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Students' Mastery of Medical Vocabulary Learning Need at SMK Medika Pekalongan

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Abstract

Medical vocabulary mastery is a fundamental component of English for Specific Purposes (ESP) instruction in vocational health education; however, the complexity of medical terminology, particularly terms derived from Latin and Greek, often creates substantial learning challenges for students. This study aimed to identify the difficulties experienced by eleventh-grade students at SMK Medika Pekalongan in mastering English medical vocabulary and to examine the factors contributing to these difficulties. A descriptive qualitative approach was employed, involving 36 students from the Medical Laboratory Technology program as respondents for the questionnaire and vocabulary test, while 10 students participated in semi-structured interviews. Data were collected through vocabulary tests, questionnaires, and interviews and were analyzed using qualitative data analysis procedures consisting of data reduction, data display, and conclusion drawing. The findings reveal that students faced multiple difficulties in mastering medical vocabulary, particularly in understanding the meanings of medical terms, memorizing vocabulary, pronouncing and spelling terms accurately, and comprehending texts containing extensive medical terminology. The vocabulary test results showed varied levels of mastery, with

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an average score of 67. Questionnaire findings indicated that most students perceived medical vocabulary as more difficult than general English vocabulary. The main factors contributing to these difficulties included insufficient practice, limited learning resources, unfamiliar Latin-based terminology, and inadequate instructional time. Interview data further indicated that students needed more interactive, contextualized, and practice-oriented learning methods to support better understanding and retention of medical terminology. The study concludes that medical vocabulary mastery remains a significant challenge for vocational health students and requires instructional approaches aligned with their specific vocational learning needs. These findings contribute to ESP instruction by emphasizing the importance of needs-based, contextualized, and practice-oriented strategies for improving medical vocabulary learning in vocational health education settings.

Keywords: Medical Vocabulary; Vocabulary Mastery; English for Specific Purposes; Vocational Health Education; Learning Difficulties

INTRODUCTION

English serves as a global language that enables students to connect classroom learning with real-life situations, including vocational and professional contexts encountered in vocational high schools. As educational systems increasingly respond to globalization and workforce demands, vocational education is expected not only to equip students with technical competencies but also with adequate English proficiency relevant to their fields of specialization (Natsir et al., 2022). Vocational High Schools (SMKs) are specifically designed to prepare graduates for direct entry into the labor market by providing knowledge and practical skills aligned with particular occupational sectors (Islama et al., 2022). Consequently, students are required to develop communication competencies that support their future professions, including the ability to understand and use specialized English terminology relevant to their vocational disciplines (Wahyudi & Jufrizal, 2023).

Within this context, English for Specific Purposes (ESP) has emerged as an important approach to language instruction because it focuses on learners' specific academic and professional needs rather than general language competence (Reiza et al., 2023). For students enrolled in health-related vocational programs, ESP plays a critical role in preparing them to function effectively in healthcare settings where English terminology is frequently encountered. The implementation of ESP in health vocational education is intended to help

students understand medical texts, follow treatment instructions, communicate with patients, and engage with professional documentation used in healthcare environments. As healthcare systems become increasingly interconnected at the global level, proficiency in English for Medical Purposes (EMP) has become an essential component of professional preparation for future healthcare practitioners (Sofyan et al., 2024).

A fundamental aspect of ESP learning in health education is the mastery of medical vocabulary. Vocabulary mastery is very important for proficiency in English as a foreign language because it enables students to understand and use words and their meanings correctly (Harselina et al., 2024). If vocabulary mastery is at a good level, the use of the four language skills—reading, writing, speaking, and listening—will be more effective and fluent (Lisana et al., 2022). Since vocabulary is one technique to enhance English proficiency, mastering it is one of the most crucial aspects of studying and teaching the language (Marselina et al., 2024). Medical vocabulary consists of specialized terms related to anatomy, diseases, medical procedures, healthcare instruments, and clinical activities that require precise understanding and accurate usage (Zafirovska & Xhaferi, 2022). The ability to comprehend and employ such terminology is essential because vocabulary forms the foundation of language proficiency and supports effective communication in both academic and professional contexts (Nguyễn Thị Thanh Hồng, 2024). In vocational health education, mastery of medical vocabulary enables students to access learning materials, interpret medical information, and develop the language competencies necessary for their future careers.

However, vocabulary acquisition remains one of the most challenging aspects of learning English as a foreign language. Vocabulary mastery is not achieved instantly but develops gradually through continuous exposure, practice, and contextualized learning experiences (Nababan & Tampubolon, 2024). The process is inherently complex because learners must understand not only the meanings of words but also their forms, pronunciations, contextual functions, and appropriate usage in communication (Zafirovska & Xhaferi, 2022). Consequently, insufficient vocabulary knowledge often becomes a major obstacle that hinders students' ability to understand instructional materials and participate effectively in language learning activities (Machfudi & Afidah, 2022). Furthermore, vocabulary competence contributes significantly to the development of other language skills, particularly speaking, as effective communication depends heavily on the appropriate selection and use of words.

The challenges associated with vocabulary learning become even more pronounced when students are required to master specialized medical terminology. Medical terms are often characterized by complex structures derived from Latin and Greek, making them difficult to pronounce, spell, memorize, and comprehend (Alazemi et al., 2024). Cognitive Load Theory suggests that learners may experience difficulties when processing large amounts of unfamiliar and complex information simultaneously, resulting in reduced retention and understanding of new vocabulary (Alazemi et al., 2024). As a result, students frequently struggle to internalize medical terminology and may rely on rote memorization rather than meaningful comprehension.

Preliminary observations conducted during teaching practice at SMK Medika Pekalongan revealed that many eleventh-grade students experienced significant difficulties in understanding and using English medical vocabulary. Students frequently depended on teachers' explanations and translations into Indonesian to comprehend lesson content, indicating limited vocabulary exposure and insufficient familiarity with medical terminology. Such reliance on translation reflects restricted opportunities for students to interact independently with English vocabulary and develop autonomous vocabulary learning strategies (Rahmawati et al., 2025). These conditions suggest that difficulties in mastering medical vocabulary may affect not only students' language proficiency but also the overall effectiveness of English learning in vocational health education.

Several previous studies have examined ESP learning, vocabulary mastery, and vocabulary needs in vocational and health-related contexts. Research conducted by Reiza et al. (2023) demonstrated that vocational nursing students require English learning materials closely aligned with their professional fields, particularly medical vocabulary and speaking skills. Similarly, Maulani et al. (2022) found that vocational students recognized the importance of ESP vocabulary for future employment, although their learning experiences remained largely focused on general English vocabulary. Research involving public health students also confirmed the importance of specialized vocabulary in ESP programs and highlighted vocabulary as one of the most challenging aspects of English learning (Arroyyani et al., 2022). Other studies have identified difficulties in vocabulary mastery related to meaning, pronunciation, spelling, and memorization among vocational students (Machfudi & Afidah, 2022). Comparable findings were reported regarding students' difficulties with grammar, word meaning, pronunciation, and spelling in vocational school settings (Wulandari & Ulfaika, 2022).

Despite these contributions, previous studies have generally focused either on learners' needs for ESP instruction or on vocabulary difficulties in general English contexts. Limited attention has been given to the specific challenges associated with mastering medical vocabulary among health vocational students. Moreover, few studies have comprehensively investigated both the difficulties experienced by students and the factors contributing to those difficulties within the context of medical vocabulary learning. This situation indicates a significant research gap regarding the mastery of medical vocabulary in vocational health education.

To address this gap, the present study focuses on identifying the difficulties faced by eleventh-grade students of SMK Medika Pekalongan in learning medical vocabulary and examining the factors that contribute to these difficulties. Drawing upon the concepts of English for Specific Purposes, vocabulary mastery, medical vocabulary, and Cognitive Load Theory, this study seeks to provide a comprehensive understanding of the challenges encountered by vocational health students in acquiring specialized medical terminology. The findings are expected to contribute to the development of more effective ESP learning strategies and support the design of instructional practices that better accommodate the linguistic and professional needs of health vocational students.

METHODS

This study employed a qualitative descriptive approach to obtain an in-depth understanding of students' difficulties in mastering medical vocabulary and the factors contributing to those difficulties. A qualitative approach was selected because it enables researchers to explore educational phenomena within their natural settings and to understand participants' experiences, perceptions, and interpretations comprehensively. According to Creswell & Poth (2018), qualitative research aims to understand and describe social and educational issues through data collection in natural contexts and inductive data analysis, emphasizing the meanings and contexts of the phenomena under investigation. Furthermore, the qualitative descriptive approach is highly relevant for examining learning needs and mapping students' abilities because it allows researchers to present findings directly and remain closely connected to participants' experiences and perspectives (Hall & Liebenberg, 2024). Consistent with this perspective, the present study focused on students' mastery of

medical vocabulary at SMK Medika Pekalongan and their need for medical vocabulary learning within English instruction.

The research adopted a descriptive qualitative design. This design was considered appropriate because the study did not seek to test hypotheses or examine statistical relationships among variables. Instead, it aimed to provide a comprehensive description of students' actual experiences in learning medical vocabulary. The study concentrated on two primary focuses: students' difficulties in mastering medical vocabulary and the factors influencing those difficulties. The investigation of vocabulary mastery was based on several indicators, including understanding the meanings of medical terms, spelling medical vocabulary accurately, pronouncing medical terminology correctly, and using medical vocabulary appropriately in context. These indicators were derived from the theoretical concept of vocabulary mastery, which emphasizes meaning, form, and language use. In addition, the study explored various factors affecting students' mastery of medical vocabulary, both internal and external to the learning process.

The research was conducted at SMK Medika Pekalongan, located at Sriwijaya Street No. 7, Pekalongan, Central Java, Indonesia. The school was selected because it offers health-related vocational programs that closely align with the focus of the study on medical vocabulary learning. The research was conducted over a two-month period, from February 2026 to March 2026. This period covered all stages of the study, including preparation, data collection, data analysis, and report writing.

The participants were eleventh-grade students of SMK Medika Pekalongan. The total population consisted of 210 students distributed across six classes. This study employed purposive sampling, a technique in which participants are selected based on specific considerations relevant to the research objectives. The researcher selected the eleventh-grade Medical Laboratory Technology (TLM) class because the program is directly associated with the use of medical terminology and specialized vocabulary. Consequently, students in this program were considered the most relevant participants for investigating medical vocabulary mastery. The selected class consisted of 36 students. All students in the class participated as questionnaire respondents, while ten students were involved in interviews to provide more detailed information regarding their learning experiences and difficulties in mastering medical vocabulary.

The researcher served as the primary research instrument, responsible for planning the study, collecting data, analyzing findings, and interpreting results. To support the data collection process, three techniques were employed: interviews, questionnaires, and tests. Interviews were conducted to obtain in-depth information regarding students' experiences in learning medical vocabulary. The interview questions focused on the difficulties students encountered in understanding medical terms and the factors contributing to those difficulties. Through interviews, the researcher gained comprehensive insights into students' perspectives and experiences throughout the learning process.

In addition to interviews, questionnaires were administered to collect information concerning students' mastery of medical vocabulary and the factors affecting their learning. The questionnaire explored students' understanding of medical terminology, the amount of time they devoted to learning medical vocabulary, and various challenges they experienced, including insufficient practice, pronunciation difficulties, unfamiliar technical terminology, and limited learning resources. The questionnaire data complemented and strengthened the information obtained through interviews.

A medical vocabulary test was also administered to assess students' difficulties in mastering English medical terminology. The test covered several components, including understanding the meanings of medical terms, spelling, pronunciation, and vocabulary use in context. The results provided additional evidence regarding students' levels of difficulty and served to support the findings obtained from interviews and questionnaires.

Data were analyzed using descriptive qualitative analysis. The analysis began with data reduction, which involved selecting and focusing on information relevant to the objectives of the study. During this stage, the researcher identified data related to students' difficulties in learning medical vocabulary and the factors contributing to those difficulties. The reduced data were subsequently organized and presented descriptively according to thematic categories to facilitate interpretation. Data presentation was conducted systematically to reveal patterns emerging from interviews, questionnaires, and test results. The final stage involved drawing conclusions and interpreting the findings. At this stage, the researcher integrated all collected data to develop a comprehensive understanding of students' difficulties in mastering medical vocabulary and their learning needs within vocational health education. The conclusions generated from this process provide an

overview of the current condition of medical vocabulary learning and offer a foundation for developing more effective instructional strategies in health vocational schools.

RESULTS

The findings of this study revealed that students of SMK Medika Pekalongan still experienced considerable difficulties in learning medical vocabulary. The interview, vocabulary test, and questionnaire data consistently indicated that the main difficulties were related to understanding meaning, remembering terms, pronunciation, and spelling. These findings suggest that mastering medical vocabulary requires more than simply memorizing isolated words because students must also understand the meaning and use of the terms within specific medical contexts.

The interview results showed that remembering medical vocabulary was the most dominant difficulty experienced by students. Many participants stated that medical terms were difficult to memorize because they were unfamiliar and rarely encountered in daily communication. Students perceived medical vocabulary as more complex than general English vocabulary due to the technical nature of the terms and their unfamiliar linguistic structures. In addition, several students reported that they often forgot medical terms shortly after learning them because they had limited opportunities to practice and review the vocabulary regularly. This condition indicates that vocabulary retention remains a significant challenge in medical English learning.

The vocabulary test results further illustrated variations in students' mastery of medical vocabulary. As presented in Table 1, students achieved different levels of performance, ranging from very low to very high scores.

Table 1. Vocabulary Test

No	Students Code	Score
1.	M1	30
2.	M2	90
3.	M3	70
4.	M4	80
5.	M5	90
6.	M6	90
7.	M7	50

No	Students Code	Score
8.	M8	90
9.	M9	40
10.	M10	90
11.	M11	90
12.	M12	90
13.	M13	70
14.	M14	60
15.	M15	90
16.	M16	90
17.	M17	70
18.	M18	90
19.	M19	80
20.	M20	80
21.	M21	90
22.	M22	90
23.	M23	90
24.	M24	80
25.	M25	80
26.	M26	60
27.	M27	0
28.	M28	0
28.	M29	0
30.	M30	20

Source: Compiled by the researcher (2026)

Table 1 shows that 13 out of 30 students achieved the highest score of 90, indicating a relatively strong understanding of medical vocabulary among a substantial proportion of participants. However, the presence of students who obtained scores of 30, 20, and even 0 demonstrates that mastery levels were not evenly distributed across the class. These differences suggest that while some students were able to recognize and understand medical terms effectively, others still faced substantial challenges in acquiring medical vocabulary.

The questionnaire findings provided additional evidence regarding the specific areas of difficulty encountered by students. Students generally perceived medical vocabulary as significantly more difficult than general English vocabulary because medical terms often contain technical expressions that are rarely used in everyday communication.

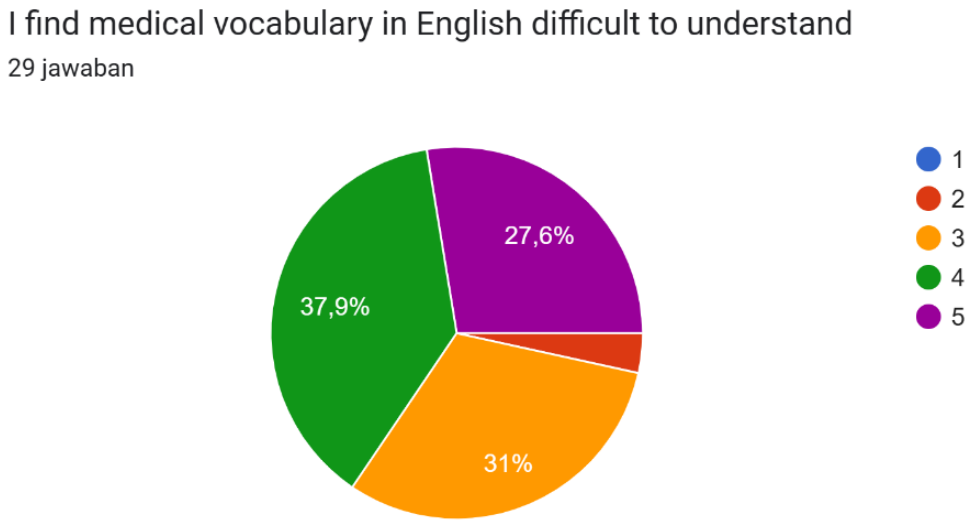


Figure 1. I find medical vocabulary in English difficult to understand

Figure 1 shows that 65.5% of students selected "Agree" and "Strongly Agree," indicating that more than half of the participants experienced difficulties in understanding medical vocabulary. This finding suggests that students often struggle to comprehend medical terminology because many terms are unfamiliar and require specialized knowledge.

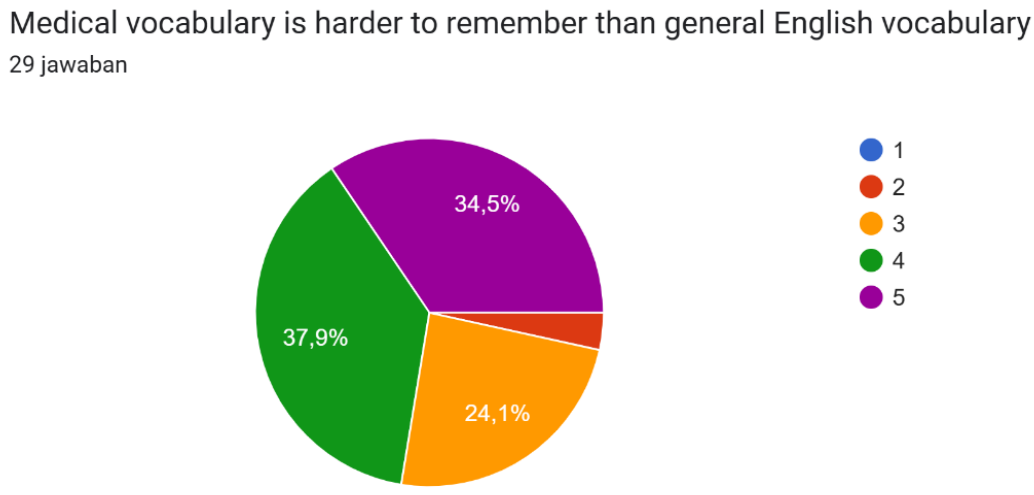


Figure 2. Medical vocabulary is harder to remember than general English vocabulary

Figure 2 shows that 72.4% of students agreed that medical vocabulary was more difficult to remember than general English vocabulary. This percentage reflects the

considerable cognitive demands associated with learning medical terminology, particularly because many terms are lengthy, technical, and rarely encountered outside academic settings.

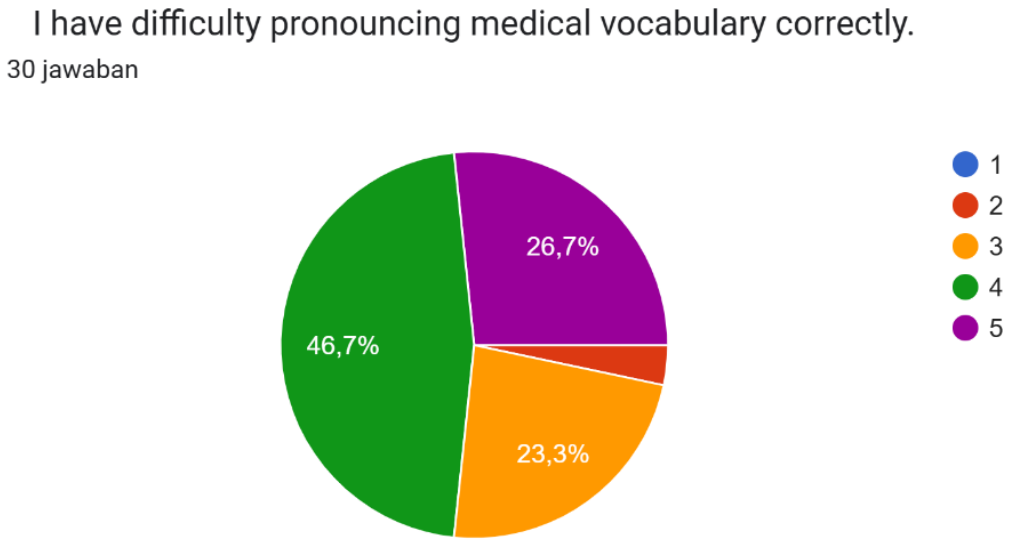


Figure 3. I have difficulty pronouncing medical vocabulary correctly

Figure 3 shows that 73.4% of respondents agreed that pronunciation represented a major obstacle in learning medical vocabulary. Students reported uncertainty when pronouncing medical terms because many words originated from Latin and Greek and often differed considerably between spelling and pronunciation.

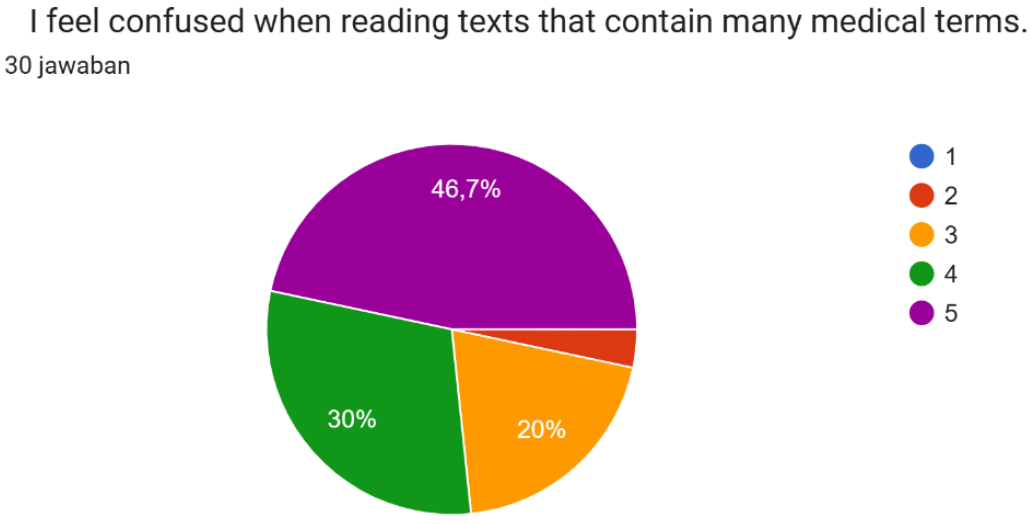


Figure 4. I feel confused when reading text that contain many medical terms

Figure 4 shows that more than 76% of students selected "Agree" and "Strongly Agree." This finding indicates that students frequently encountered difficulties when reading texts containing numerous medical terms because they were unfamiliar with the vocabulary and struggled to interpret the meaning of specialized terminology within context.

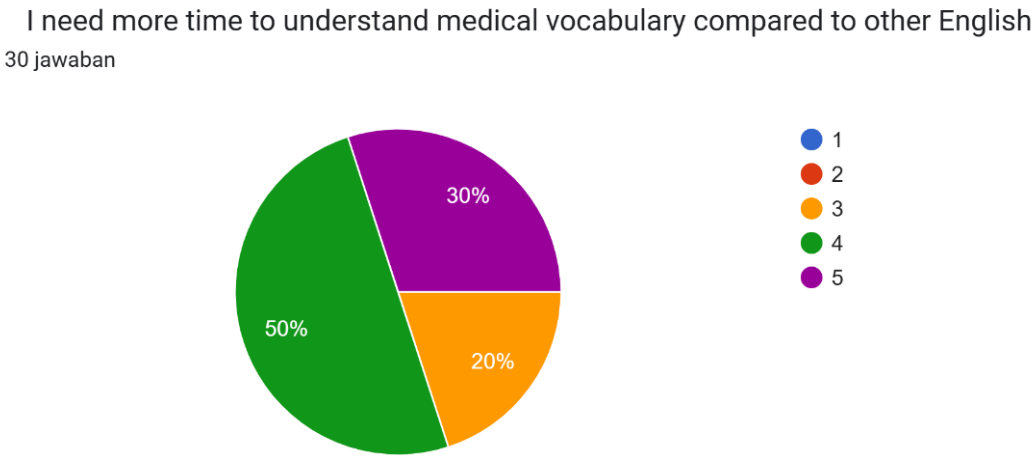


Figure 5. I need more time to understand medical vocabulary compared to other English

Figure 5 shows that approximately 80% of students agreed that medical vocabulary required more time to learn and understand than general English vocabulary. This result indicates that mastering medical terminology demands sustained exposure, repetition, and practice.

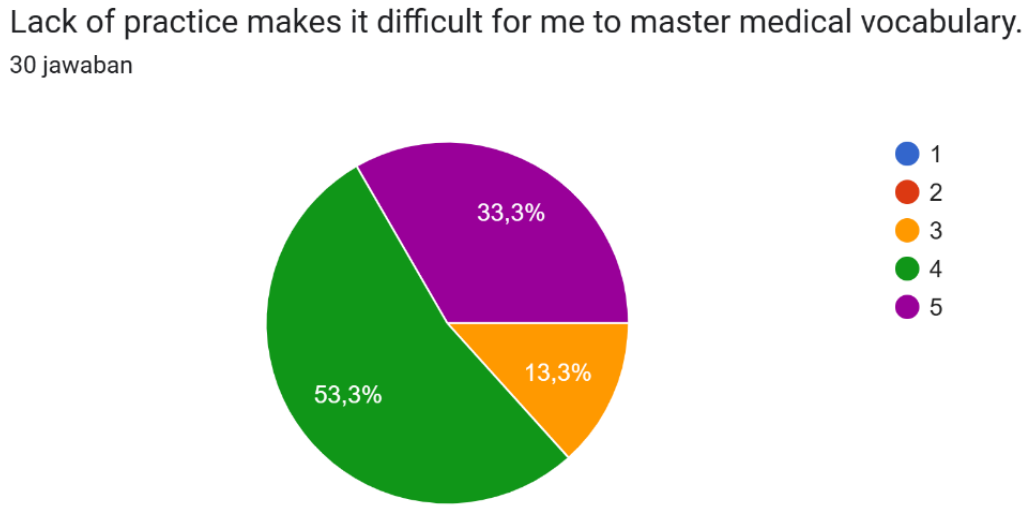


Figure 6. Lack of practice make it difficult for me to master medical vocabulary

Figure 6 shows that 86.6% of students selected "Agree" and "Strongly Agree," representing the highest percentage among all questionnaire items. This finding demonstrates that students perceived insufficient practice as the most significant factor affecting their mastery of medical vocabulary. Without continuous exposure and repetition, students tended to forget medical terms easily and experienced difficulty applying them appropriately.

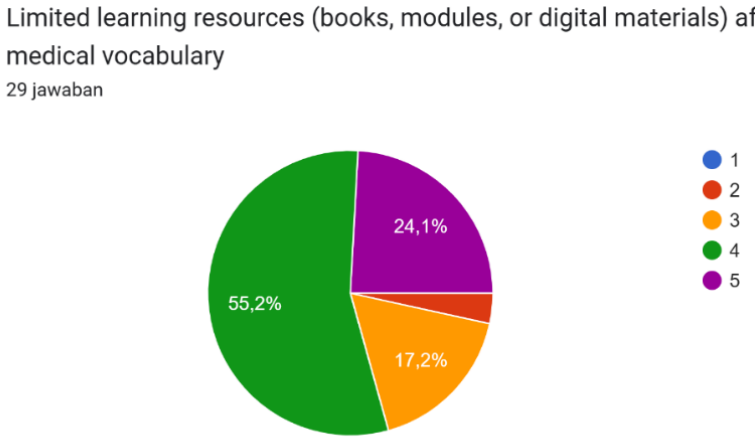


Figure 7. Limited learning resouces affect my understand medical vocabulary

Figure 7 shows that more than 74% of students agreed that limited learning resources negatively influenced their understanding of medical vocabulary. Students indicated that additional resources such as medical dictionaries, educational videos, interactive applications, and supplementary learning materials could facilitate vocabulary acquisition.

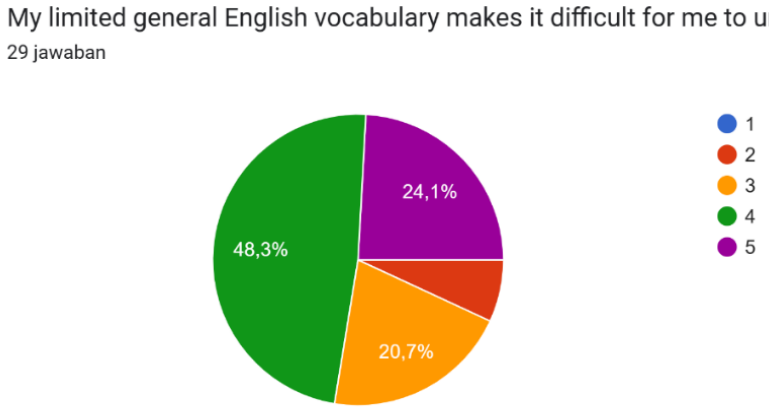


Figure 8. My limited general English vocabulary makes it difficult for me to understand medical vocabulary

Figure 8 shows that the majority of students selected "Agree" and "Strongly Agree," indicating that inadequate mastery of general English vocabulary contributed to difficulties in learning medical terminology. Students who lacked sufficient basic vocabulary often struggled to infer meanings and understand specialized medical expressions.

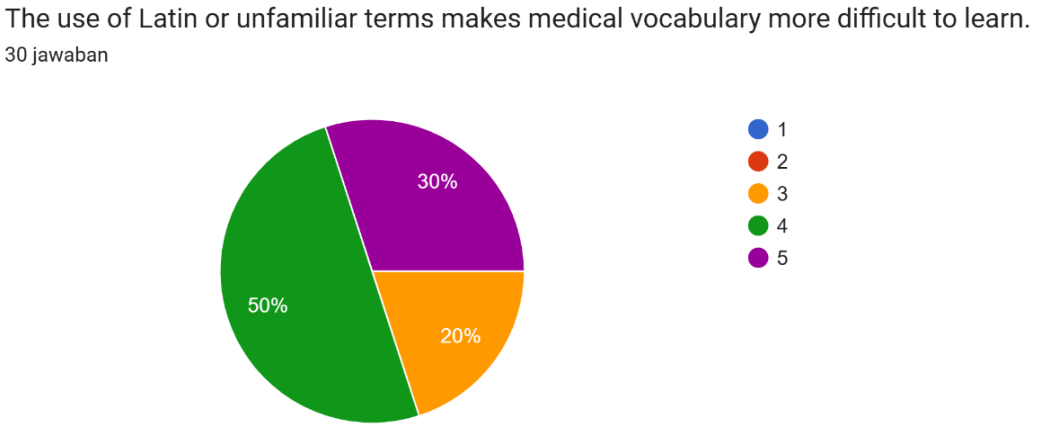


Figure 9. The used or unfamiliar terms makes medical vocabulary more difficult to understand

Figure 9 shows that approximately 80% of respondents agreed that unfamiliar and Latin-based terminology constituted a major obstacle in learning medical vocabulary. Students frequently reported that such terms were difficult to interpret because they differed substantially from the vocabulary commonly used in everyday English communication.

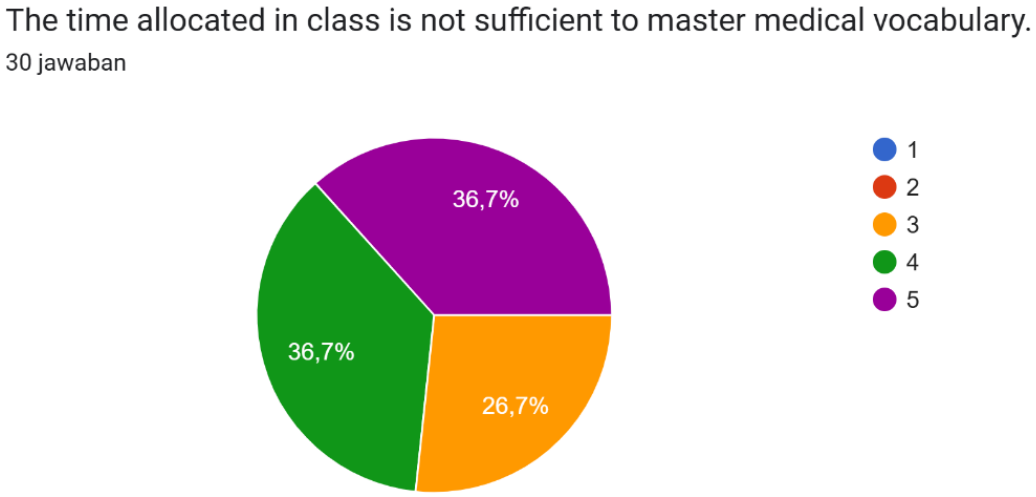


Figure 10. The time allocated in class is not sufficient to master medical vocabulary

Figure 10 shows that more than 73% of students agreed that classroom instructional time was insufficient for learning and practicing medical vocabulary comprehensively. This finding suggests that students require additional opportunities for vocabulary reinforcement both inside and outside the classroom.

Overall, the findings indicate that students' difficulties in learning medical vocabulary stemmed from a combination of linguistic and instructional factors. Medical vocabulary was perceived as challenging because it involved unfamiliar terminology, complex word structures, pronunciation difficulties, and limited opportunities for practice. The results also suggest that students required more contextualized and interactive learning experiences, including visual media, games, repeated exposure, and practical activities related to healthcare contexts. Such approaches may facilitate deeper understanding and longer retention of medical terminology among vocational health students.

DISCUSSION

The findings of this study reveal that eleventh-grade students of SMK Medika Pekalongan still encounter considerable difficulties in mastering English medical vocabulary. These difficulties were reflected consistently across the vocabulary test, questionnaire, and interview results, indicating that the challenges experienced by students are not isolated phenomena but interconnected issues related to the nature of medical terminology and the learning process itself. The primary difficulties identified in this study include understanding the meaning of medical terms, remembering vocabulary, pronunciation, spelling, and comprehending medical texts. These findings directly address the first objective of this study, which was to identify students' difficulties in learning medical vocabulary.

The vocabulary test demonstrated that students possessed varying levels of medical vocabulary mastery. Although several students achieved high scores, a substantial number obtained low scores, resulting in an average score of 67. This finding indicates that medical vocabulary mastery among vocational health students remains inconsistent. Such variation suggests that exposure to medical terminology alone does not automatically lead to vocabulary acquisition. Students who frequently encounter medical terms through classroom activities or independent learning tend to demonstrate higher mastery, whereas those with limited exposure experience greater difficulties. This condition highlights the importance of systematic vocabulary instruction within vocational health education.

The findings further indicate that remembering medical vocabulary constitutes the most dominant challenge experienced by students. Questionnaire results showed that 72.4% of respondents agreed that medical vocabulary is more difficult to remember than general English vocabulary. Interview data strengthened this finding, as most participants reported that medical terms are complex, lengthy, and unfamiliar. This phenomenon can be explained through Cognitive Load Theory proposed by Sweller (1988) as cited by Alazemi et al. (2024), which argues that learning becomes difficult when the amount of information processed exceeds the capacity of working memory. Medical terminology frequently consists of complex lexical structures derived from Latin and Greek roots, requiring students to simultaneously process pronunciation, spelling, and meaning. Consequently, students experience cognitive overload, making retention and recall more difficult.

Another significant finding concerns pronunciation difficulties. More than 73% of students reported difficulties pronouncing medical terms correctly. Interview participants explained that many medical terms are pronounced differently from their written forms, creating uncertainty during oral communication. This finding reflects the linguistic complexity of medical terminology, which often contains unfamiliar phonological patterns. The inability to pronounce medical vocabulary confidently may reduce students' willingness to actively participate in classroom discussions and professional communication practices. Therefore, pronunciation should not be treated as a secondary aspect of vocabulary learning but as an integral component of medical English instruction.

The results also reveal that students experience difficulties in understanding medical texts containing a high density of technical vocabulary. More than 76% of respondents agreed that reading medical texts is confusing because of the large number of unfamiliar terms. This finding suggests that vocabulary mastery extends beyond word recognition and involves the ability to understand vocabulary within specific contexts. According to Nation (2006) as cited by No et al. (2024), vocabulary mastery includes knowledge of meaning, form, and use. Therefore, students' difficulties in reading medical texts indicate limitations not only in vocabulary size but also in contextual vocabulary knowledge.

Several factors contributing to students' difficulties were identified in this study. Lack of practice emerged as the most influential factor, with 86.6% of respondents agreeing that insufficient practice negatively affects their vocabulary mastery. Students also identified limited learning resources, restricted classroom time, unfamiliar Latin-based terminology,

and limited general English vocabulary as major obstacles. These findings suggest that students' difficulties are influenced by both internal and external factors. Internal factors include vocabulary background knowledge and learning habits, while external factors involve instructional practices, learning resources, and educational support systems.

These findings support previous studies emphasizing the importance of specialized vocabulary instruction in vocational education. Reiza et al. (2023) found that nursing vocational students require English materials closely related to their professional field. Similarly, Maulani et al. (2022) reported that vocational students recognize the importance of ESP vocabulary but often receive instruction focused primarily on general English. The present study extends these findings by demonstrating that inadequate exposure to medical vocabulary not only affects students' perceived needs but also influences their actual vocabulary mastery. Furthermore, the results are consistent with Arroyyani et al. (2022), who identified medical and scientific vocabulary as essential yet challenging components of health-related ESP programs.

The difficulties identified in this study also support the findings Machfudi & Afidah (2022), who reported that vocational students commonly struggle with meaning, pronunciation, spelling, and memorization. Likewise, Wulandari & Ulfaika (2022) found that vocational students encounter difficulties related to spelling, pronunciation, grammar, and vocabulary meaning. However, unlike previous studies that focused on general English vocabulary, the current research specifically investigates medical vocabulary within the context of vocational health education. Consequently, this study provides a more contextual understanding of vocabulary learning challenges experienced by students preparing for healthcare-related professions.

The findings have several important implications. Theoretically, this study strengthens the application of ESP and Cognitive Load Theory in understanding medical vocabulary learning among vocational health students. The results demonstrate that vocabulary difficulties are not merely linguistic problems but are also associated with cognitive processing demands and contextual learning needs. Practically, the findings suggest that teachers should adopt more interactive and contextual instructional strategies, including visual media, educational games, simulations, repeated exposure, and hands-on practice using medical equipment. Such approaches may reduce cognitive burden while increasing student engagement and vocabulary retention.

Despite its contributions, this study has several limitations. First, the research was conducted in a single vocational health school, limiting the generalizability of the findings to other educational contexts. Second, the study involved only 36 questionnaire respondents and 10 interview participants, which may not fully represent the diversity of vocational health students. Third, the study relied primarily on descriptive qualitative analysis, meaning that causal relationships between variables could not be statistically examined. Future research may involve larger samples, multiple institutions, and mixed-method approaches to obtain a more comprehensive understanding of medical vocabulary mastery among vocational health students.

Overall, this study demonstrates that mastering medical vocabulary remains a significant challenge for vocational health students. The difficulties identified encompass cognitive, linguistic, and instructional dimensions, indicating that medical vocabulary learning requires specialized pedagogical approaches aligned with students' professional needs. The integration of vocabulary mastery analysis and learning needs analysis represents the primary contribution of this study, providing a more comprehensive foundation for developing ESP-based medical English instruction in vocational health education.

CONCLUSION

This study aimed to identify the difficulties experienced by eleventh-grade students at SMK Medika Pekalongan in learning English medical vocabulary and to examine the factors contributing to those difficulties. The findings revealed that students continued to encounter various challenges in mastering medical vocabulary, particularly in understanding the meaning of medical terms, retaining vocabulary, pronouncing terminology accurately, spelling medical words correctly, and comprehending texts containing a large number of medical terms. Evidence obtained from the vocabulary test, questionnaire, and interviews consistently indicated that medical vocabulary was perceived as more difficult than general English vocabulary due to its complex structure, the extensive use of Latin and Greek-derived terminology, and its limited use in everyday communication.

The study further demonstrated that students' difficulties were influenced by several interrelated factors, including insufficient practice and repetition, limited learning resources, inadequate mastery of general English vocabulary, unfamiliarity with medical terminology, and limited instructional time. These findings provide a clear answer to the research

objectives by showing that students' challenges in learning medical vocabulary are associated not only with the inherent complexity of medical terms but also with instructional and learning-related factors that affect vocabulary acquisition.

The primary contribution of this study lies in its comprehensive examination of both medical vocabulary mastery and students' learning needs within the context of vocational health education. Unlike previous studies that primarily focused on needs analysis or general vocabulary difficulties, this research integrates the analysis of medical vocabulary difficulties with the identification of learning needs in an English for Specific Purposes (ESP) context. Consequently, the study contributes to the theoretical development of ESP and medical vocabulary learning while also providing practical insights for educators and educational institutions seeking to improve English instruction for vocational health students.

The implications of the findings suggest that medical vocabulary instruction should be designed using more contextualized, interactive, and profession-oriented approaches. The incorporation of visual media, hands-on activities involving medical equipment, game-based learning, and systematic repetition may enhance students' ability to understand and retain medical terminology. Furthermore, the development of ESP-based instructional materials tailored to vocational health contexts is essential for supporting students' academic achievement and professional readiness.

Based on the findings, students are encouraged to engage in regular vocabulary practice and utilize diverse learning resources to strengthen their medical vocabulary knowledge. Teachers are advised to implement more varied instructional strategies and provide greater opportunities for practical vocabulary use. Future research should involve larger participant groups, include multiple educational institutions, and employ alternative methodological approaches to generate a broader and more comprehensive understanding of medical vocabulary mastery among vocational health students.

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