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Challenges and Solutions in the Implementation of English-Based Job-Sheets for Engineering: Voices from Vocational Schools

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ABSTRACT

Jobsheet is a set of documents that contain instructions or guidelines for carrying out a specific task or job, usually in the context of education or training. Therefore, this study explores the implementation of English for Engineering (EFE)-based Jobsheets in the Light Vehicle Engineering Expertise Program at SMK Muhammadiyah 1 Pekanbaru. Aditionally, using a descriptive qualitative approach, this study involved 38 students and several teachers who are directly involved with EFE Jobsheets. Data were collected through interviews, observations, and document analysis. At the same time, it was found that the EFE Jobsheets had a positive impact on students' understanding and application of technical English, improving their competencies in terms of both technical and language skills. However, challenges such as students' weak English foundation, inadequate teacher competence, and limited resources were identified. Solutions to these issues include continuous teacher training, development of interactive materials, and collaboration with industry to offer practical experience. In spite of the promising results of the EFE-based Jobsheet implementation, continuous improvements in developing multimedia-based interactive materials and industrial simulations are essential to optimize learning outcomes

Introduction

The acquisition of English is not considered an additional skill, but rather a crucial basic competency in today's world of work, as well as in the field of automotive engineering. It has become the global lingua franca in these industries, so the ability to communicate well in this language plays an important role (Zboun & Farrah, 2021). There are plenty of technical documents, manuals and scientific literature available in English (Hoa & Liou, 2023), and the ability to understand them well allows professionals to access the latest information and innovations in their field (Meşe & Sevilen, 2021). In the absence of adequate English language skills, access to these resources can be limited, which can hinder career progression and technical knowledge.

Importantly, English language skills also provide a significant competitive advantage in the global marketplace (Zhuang, 2023). In an increasingly internationally connected work environment, many companies, especially those operating in the engineering and automotive sectors, are looking for employees who can communicate effectively with clients, coworkers and partners from different parts of the world. Putra et al., (2021) confirm that employees who are fluent in English can not only participate in international meetings and presentations, but are also able to manage cross-border projects more efficiently. This increases their competitiveness and opens up greater opportunities for more senior or specialist positions.

Regarding the Automotive Department, especially in the Light Vehicle Engineering Program, it is one of the fields that really requires mastery of English for Engineering (Roslin et al., 2019). In the automotive world, many technical documents, manuals and instructions are written in English (Putrama et al., 2020; Saputri et al., 2023). A good command of English allows graduates to read and understand such technical information accurately, which in turn will improve the quality of their work and facilitate communication with international parties.

In addition, Fang & Abdullah (2024) claim that English for Engineering also serves an important role in the integration of new technologies that are often introduced by global automotive companies. By understanding technical terms and concepts in English, graduates can quickly adapt to the latest technology, which is a competitive advantage in an increasingly evolving job market. This also opens up opportunities for them to pursue careers (Ellingson, 2018) in international automotive companies that often require employees to have good English language skills (Hoeriyah, 2022).

However, a challenge faced by many graduates is the lack of skills in English for Engineering. Many automotive programs focus on practical technical skills, while English skills often do not

receive the same attention (Labib et al., 2023). As a result, graduates may find it difficult when faced with technical documents or instructions in English. This can hamper their work efficiency and reduce their chances of a career in multinational companies (Ayu et al., 2024).

It is recognized that challenges in the field of engineering learning often involve the mastery of technical skills and language relevant to the field (Putrama et al., 2020). However, one effective solution to overcome this challenge is the implementation of English for Engineering-based Jobsheets in the learning process. Thus, Mindarta et al., (2018); Putrama et al., (2020) & Saputri et al., (2023) highlight that a Jobsheet is a learning tool that contains step-by-step instructions to complete a specific task or project. By using Jobsheets, students can follow clear and structured guidelines, making it easier for them to understand and complete tasks more effectively.

In the context of engineering education, Pratami et al., (2023) argue that Jobsheets prepared in English have a double advantage. First, English is the dominant international language in the engineering and technical world. By compiling Jobsheets in this language, students not only learn about relevant techniques but also master the technical terminology often used in the industry. This is very important because in the world of work, English language skills are often required to understand manuals, technical documentation and communicate with international coworkers or clients (Mindarta et al., 2018).

Other than that, the use of English for Engineering-based Jobsheets can improve students' English skills simultaneously. When students practice with job sheets containing technical terms in English, they practice reading, writing and translating English in relevant contexts (Mindarta et al., 2018; Romadin et al., 2022). This helps them expand their technical vocabulary and improve their understanding of technical English used in the engineering industry. In other words, Labib et al., (2023) noted that students not only learn how to complete technical tasks but also acquire language skills that will be very useful in their future careers.

As a whole consideration, the implementation of English for Engineering-based Jobsheets in engineering learning provides an effective approach to address the challenges of technical and language skills acquisition as previously found by Mindarta et al., (2018); Putrama et al., (2020) & Saputri et al., (2023). They concluded that by integrating technical instruction in English, students can be better prepared for the demands of the world of work and gain a significant competitive advantage in engineering.

In response to this problem, Istihapsari et al., (2022) argue that it has been important to integrate technical English training in the curriculum of automotive skills programs (Labib et al., 2023; Romadin et al., 2022). Through a more structured approach to teaching English for

Engineering, the graduates will be better equipped to deal with the demands of the global automotive industry. This will not only improve their ability to read and understand technical documents but will also expand their career opportunities in the global market (Pantiwati et al., 2024).

As previously performed by Istihapsari et al., (2022); Labib et al., (2023); Mindarta et al., (2018) and Romadin et al., (2022), the implementation of English for Engineering (EFE)-based Jobsheets is one of the best solutions for vocational students as it integrates technical English learning directly into relevant vocational contexts. Indeed, this approach is more effective than conventional methods such as theory-based learning or separate exercises, which often lack applicability in the industrial world (Rizky & Zainil, 2021). In contrast to lecture or plain text module methods, the EFE Jobsheet combines step-by-step instructions with industry-appropriate technical terminology, thereby improving student comprehension and retention.

Moreover, compared to multimedia or digital app-based strategies, EFE Jobsheets offer a balance between self-directed learning and direct interaction with instructors in a practical environment Jiang et al., (2023). While technologies such as AI-based learning apps can improve accessibility, their effectiveness often depends on students' digital literacy and device availability. In contrast, Markula & Aksela (2022) and Zhang & Ma (2023) proposed that EFE Jobsheets remain flexibly usable in a variety of conditions without relying on complex technological infrastructure. By contextually integrating language learning in vocational practice, students are more encouraged to understand and use English as a professional skill rather than just an academic subject. Therefore, compared to other instructional strategies, the EFE Jobsheet offers a solution that is more applicable, work-oriented, and in line with the needs of vocational students in improving their technical English competence.

Therefore, the well-structured and English-based materials allow students to not only master technical skills but also improve their English skills simultaneously (Rizky & Zainil, 2021). Moreover, Istihapsari et al., (2022) declare that Jobsheets serve as practical guides that help students understand work procedures in a structured manner, allowing them to practice technical skills more effectively. In vocational education such as Light Vehicle Engineering, well-structured Jobsheets not only facilitate the learning process but also ensure that students gain industry-relevant practical experience.

Hence, it is necessary to explore the implementation of English for Engineering (EFE)-based Jobsheets in the Light Vehicle Engineering Program at SMK Muhammadiyah 1 Pekanbaru. The implementation of EFE-based Jobsheets aim to provide learning materials that not only support

technical skills but also introduce engineering English that is often used in the automotive industry. Therefore, this research is an exploration of how EFE-based Jobsheets are implemented in the curriculum and practical implementation in the field, as well as how it affects students' understanding and skills. By evaluating these efforts, this research is expected to provide constructive recommendations to improve the implementation of EFE-based Jobsheets in the future and ensure that the learning materials provided are truly effective in achieving educational objectives.

Method

The current study aims to identify and describe the implementation of English for Engineering (EFE)-based Jobsheet at SMK Muhammadiyah 1 Pekanbaru, including the process of developing, implementing, and evaluating Jobsheets in supporting the learning of Light Vehicle Engineering Expertise Program. However, the sample was selected using purposive sampling technique by considering direct involvement in the use of Job-sheets. At the end of the sample, as performed by Mindarta et al., (2018), 38 students and 5 teachers who have experience in implementing EFE-based Jobsheet in grade XI were involved.

Moreover, this study used a descriptive qualitative approach developed based on the analysis model of Miles et al., (2020), which consists of three main stages: data reduction, data presentation, and conclusion drawing. Data were collected through three main techniques, namely in-depth interviews, direct observation, and document analysis. Semi-structured interviews were conducted with 5 teachers and 38 students who have used EFE-based Jobsheets in learning. The questions in the interviews focused on their experiences in using the Jobsheets, their effectiveness in improving the understanding of automotive engineering concepts in English, as well as the challenges faced in the implementation. Each interview was recorded, transcribed, and analyzed using thematic analysis techniques to identify patterns and key themes in participants' responses (Labib et al., 2023).

In addition, participatory direct observation was conducted in the classroom during several learning sessions to see how the Jobsheets were implemented in practice. These observations included interactions between teachers and students, how students used the Jobsheets in understanding automotive engineering materials, and the difficulties they faced in understanding instructions in English. Data from the observations were recorded in detail using an observation sheet developed based on indicators of effective jobsheet implementation (Mindarta et al., 2018). To complement the results of interviews and observations, document analysis was conducted by reviewing the syllabus, Jobsheets used, students' work, as well as the assessment rubric applied by

the teacher. This analysis aims to evaluate the extent to which EFE-based Jobsheets are in line with curriculum standards and how they contribute to improving students' English competence in the context of automotive engineering (Widyastuti & Utami, 2018).

To increase the validity and reliability of the data, this study applied source and method triangulation techniques. Source triangulation was conducted by comparing data from teacher and student interviews, while method triangulation was conducted by comparing the results of interviews, observations, and document analysis to obtain more accurate and reliable findings. The results of each data collection technique were analyzed simultaneously using thematic analysis, with data coding to identify recurring patterns and main themes related to the effectiveness and challenges in implementing EFE-based Jobsheets. With this approach, this study provides a comprehensive picture of the implementation of EFE-based Jobsheets in learning Light Vehicle Engineering, while identifying factors that support and hinder its effectiveness in a vocational school environment.

Result and Discussion

Currently, the implementation of English for Engineering (EFE)-based Jobsheet in the Light Vehicle Engineering Program at SMK Muhammadiyah 1 Pekanbaru is the focus of this research. The EFE Jobsheet is a tool designed to integrate English language learning with engineering skills, with the aim of improving students' competency in both areas. In this context, the study involved 38 students from class XI enrolled in the light vehicle engineering program. In addition, several teachers who played a significant role in the process of implementing the EFE Jobsheet also participated in the study. These teachers not only used the EFE Jobsheet in daily learning activities but also played an active role in providing feedback and support to the students.

On the other hand, the main objective of this study is to evaluate the extent to which the EFE Jobsheet has been implemented in the light vehicle engineering program at SMK Muhammadiyah 1 Pekanbaru. This evaluation covers various aspects, including the effectiveness of EFE Jobsheets in improving students' understanding and skills, as well as how this method affects their learning motivation. This research also aims to identify barriers that may be encountered during the implementation of EFE Jobsheets. Such barriers could include challenges in English language acquisition, limited resources, or resistance to new methods.

Furthermore, this research explores the efforts that have been made to overcome these barriers. For example, improvements in the design of the EFE Jobsheet, additional training for teachers, or modifications in the teaching approach used. By analyzing the steps that have been taken to

overcome these challenges, this research is expected to provide valuable insights for the future development and implementation of EFE Jobsheets.

To what extent has the English for Engineering (EFE) Based Jobsheets been Implemented

Drawing on observations and interviews, it has been observed that the implementation of English for Engineering (EFE)-based Jobsheets at SMK Muhammadiyah 1 Pekanbaru has been implemented with the main objective of improving students' English competency, especially in technical contexts relevant to the automotive field. This implementation consists of several important stages designed to ensure the successful integration of technical English into the learning program.

The first stage was the planning and development of the Jobsheet. This process involved a team of teachers working together to develop the Jobsheets by considering the current curriculum and the needs of the automotive industry. In the development of the Jobsheet, Pantiwati et al., (2024) argue that the material included a variety of technical terminology in English that is important for student understanding. The next stage was classroom implementation where after students were introduced to the EFE Jobsheet, they were given a detailed explanation of its purpose and benefits. The teaching and learning process using the Jobsheet is carried out through various practical activities in the workshop as well as group discussions. The practical activities in the workshop give students the opportunity to directly apply the terminology and procedures they have learned in real situations (Widyastuti & Utami, 2018).

In addition, evaluation and feedback is the final stage of the EFE Jobsheet implementation. Evaluation is conducted periodically to assess students' understanding and skills in using technical English. Labib et al., (2023) identify that this process includes various forms of assessment, ranging from tests to direct observation during practicum activities. Therefore, Putrama et al., (2020) notice that feedback provided by the teacher is essential to help students in correcting their weaknesses and improving their technical English skills. With regular evaluation and feedback, students can monitor their progress and make the necessary improvements to achieve the expected competencies.

The results of implementing the EFE Jobsheet showed a positive impact on students' technical English skills. Previous research by Ayu et al., (2024); Ayu & Rizky (2023); Pratami et al., (2023) & Widyastuti & Utami (2018) have shown that the use of teaching materials relevant to the work context can significantly improve students' technical English skills. According to a study by Asare et al., (2023), students who learned English through materials related to their field of expertise experienced increased understanding of technical terms and applicability in real situations. The

application of the EFE Jobsheet at SMK Muhammadiyah 1 Pekanbaru is in line with this finding, where students become more familiar with technical terms in English and are able to apply them in practical contexts (Labib et al., 2023). In addition, research by Matzembacher et al., (2019) claim that a practice-based learning approach, as implemented through EFE Jobsheets, can significantly increase students' confidence in using English. In the study, students who engaged in practical activities related to their work showed increased confidence and better communication skills. This is consistent with the results of the study at SMK Muhammadiyah 1 Pekanbaru, where students showed increased confidence in communicating using English, particularly in the automotive work environment.

This improvement not only makes it easier for students to understand and apply technical knowledge, but also prepares them to face challenges they may encounter in the professional world of work. Therefore, Gazzola et al., (2023) emphasize that strong English language skills are essential in facing professional challenges, especially in the global automotive industry. The implementation of the EFE Jobsheet helps students to be better prepared for the demands of the working world by integrating technical English skills into their curriculum. Thus, the EFE Jobsheet not only improves students' English competency but also prepares them for success in their professional future.

Assessing the Factors Constraining the Implementation of EFE-based Jobsheet

However, despite the significant benefits of implementing the EFE Jobsheet, several barriers were identified during this study, including many students having a weak English foundation, and therefore having difficulty in understanding the material presented in the Jobsheet. Research by Wildeman et al., (2023) and Yıldırım & Gedik Bal (2023) showed that low English proficiency can hinder the understanding and application of technical material in a vocational education context. They recommended the use of context-based learning strategies that relate the material to real-world situations to improve student understanding.

Further, research by Rizky (2018) and Usman & Anwar (2021) also supports this by emphasizing that more interactive and visual-based teaching materials can help students with limited language skills in understanding the content presented. In addition, research by Ayu et al., (2024) and Ezzaim et al., (2023) added that the use of educational technology, such as AI-based English learning applications, can provide a more personalized and adaptive learning experience, helping students overcome language difficulties more effectively.

Meanwhile, not all teachers have sufficient competence in English, making it difficult for them to teach EFE materials effectively. In addition, limited facilities such as reference books and teaching aids are also an obstacle (Labib et al., 2023; Ramadansur et al., 2024). Research by Kamalov et al.,

(2023) emphasized the importance of professional training for teachers to improve their English language skills, which in turn can improve teaching quality. They also suggested that educational institutions provide adequate resources, including relevant reference books and teaching aids, to support the learning process.

Research by Alfarizi & Sari (2024) corroborates this view by stating that strong administrative support and adequate budget allocation for the provision of educational resources are key to addressing this issue. Recent research by Alhassan (2023); Martínez-Venegas (2022) & Vali (2023) also highlights the need for collaboration between educational institutions and industry to provide relevant and up-to-date resources, so that teachers and students have access to teaching materials and tools that match the latest technological developments.

Furthermore, the demanding curriculum makes the time allocated to teach technical English limited. This reduces the effectiveness of the EFE Jobsheet implementation. Research by Ammade et al., (2018) & Bastian et al., (2023) shows that integrating technical English into the existing curriculum can help optimize the time available. They recommended an integrative approach that combines English learning with technical subjects to maximize the use of time.

Research by Markula & Aksela (2022) and Zhang & Ma (2023) recommend the use of project-based learning methods that allow students to learn technical English while applying practical skills in relevant contexts, thus making more effective use of available time. The study by Bereczki & Kárpáti (2021) also proposed a blended learning approach, which combines face-to-face learning with online materials, as a way to optimize learning time and provide students with additional flexibility in learning technical English without compromising on technical content.

Solutions to Problems in Implementing English for Engineering (EFE)-Based Jobsheets

Several attempts have been made to overcome the barriers to the implementation of the EFE Jobsheet, including regular training and workshops to improve the teachers' English language skills, so that they are more confident and competent in teaching EFE materials. Recent research shows that continuous training for teachers' professional development can significantly improve their ability to teach complex material (Smith & Storrs, 2023). Further research by Chernikova et al., (2020) and Martin et al., (2013) revealed that training methods involving simulation and hands-on practice can accelerate the understanding and application of technical English concepts.

Furthermore, the integration of technology in learning has been a major factor in increasing the effectiveness of the EFE Jobsheet. Additionally, the study Lafifa & Rosana, (2023); Wandari et al., (2024) and Yıldırım & Gedik Bal (2023) underlined the importance of technology integration in English training for technical education, which supports technology-based training approaches that

can enrich teaching methods and improve teachers' skills. Technologies such as e-learning platforms and digital learning tools are proven to accelerate the learning process and increase training effectiveness (Ayu et al., 2024 & Miller et al., 2024).

Hence, optimizing EFE-based Jobsheet is not enough just by improving teachers' skills and adopting technology. Periodic reinforcement of materials is required to ensure that the competencies acquired by students persist in the long term. Without continuous revision and stabilization, the technical English skills that have been built are at risk of decline (Smith & Storrs, 2023). Therefore, schools are also required to actively implement periodic evaluation and reinforcement sessions to ensure that students retain optimal language readiness, even after they graduate and enter the industry.

Apart from above, Jobsheet materials are made more interactive by incorporating multimedia and interesting exercises, so that students are more motivated to learn. Research by Jiang et al., (2023) emphasizes that the use of multimedia in teaching materials can increase student engagement and facilitate better understanding of technical concepts. In addition, a study by Fitria (2023); Nenohai et al., (2022) & Rizky 2020)showed that teaching materials that actively interact and involve gamification elements can strengthen student motivation and improve information retention. Research by Ammade et al., (2018); Ezzaim et al., (2023); Lythreatis et al., (2022) & Ramadansur et al., 2024) further suggests the use of augmented reality (AR) technology to provide a more immersive and interactive learning experience, which can deepen students' understanding of technical procedures and enhance the practical application of the English language. This innovative approach strengthens the learning experience and ensures that students not only understand the theory, but are also able to apply it directly in industrial practice.

Then, additional classes and guidance are provided to students who have difficulties in understanding technical English. Teachers also provide additional, more specific tasks to reinforce students' understanding. Research shows that additional support in the form of extra classes and guidance (Abdillah & Sueb, 2022) is very effective in helping students who face technical English difficulties (Fang & Abdullah, 2024), as this approach allows personalization in the learning process (Bartolomé et al., 2018). With this approach, each student gets more personalized attention, ensuring they can develop technical English competencies that match industry standard. Furthermore, Bakar & Mallan (2023) revealed that well-designed additional tasks can deepen students' understanding and facilitate better skills in the application of technical English. Thus, it individualized tutoring approaches and the use of adaptive learning techniques can better match students' specific needs, thus supporting the achievement of better outcomes.

In regards to policies implemented by vocational schools, they have collaborated with the automotive industry to provide internship opportunities and industrial visits. This is in line with Smith & Storrs's (2023) research which shows that collaboration between educational institutions and industry not only increases the relevance of the curriculum, but also provides invaluable practical experience for students. Furthermore, a study by Martínez-Venegas (2022) emphasized that industry cooperation can provide a more real context for students to apply their English language skills, as well as build professional skills that support work readiness. In fact, industry is now increasingly recognizing that graduates who have been exposed to EFE-based learning have an advantage in understanding technical terminology and professional communication in English.

Otherwise, through integrating recent findings, the steps taken by SMK Muhammadiyah 1 Pekanbaru can be further improved to overcome barriers in the implementation of EFE Jobsheets and ensure optimal learning outcomes for students. Moreover, research has shown that effective use of EFE Jobsheets requires contextual adaptation according to students' needs and level of understanding. According to a study conducted by Labib et al., (2023), adapting EFE Jobsheet materials to students' backgrounds and previous experiences can increase their engagement and understanding of the material. Therefore, it is recommended that SMK Muhammadiyah 1 Pekanbaru conduct an in-depth analysis of the student profile before implementing the EFE Jobsheet, so that the material presented can be more relevant and interesting.

Continuous evaluation and feedback has become an aspect that should not be overlooked in the implementation of EFE Jobsheets. According to research by Bastian et al., (2023); Bereczki & Kárpáti (2021); Usman & Anwar (2021) and Zamiri & Esmaeili (2024), regular evaluation and feedback from students and teachers can help in identifying the strengths and weaknesses of using the Jobsheet, as well as directing necessary improvements. However, the successful implementation of EFE Jobsheets depends not only on student understanding, but also on the readiness of the curriculum, the availability of school resources, and the readiness of teaching staff.

The integration of EFE Jobsheets into the existing curriculum remains a challenge, especially in terms of limited time allocation for technical English learning. Research by Ammade et al., (2018) & Bastian et al., (2023) highlighted that the strategy of integrating technical English in vocational subjects can help maximize learning effectiveness without burdening the existing curriculum. With this approach, students not only learn technical material but also acquire the necessary English competencies simultaneously in a more applicable context.

In addition, limited resources in schools, such as lack of reference books, access to technological devices, and lack of interactive learning aids, are also barriers to the implementation of EFE

Jobsheets. Labib et al., (2023) & Ramadansur et al., (2024) highlighted that the lack of supporting facilities can hinder the effectiveness of Jobsheet-based learning, especially for students who have limited understanding of technical English. Therefore, collaboration with industry partners and education providers can be a solution in providing learning materials that are more up-to-date and relevant to the needs of the world of work (Alhassan, 2023; Martínez-Venegas, 2022; Vali 2023). These partnerships can not only help schools gain access to additional resources, but also ensure that the materials taught are in line with the latest technological developments and industry standards.

Teachers' readiness to teach the EFE Jobsheet is also a key factor in its success. Although teacher training has been one of the main recommendations in various studies (Kamalov et al., 2023), challenges in technical English and Jobsheet-based teaching methods still need attention. Many teachers in vocational schools do not have a strong background in English, making it difficult for them to deliver materials effectively. To address this issue, Yıldırım & Gedik Bal (2023) have proposed that educational institutions need to provide continuous training programs that focus not only on improving teachers' English competency, but also on implementing more innovative and interactive Jobsheet-based teaching methods.

In addition, the development of technology-based learning platforms that allow teachers and students to access teaching materials more flexibly can also be a solution to improve learning effectiveness (Markula & Aksela, 2022; Zhang & Ma, 2023). By integrating these findings, steps taken by SMK Muhammadiyah 1 Pekanbaru can be further improved to overcome barriers in the implementation of EFE Jobsheets and ensure optimal learning outcomes for students. Consequently, current research has shown that the successful implementation of Jobsheets in the context of vocational education relies heavily on several key factors, including teacher training, material design and infrastructure support. Hence, it aspires that the results of this study could provide useful recommendations for other educational institutions considering the implementation of similar methods as well as for the development of English-based engineering curricula at the vocational education level.

Conclusion

It is revealed that the implementation of EFE Jobsheet at SMK Muhammadiyah 1 Pekanbaru is effective in improving students' technical English competence and their readiness in the world of work. Furthermore, the implementation of EFE Jobsheet through various stages-planning and development, classroom implementation, and evaluation and feedback-has shown a positive impact

on students' technical English Skills. Therefore, the use of materials relevant to the work context and practice-based learning approaches are proven to improve students' understanding and confidence in using technical English. As such, the implementation of EFE Jobsheets can be further optimized through sustainable strategies to ensure long-term benefits, as well as provide valuable insights for other educational institutions looking to adopt similar methods in English-based curriculum development in vocational education.

Nonetheless, challenges such as limited teacher competence and lack of interactive materials still need to be addressed. Continuous training should include technology-based teaching strategies, such as the use of digital platforms and gamification approaches. In addition, the development of multimedia-based interactive materials and industrial simulations can improve learning effectiveness. Further research is needed to examine the long-term retention of students' technical English skills as well as the relevance of EFE to industry needs. In terms of policy, otherwise, educational institutions need to allocate special time in the curriculum, provide technology-based facilities, and encourage cooperation with industry to ensure the suitability of teaching materials with the demands of the world of work. With these steps, the implementation of EFE Jobsheet can be more effective and sustainable.

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