintaining positive emotional engagement without suppression or avoidance. Finally, social strategies encourage students to interact socially using the language they have learned, by promoting question-asking, guiding the use of proper and polite language, and cultivating work attitudes and social empathy.

In some vocational studies usually emphasize the importance of functional spoken communication, especially in transactional interactions such as workplace coordination, instruction clarification, and safety communication. A study of Fitriani and Ilyas (2019) confirm that out of 25 students in SMKN 56 Jakarta who were offered jobs in German companies in 2018, only 15 passed the interview due to their inability to communicate in English. It is because speaking skill is not one of the critical aspects of the learning process. It mostly emphasized on multiple choice, which make students become passive learners, then they usually memorize the sentence, not practice to speak in the real context. Meanwhile, in industries that involve international collaboration, basic spoken interaction with expatriates or foreign technicians becomes a practical necessity. This is consistent with ESP research that advocates for teaching functional workplace communication.

RESEARCH METHODOLOGY

Research Design

This study employed a qualitative descriptive approach to explore English teaching practices in vocational settings, following the recommendations of Creswell (2014) for studies focusing on participants' experiences. Data were collected through semi-structured interviews with the elites, designed based on Kvale and Brinkmann's (2009) guidelines, allowing flexibility for participants to share their insights while ensuring coverage of key themes. The interview guide was validated by experts in vocational English instruction to enhance content validity. Data analysis followed thematic

analysis framework, including transcription, coding, and theme development (Braun & Clarke, 2006).

For this study, a face-to-face interview approach was deliberately chosen over technological alternatives such as telephone or virtual interviews. The primary rationale for this choice is that in-person interviews facilitate communication through both verbal and nonverbal channels, allowing the interviewer to capture subtle cues such as body language, facial expressions, and gestures, which can provide additional context and depth to participants' responses (Kvale & Brinkmann, 2009). Although telephone interviews are advantageous in enabling data collection from geographically distant locations (Elmholdt, 2006), they inherently limit interaction to vocal communication alone, which may restrict the richness of the data obtained. Similarly, while virtual communication platforms such as Skype or Zoom can convey certain nonverbal signals, their effective use depends on participants' familiarity with the software, as well as the availability of stable internet connectivity (Elmholdt, 2006). In the context of this research, which was conducted in rural areas of a developing country, these conditions could not be reliably ensured. Therefore, face-to-face interviews were deemed the most suitable method, providing the opportunity for more comprehensive, nuanced, and contextually informed data collection, while also fostering rapport and trust between the interviewer and participants.

Participants

The participants of the study were industry practitioners working in the heavy equipment sector in Indonesia. They included engineers and human resource development (HRD) staff from leading heavy equipment companies, such as PT. United Tractors, Tbk., PT. Uniteda Arkato, PT. Mulia Agro Sawit Lestari, PT. Traktor Nusantara. Participants were selected through purposive sampling, with criteria including: (a) at least three years of professional experience in the heavy equipment industry, and (b) willingness to participate in the study. A total of twelve participants were involved, representing various roles and departments to ensure diversity of perspectives. This participant composition was intended to provide comprehensive data on different communicative needs across positions within the industry.

Instruments and Data Collection

The main instrument used was a semi-structured interview guide developed based on ESP needs analysis frameworks. The interview questions covered four dimensions: (1) situations where English is used in the workplace, (2) specific communicative tasks performed in English, (3) challenges faced in using English, and (4) suggestions for improving English instruction in vocational institutions. Each interview lasted between 45–60 minutes and was conducted either face-to-face or online, depending on participants' availability. In addition to interviews, workplace documents such as standard operating procedures (SOPs), safety instructions, and technical manuals

were collected and analyzed to triangulate the data. All interviews were audio-recorded with participants' consent and transcribed verbatim for analysis.

Data Analysis Procedures

The data were analyzed using thematic analysis following the steps proposed by Braun and Clarke (2006). The process included (1) familiarization with the data through repeated reading of transcripts, (2) initial coding to identify key themes related to English use in the heavy equipment workplace, (3) clustering of codes into broader categories such as communicative tasks, skills priority, and lexical needs, (4) reviewing and refining themes to ensure coherence and consistency, and (5) reporting the findings with illustrative quotations and document samples. To enhance trustworthiness, data triangulation was applied by comparing interview responses with workplace documents, while peer debriefing with fellow researchers was conducted to validate coding and theme development.

Ethical Considerations

Ethical principles were strictly followed throughout the research process. Participants were informed about the objectives, procedures, and expected outcomes of the study prior to their involvement. Written informed consent was obtained to ensure voluntary participation, and participants were assured that their identities and personal information would remain confidential. Pseudonyms were used in transcripts and reports to protect anonymity. Audio recordings and transcripts were stored securely and accessible only to the research team. Furthermore, participants were given the right to withdraw from the study at any stage without any negative consequences. The study design and procedures were reviewed and approved by the institutional ethics committee of the Indonesian Academy of Heavy Equipment Engineering.

Interview Guide (Semi-Structured)

The semi-structured interview guide was designed to explore key aspects of English use in vocational settings. It focused on four main areas: the situations in which participants need to use English in their daily work, the essential language skills required for various job tasks, the challenges encountered when using English, and the types of training or support that could enhance students' English proficiency. Open-ended questions allowed participants to elaborate on their experiences and provide detailed responses, ensuring that insights into communication practices, problem areas, and recommendations for improving vocational English courses were captured effectively.

RESULTS

The findings of this study, derived from interviews with five heavy equipment industry representatives, reveal a consistent pattern regarding the English language competencies required in the workplace. Across all respondents, three major themes

emerged: reading technical components, basic spoken communication with expatriates, and limited emphasis on advanced English for presentations or reporting.

First, the ability to read components, manuals, and part specifications in English was identified as a primary need. Industrial stakeholders emphasized that a significant portion of technical documents, such as spare part catalogs, maintenance guidelines, and safety instructions are written in English. Employees are therefore expected to comprehend these documents accurately in order to perform their tasks efficiently and avoid technical errors. This finding suggests that reading proficiency, particularly in understanding technical vocabulary and abbreviations common in heavy equipment engineering, is a critical skill for vocational graduates.

Second, basic speaking skills for direct interaction with expatriates were also considered important. Several industry practitioners noted that heavy equipment companies often collaborate with foreign partners, engineers, or trainers. In such contexts, simple and clear spoken English is necessary for everyday communication, such as giving updates, clarifying instructions, or asking questions. However, the emphasis remains on functional and practical oral communication rather than fluency or complex grammar.

Finally, the results indicate that advanced English communication, such as delivering formal presentations or writing technical reports in English, is not perceived as an immediate priority for vocational-level employees in heavy equipment industries. Industry representatives highlighted that such tasks are usually assigned to higher-level staff, supervisors, or engineers with broader managerial roles. For vocational graduates, the ability to operate, maintain, and troubleshoot machinery with sufficient English to understand manuals and interact with expatriates was considered more essential.

In summary, the interviews confirm that a knowledge of the English language is essential in the heavy equipment industry, which is highly specific and practice-oriented. Reading technical documentation and engaging in simple oral interactions with expatriates are prioritized, while more advanced communicative tasks such as formal reporting and presentations are less emphasized. These findings highlight the importance of aligning vocational English curriculum design with actual workplace practices, ensuring that language instruction addresses authentic industry demands.

DISCUSSION

The results of this study clearly demonstrate that English language needs in the heavy equipment industry are highly contextual and practice-oriented, aligning with the fundamental principles of ESP. Hutchinson and Waters (1987) argue that ESP instruction should be needs-driven, focusing on the actual communicative practices

that learners will encounter in their target environments. In this study, the identified needs, for example, reading technical documents and conducting basic spoken interactions with expatriates that reflect precisely this orientation, where language learning is tied directly to vocational tasks and responsibilities.

The strong emphasis on reading technical manuals and component specifications underscores the importance of receptive skills in vocational English. This finding is consistent with prior ESP research, which highlights that technical and vocational students often require competence in understanding written materials rather than producing elaborate written discourse (Basturkmen, 2010). In the heavy equipment sector, manuals, safety instructions, and spare parts catalogs are primarily written in English, making reading proficiency indispensable for safe and effective performance. Similarly, a study published in CELTIC found that vocational English instruction should prioritize authentic materials and workplace documents, since these represent the real communicative demands students will face in employment contexts (Masyhud, 2018).

Equally important, to enhance learners' English proficiency for professional purposes, including Vocational English, vocational education particularly at the secondary level such as engineering schools, typically channels students into specific occupational fields like civil, architectural, mechanical, or computer engineering. Consequently, learners are required to engage with texts that align with their professional domains and competencies. One essential goal in this context is the cultivation of vocational knowledge and skills. This condition strongly influences English language programs designed to address the diverse needs of vocational students. Therefore, English instruction with a vocational orientation has become an essential and relevant approach. This idea aligns with the concept of EVP, which refers to an instructional program implemented at the secondary education level, designed to equip students with English language competencies that support their success in their specific vocational fields (Natsir et al., 2022).

Interestingly, the findings also revealed that advanced English skills, such as giving presentations or writing technical reports, are not prioritized for vocational-level employees. This contrasts with much of the ESP literature, which often stresses the importance of academic communication and reporting skills. The discrepancy highlights a critical gap: while curricula in many vocational institutions may still emphasize traditional four-skills balance, the heavy equipment industry specifically demands a narrower set of language competencies. This gap supports the argument that curriculum design for vocational English should not only be based on broad language proficiency frameworks but also be carefully tailored to industry-specific practices and priorities.

Comparing these findings with Kim's (2021) study on workplace English in Korean corporations, it becomes evident that communicative practices in professional

settings are highly context-dependent. Whereas Kim also highlighted the necessity of balancing transactional and non-transactional communication genres, the present study shows that in the automotive maintenance and repair sector, transactional functions such as reading parts catalogues or providing straightforward explanations are considered more critical than delivering formal presentations or writing detailed reports. This divergence underscores the importance of situating needs analysis within the specific vocational and industrial context, rather than adopting a generalized approach.

Furthermore, the results support the argument advanced by Puspandari et al., (2025) that English proficiency, particularly in oral communication, constitutes a key requirement for enterprises seeking to remain competitive in a globalized environment. While advanced presentation or report-writing skills may not be urgently needed at the vocational level, the ability to communicate clearly with expatriates and comprehend technical documents in English directly contributes to workplace efficiency and professional readiness. This highlights the significance of tailoring ESP curricula to prioritize immediate and practical communicative needs that directly impact workplace performance.

Taken together, these findings suggest that needs analysis should be regarded as an ongoing process, continuously revisited to ensure alignment with evolving workplace practices. For vocational education, especially in the heavy equipment and automotive sectors, this means integrating targeted training that emphasizes technical vocabulary, practical oral exchanges, and intercultural competence, while recognizing that higher-level communicative skills may become increasingly important as graduates advance in their careers.

The findings of this study align with prior research in ESP and vocational education, which consistently emphasize the importance of conducting systematic needs analysis to design relevant curricula (Spence & Liu, 2013). Similar to earlier studies, the present research confirms that oral English proficiency is not uniformly required across all communicative domains, but rather prioritized in specific contexts such as reading technical components and engaging in simple interactions with expatriates.

In conclusion, the discussion of these results reinforces the significance of aligning vocational English teaching with real industry needs. By addressing the identified gap between curriculum content and workplace practices, this study not only adds to the growing body of ESP literature but also provides practical guidance for developing curricula that better prepare vocational students in Heavy Equipment Engineering to contribute effectively to both industry productivity and national development.

CONCLUSION

This study explored the English language needs in the heavy equipment industry by gathering insights from five industry practitioners. The findings revealed that the most essential skills required in the workplace are the ability to read and understand technical components or parts labelled in English and to engage in basic spoken interactions with expatriates. In contrast, advanced English skills such as delivering formal presentations or writing detailed technical reports are not perceived as urgent or directly relevant to the day-to-day operations of vocational graduates in this field.

These results highlight the importance of designing vocational English curricula that prioritize practical and context-specific skills. Rather than focusing extensively on academic or generalized English tasks, the curriculum should emphasize technical reading proficiency and functional oral communication that aligns with authentic workplace demands. This focus will better prepare graduates to perform effectively in industrial settings where English is used as a tool for operational efficiency rather than formal expression.

The study contributes to the growing body of literature on EVP, particularly in technical and heavy equipment contexts. While limited to the perspectives of five industries, the findings provide valuable insights into curriculum alignment and practical training approaches. Future research with a larger and more diverse sample is recommended to further validate and extend these findings.

Ultimately, this study underscores the need for vocational English programs to be industry-driven, ensuring that graduates are equipped with the language competencies that matter most in real-world industrial practices.

CONFLICT OF INTEREST

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

AUTHOR (S) CONTRIBUTION

Ratih, E.: Conceptualization (lead), methodology (lead), data collection (lead), analysis and interpretation (lead), writing – original draft (lead), review (supporting), editing (supporting). Sari, D.L.: Conceptualization (supporting), methodology (supporting), data collection (supporting), analysis and interpretation (supporting), review (lead), and editing (lead).

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REFERENCES

Armawan, & Baa, S. (2023). The implementation of multimodal pedagogies in teaching writing in Indonesian vocational high school. Klasikal: Journal of Education, *Language, Teaching and Science, 5*(1), 433-451.

Aziz, A. F., & Anjaniputra, A. G. (2025). The alignment of ESP in teaching activities and materials at vocational high schools. Life, *24*(1), 60-72. https://doi.org/10.33096/tamaddun.v24i1.918

Basturkmen, H. (2010). *Developing courses in English for specific purposes*. Palgrave Macmillan.

Braun, V., & Clarke, V. (2026). *Using thematic analysis in psychology*. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.

Dwinalida, K., & Setiaji, S. (2022). Planning an ESP course design in SMK context teachers' roles and problems. *Tarling : Journal of Language Education*, *6*(2), 305–318. https://doi.org/10.24090/tarling.v6i2.7252

Elmholdt, C. (2006). Knowledge management and the practice of knowledge sharing: The case of an ICT company. *Electronic Journal of Knowledge Management, 4*(2), 137–144. Retrieved from: https://www.researchgate.net/publication/240524779_Knowledge_management_and_the_practice_of_knowledge_sharing_and_learning_at_work_a_case_study

Fadlia, F., Zulida, E., Asra, S., Rahmiati, R., & Bania, A. S. (2020). English subject on English for specific purposes (ESP) in vocational schools. *Language Literacy: Journal of Linguistics, Literature, and Language Teaching*, *4*(2), 358-367. https://doi.org/10.30743/ll.v4i2.3064

Fitriani, S., & Ilyas, H. P. (2019). Communication skill: A challenge for vocational high school students in the 21st century. *Jurnal SOLMA, 8*(1), 150. https://doi.org/10.29405/solma.v8i1.3097. Retrieved from: https://www.researchgate.net/publication/333197441_Communication_skill_A_Challenge_For_Vocational_High_School_Students_in_the_21st_century

Hamidah, M. (2022). A multimodal analysis of English textbook for vocational high school: A study of English for specific purposes. *The Proceedings of the English Language Teaching, Literature, and Translation (ELTLT), 11*(1), 150-158.

Havwini, T., Sari, D.R., Fadilah, N., Firdaus, F.(2024). English vocabulary mastery in vocational higher education: An analysis of challenges and feasible strategies. *Journal on Education*, *06*(04), 19110-19118.

Helingo, A., & Molou, F. S. (2023). *ESP requirements in vocational education: Insights from computer and network engineering department. Al-Lisan: Jurnal Bahasa*, 7(2). https://doi.org/10.30603/al.v7i2.5197

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centered approach*. Cambridge University Press.

Sari, L.I., Faridi, A., Rukmini, D., & Mujiyanto, J. (2021). The challenges of ESP teaching and how the use of ict can help to address them: A social-semiotic perspective. *ELLIC Journal of Education. 4*

Izzah, A., Sujana, I. M. S., Saputra, A., Melani, B. Z., & Munanda, L. O. A. H. (2025). Kahoot game-based learning design in teaching English for vocational school using genre-based approach model. *Edunesia : Jurnal Ilmiah Pendidikan*, *6*(3), 1303–1321. https://doi.org/10.51276/edu.v6i3.1147

Jewitt, C. (2014). *The Routledge Handbook of Multimodal Analysis* (2nd ed.). Routledge.

Kim, S.-H. (2021). Analyzing workplace English communication use and needs: Insights from Korean corporate employees. *Journal of Pan-Pacific Association of Applied Linguistics*, *25*(1), 1–24. https://doi.org/10.25256/paal.25.1.1

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication.*
Routledge.

Kress, G., & van Leeuwen, T. (2006). *Reading images: The grammar of visual design* (2nd ed.). Routledge.

Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). Sage Publications.

Mahbub, M. A. (2018). English teaching in vocational high school: A need analysis. *JEELS*, *5*(2), 229-258. https://doi.org/10.30762/jeels.v5i2.835

Masyhud. (2018). Promoting lesson study at English for specific purposes (ESP): teacher's best practice context. *Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics, 5*(2), 36–44.

Masykar, T. (2019). Analisa kebutuhan English for specific purpose untuk pendidikan vokasi. *Vocatech*, *1*(1), 47-50.

Mukadimah, H., & Sahayu, W. (2021). Embedding content and language integrated learning (CLIL) into English for specific purposes curriculum for vocational high school. *Jurnal Pendidikan Vokasi*, *11*(2), 204–212. https://doi.org/10.21831/jpv.v11i2.41065.

Muliyah, P., & Aminatun, D. (2020). Teaching English for specific purposes in vocational high school: teachers' beliefs and practices. *JET (Journal of English Teaching)*, *6*(2), 122–133. https://doi.org/10.33541/jet.v6i2.1756

Musmulyadin, M., & Puspitasari, P. (2023). English learning activities in heavy equipment engineering study program at Olat Maras community academy. *Indo-MathEdu Intellectuals Journal, 4*(2), 1063-1075. https://doi.org/10.54373/imeij.v4i2.319. Retrieved from: https://www.researchgate.net/publication/375545178_English_Learning_Activities_in_Heavy_Equipment_Engineering_Study_Program_at_Olat_Maras_Community_Academy

Nasihin, A., & Oktarini. (2022). The impact of using English curriculum design based on industry needs in English teaching on vocational school to improve students English skill for industry standard working communication. *The Asian Institute of Research Education Quarterly Reviews*, *5*(1), 138-144. https://doi.org/10.31014/aior.1993.05.01.425

Natsir, M., Soleh Purba, A., Thesisia Saragih, A., & Khair Amal, B. (2022). English teaching in an Indonesian vocational high school majoring industrial machinery engineering. *Jurnal Pendidikan*, *14*(2), 1743-1754. https://doi.org/10.35445/alishlah.v14i1.1221

Purwanti, A. R. (2018). Revisiting English for specific purposes (ESP) in indonesian vocational high school (VHS): A current situation in curriculum 2013. *ETERNAL (English Teaching Journal), 9*(2), 163-176. https://doi.org/10.26877/eternal.v9i2.2984

Puspandari, L. E., Utari, D. A., Miftachudin, M., & Fathoni, M. R. (2025). Need analysis of English language for business and professional communication in the industrial and workforce context. *Jurnal Pendidikan Bahasa Inggris Undiksha*, *13*(1), 140–148. https://doi.org/10.23887/jpbi.v13i1.85607

Rofiawati, O., & Wirza, Y. (2022). *English as a medium of instruction at vocational high school in Indonesia* (pp. 428–433). https://doi.org/10.2991/978-2-494069-91-6_67

Septiana, I., & Jendral Ahmad Yani No, J. (2019). The challenges of teaching for English specific purposes in higher education. *Jurnal Ilmiah Bina Bahasa*, *11*(1), 22–31

Sintia, M., Perdana, R., & Karani, I. (2025). ESP in practice: A literature review of challenges faced by teachers and learners. *EduResearch Journal of English Education, 5*(1), 45–56.

Syairofi, A & Suwarno. (2025). A research-informed approach to curriculum development. *Salee*, 6(1), 317-337.

Unsworth, L. (2020). *Multimodal literacy in school science: Text and image in students' texts.* Springer.

Uztosun, M. S. (2014). The impact of language learning experience on language learner strategy use in Turkish EFL context. *International Journal on New Trends in Education and Their Implications, 5*(1), 157-168.

Sintia, D., Perdana, I., & Karani, E. (2025). ESP in practice: A literature review of challenges faced by teachers and learners. *EJI (English Journal of Indragiri): Studies in Education, Literature, and Linguistics, 9*(2), 584-597. https://doi.org/10.61672/eji.v9i2.3003

Spence, P., & Liu, G. Z. (2013). Engineering English and the high-tech industry: A case study of an English needs analysis of process integration engineers at a semiconductor manufacturing company in Taiwan. *English for Specific Purposes*, *32*(2), 97–109. https://doi.org/10.1016/j.esp.2012.11.003

Syairofi, A., & Suwarno, S. (2025). A Research-informed approach to curriculum development: Designing a vocational English course for a specific topic in graphic design. *SALEE: Study of Applied Linguistics and English Education*, *6*(1), 317–337. https://doi.org/10.35961/salee.v6i1.1732

Wulandari, R. Z., Muchsin, M. K., & Tambunan, T. (2019). A need analysis of English for specific purposes (ESP) for nursing students at SMKS Kesehatan Kendari. *Journal of English Education and Teaching*, *3*(4), 429–437. https://doi.org/10.33369/jeet.3.4.429-437.