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DIFFICULTIES AND STRATEGIES IN LEARNING ENGLISH AND FRENCH MEDICAL TERMINOLOGY: A SURVEY STUDY OF FIRST-YEAR STUDENTS AT A MEDICAL UNIVERSITY IN VIETNAM

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Abstract: *This study aimed to determine the difficulties of medical first-year students as well as their strategies in learning English and French medical terminology. A survey study was conducted on 250 first-year medical students who were enrolled at a medical university in Vietnam. Questionnaires and semi-structured interviews were carried out to categorize the difficulties encountered by the students (lack of medical resources, low level of proficiency, limitations in studying time, ineffectively learning strategies, unawareness of starting point, motivation, and nature of medical terminology) and their strategies in learning medical terminology (discovery strategies, consolidation strategies, surface, and deep learning strategies). The findings indicated that difficulties and strategies were not the same for every student. Teachers' awareness of the various difficulties and learning strategies that medical students have coped with may help in creating an effective learning environment for all the students in English/French medical classes.*

Keywords: *Medical terms, learning strategies, medical English, medical French*

INTRODUCTION

Learning a foreign language in general and medical English/French terms requires students to have an essential background of the language and knowledge of the majors they are studying. In addition, English for specific purposes (ESP) is usually misunderstood. Therefore, medical students encounter particular challenges in achieving terms in their first year of the course.

This research investigates difficulties and strategies in learning English and French medical terminology of first-year students at a medical university in Vietnam to help students learn English and French medical terms and adjust teachers' methodology appropriately. The study will answer the two following questions:

1. What are the difficulties in learning English and French medical terms?

2. What are strategies for learning English and French medical terms?

LITERATURE REVIEW

This section will review the relevant literature about the critical concepts of terms, medical terms, learning strategies, medical English, and medical French. Additionally, we will explore the theoretical frameworks that underpin language learning in the medical context. Furthermore, we will summarize, compare, and analyze previous studies on the difficulties and strategies in learning English/French medical terminology and highlight existing research gaps.

Key concepts

Medical terminology and medical terms

Terms are words that refer to specialized vocabulary used within a specific domain or profession, such as the medical field. These terms often have precise meanings and are essential for effective communication and understanding within that particular domain.

According to Maratka (1991), medical terminology is used in medical education and training to identify and distinguish ideas, ensure mutual understanding, and enable computerization of medical records. For these specific roles, medical terms are crucial for precise communication in healthcare, aiding accurate diagnoses and treatment. (Derevianchenko *et al.*, 2018).

A working definition for this research by inheriting and supplementing the definitions from previous researchers was proposed as follows: Medical terms encompass a specialized vocabulary used by healthcare professionals to describe medical conditions, procedures, anatomical structures, and treatments. Proficiency in medical terminology is fundamental for accurate diagnoses and effective communication in the medical setting.

Learning strategies

According to Argentieri *et al.* (2018), learning strategies are organized tasks used by students to achieve learning goals effectively. There are four main trends of learning strategies: social strategies, cognitive strategies, metacognitive strategies and affective strategies.

Social strategies involve interaction with others to aid learning, such as collaborative learning, peer tutoring, and discussion groups. (Vygotsky, 1978).

Cognitive strategies are various techniques learners use to manipulate incoming information to enhance learning, for example: summarizing, highlighting, underlining, questioning, and using mnemonic devices. (Weinstein & Mayer, 1986).

Metacognitive strategies are approaches where learners actively monitor and regulate their learning processes such as planning, setting goals, organizing materials, monitoring comprehension, and evaluating progress (Efklides, 2011).

Affective strategies relate to managing emotions and attitudes toward learning, including strategies to cope with anxiety, frustration, and boredom. (Pekrun & Linnenbrink-Garcia, 2012)

In conclusion, learning strategies are learners' techniques and approaches to acquire and retain new information effectively. In medical terminology learning, these strategies play a crucial role in facilitating language acquisition and comprehension.

Previous studies

Fang (1985) compares two learning strategies for medical terminology: analyzing affixes and roots versus understanding sound and script relationships. Initial findings favor the former, indicating its efficacy in promoting better learning outcomes.

Vecchiato and Gerolimich (2013) delve into the complex nature of medical language, highlighting its efficiency in conveying dense information among specialists. However, they note potential barriers between professionals and laypeople due to excessive complexity, introducing the concept of hyper-complexity.

Khan (2016) adopts a descriptive approach to explore hospital professionals' struggles with medical vocabulary. The study reveals challenges such as borrowings from Greek and Latin, complex root words, and difficulties with abbreviations, emphasizing the need for tailored training.

Fabry and Giesler (2012) identify learning patterns among novice medical students, categorizing them into four groups. They find that flexible learners, employing diverse strategies, exhibit better preparation and performance in medical education.

Yang (2012) investigates learning strategies among Taiwanese nursing majors, identifying six categories. Successful learners utilize various strategies, with proficiency level influencing strategy usage, particularly in determination, memory, cognitive, and metacognitive categories.

Stegers-Jager, Cohen-Schotanus, and Themmen (2012) examine motivational beliefs, learning strategies, and participation's impact on medical school performance. Their findings highlight the mediating role of participation in the relationship between motivation, learning strategies, and academic achievement.

Research gap

Despite the extensive literature on medical terminology learning, several gaps persist. On the one hand, there is little research specifically focusing on the challenges and strategies related to learning medical terms among first-year medical students in Vietnamese universities. On the other hand, there needs to be more comparative studies examining the difficulties encountered by students learning medical terminology in both English and French contexts, which could offer valuable insights for language instructors and curriculum development.

METHODOLOGY

Context and participants

This study was conducted on a group of 250 first-year medical students specializing in general medicine at a medical university in Vietnam. This group of students includes both males and females, aged 18-22, from various provinces and cities in Vietnam, with varying levels of English proficiency. Before starting their first academic year, these students took an English proficiency placement test, based on which they were placed into different classes. Students with the highest English scores are placed in the first classes, while those with lower scores are placed in subsequent ones in order of class names from A to K (classes A, B, C being for students with better scores than classes D, E, F, G, H, I, K).

In the general practitioner's training program, English is considered a compulsory subject, but not the main subject, given that this is an English non-major university. General English is taught in two language courses: Foreign Language 1 and Foreign Language 2 (3 credits/45 sessions per course) in the first academic year. After that, students study one specialized language course in Medicine each year (1 credit/15 sessions per course).

The foreign language proficiency standard for the general practitioner medical university program is level B1 according to the Common European Framework of Reference for Languages (CEFR). Therefore, the English teaching program also follows the English curriculum to achieve B1 proficiency, using the Life series by National Geographic (Vietnam edition).

This cohort offers a distinct opportunity to analyze challenges and strategies. As they all begin their language acquisition journey within a medical university, any differences observed can be ascribed to curriculum-specific influences rather than inherent language proficiency disparities. Additionally, by choosing first-year students, biases from prior exposure to medical terms are minimized, ensuring a more precise evaluation of the learning environment's effects.

Design of the study

The research design is methodically crafted to discern and comprehend the linguistic challenges faced by the participants. A multifaceted approach combining online surveys and semi-structured interviews was employed to obtain a comprehensive dataset. The online survey, meticulously designed using Google Forms, served as an efficient means of collecting quantitative data. Disseminated electronically allowed participants to respond at their convenience, optimizing engagement and data accuracy. Complementing this, semi-structured interviews conducted in the participant's native language, Vietnamese, were chosen for their ability to elicit rich, nuanced responses. These interviews were conducted at a personal and conversational level to unravel deeper insights into the students' experiences.

Data collection and analysis

Upon completion of the data collection phase, a meticulous process of organization and analysis ensued. Data from the online survey, housed in Google Forms, was extracted and subjected to preliminary processing using Excel. The quantitative aspects, including responses to closed-ended questions, underwent scrutiny via descriptive statistics, illuminating trends and patterns in the participants' encountered difficulties and employed learning strategies.

Qualitative data harvested from the semi-structured interviews underwent a distinct process. Initially transcribed in Vietnamese to retain the authenticity of participants' expressions, the data was subsequently translated into the primary research language (e.g., English). This translation facilitated broader accessibility for the analysis, ensuring a seamless integration of qualitative insights with the overall research findings.

Stringent measures were implemented throughout the analysis to safeguard participant privacy and confidentiality. Each participant received a unique identifier, preserving anonymity in reporting results. The research team, unwaveringly committed to ethical standards, secured informed consent from all participants before data collection. This moral foundation underscores the reliability and integrity of the study outcomes.

FINDINGS

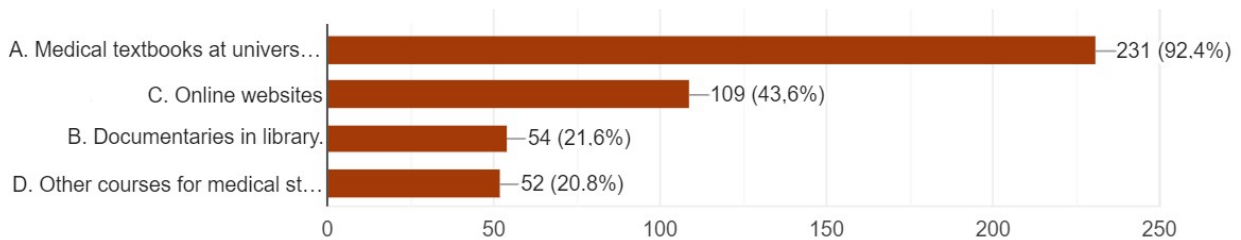### Difficulties in learning English and French medical terms

Figure 1. Difficulties in approaching resources of English/French medical terms

The study showed the diverse array of resources students utilized for acquiring proficiency in English/French medical terms, revealing intriguing patterns and preferences. The figure indicated that most students (92.4%) relied on their medical textbooks at the university as the primary source for learning English/French medical terms. The figure suggested that course materials played a crucial role in their language acquisition process. The inclination towards prescribed textbooks signifies not just a preference but a substantial trust in the structured curriculum, emphasizing the influence of institutional resources on their language learning journey. Additionally, a considerable number of students (21.6%) turned to documentaries in the library, while 43.6% accessed online websites for supplementary learning resources, demonstrating a trend for online resources and accessing websites to supplement their understanding of English/French medical terms. This surge in online engagement reflects an evolving educational landscape, where students harness the vast information on the internet to augment their linguistic proficiency. Only 20.8% sought other courses specifically for medical students, indicating a proactive approach to enhancing their language proficiency. This minority's deliberate choice signifies an awareness of the need for comprehensive and targeted language proficiency development. The pursuit of specialized courses indicates a recognition among students that supplementary education, beyond standard university offerings, can contribute significantly to their mastery of medical language.
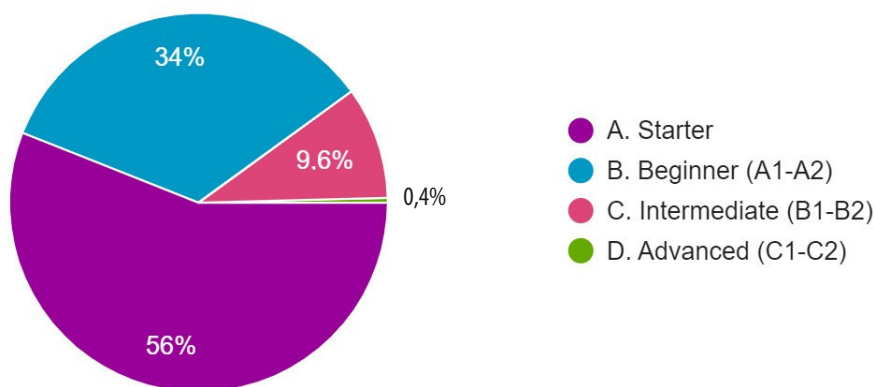

Figure 2. Students' level of proficiency in English/French medical terminology

The findings revealed a diverse range of proficiency levels in English/French medical terminology among the first-year medical students. While 56% of students were at the Starter level, a significant portion (34%) filled under the beginner category. A smaller proportion demonstrated an intermediate level of proficiency (9.6%), and only a negligible percentage (0.4%) reached an advanced level. These results indicated the need for tailored language instruction to address the different proficiency levels among the students.

These findings also illuminated the inherent diversity in language proficiency among first-year medical students, emphasizing the necessity for tailored language instruction. The prevalence of students at the Starter and beginner levels underscored the importance of foundational language support, ensuring a solid linguistic base for all. Simultaneously, intermediate and advanced proficiency levels accentuate the need for more advanced and specialized language instruction to challenge and enhance the skills of those with a more developed linguistic foundation. Addressing this spectrum of proficiency levels through targeted language interventions is imperative to foster an inclusive and effective learning environment for all students.
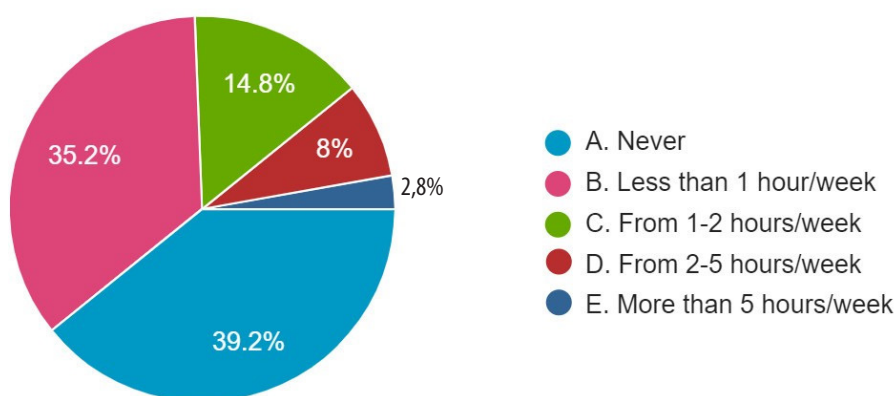

Figure 3. Frequency of studying English/French medical terms

Figure 3 unraveled the varying frequency at which first-year medical students study English/French medical terms, shedding light on critical aspects of language learning habits within the cohort. A notable portion of students (8.0%) reported never studying medical terms, which raised concerns about their language engagement and preparation for medical studies. Meanwhile, most students (39.2%) invested 1-2 hours per week in learning medical terminology, suggesting a consistent effort. However, 35.2% studied for less than 1 hour per week, and 14.8% devoted 2-5 hours per week. Only a tiny percentage (2.8%) dedicated more than 5 hours per week to language learning. These findings highlighted the importance of promoting consistent and dedicated language learning practices among students.

These findings underscore the importance of promoting consistent and dedicated language learning practices among students. The notable percentage of students with minimal or no engagement emphasizes the need for targeted interventions to cultivate a culture of regular language study. Encouraging students to invest time in language acquisition, particularly within medical terms, is crucial for ensuring comprehensive understanding, effective communication, and success in their medical studies. The findings serve as a call to action for educators and

institutions to implement strategies that foster a sustained commitment to language learning among the student body.
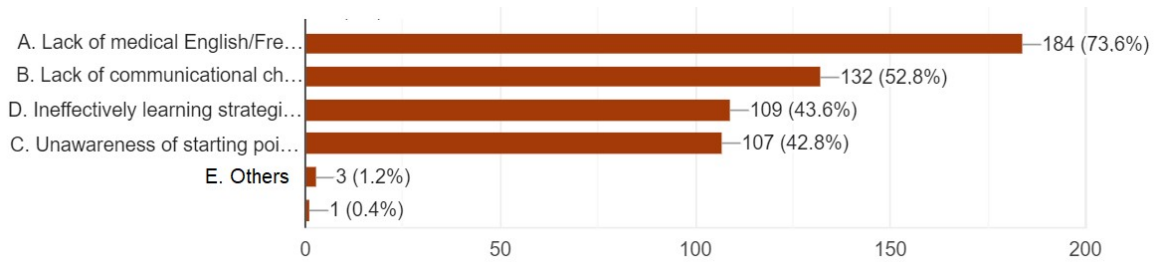
Others: Unable to remember (1.2%)

No answer (0.4%)

Figure 4. Challenges in learning English/French medical terminology

The challenges encountered by students in learning English and French medical terminology were identified through the survey. A significant proportion (73.6% or 184 students) indicated a lack of medical English/French vocabulary as a considerable difficulty, hindering their comprehension and communication in medical contexts. Moreover, 52.8% (132 students) expressed limited opportunities for communication practice, which might affect their fluency and language confidence. Additionally, 42.8% (107 students) reported struggles in initiating and structuring their language learning process, emphasizing the need for more explicit guidance and effective learning strategies. Furthermore, 43.6% (109 students) acknowledged the presence of ineffective learning strategies, emphasizing the importance of fostering adaptive and efficient learning techniques.
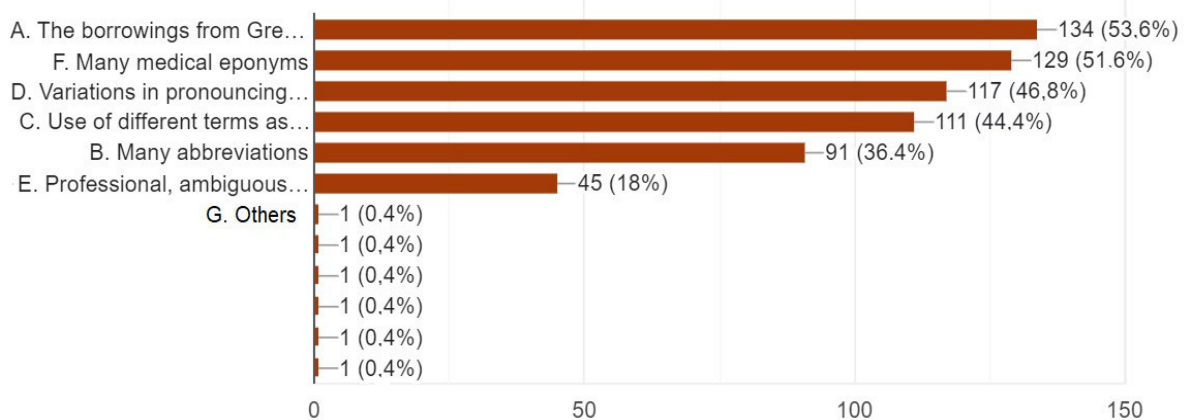
Others: Nothing (0.4%)

Unable to approach foreign materials (0.4%)

Social media (0.4%)

Not allowed to use regularly (0.4%)

Easy to forget due to rarely use (0.4%)

Nothing (0.4%)

Figure 5. Learners' difficulties in studying medical English and French terminology

In the survey, participants shared their opinions on specific difficulties in studying medical English and French terminology. 53.6% found the borrowings from Greek and Latin particularly

challenging, suggesting the complexity of medical terms derived from these languages. Additionally, 36.4% were perplexed by the numerous abbreviations used in medical terminology, indicating the necessity for comprehensive explanations and contextual understanding. Furthermore, 44.4% encountered difficulties when multiple terms were used interchangeably as options, emphasizing the importance of precise language usage in medical contexts. Moreover, 46.8% reported variations in pronouncing medical words as a challenge, underscoring the importance of clear and consistent pronunciation guidance. Other challenges include the ambiguity of professional medical textbooks, the prevalence of medical eponyms, and various environmental factors. These findings highlighted the multifaceted difficulties students face while learning medical terminology.

1. Most difficult

2. Difficult

3. Normal

4. Easy

5. Easiest
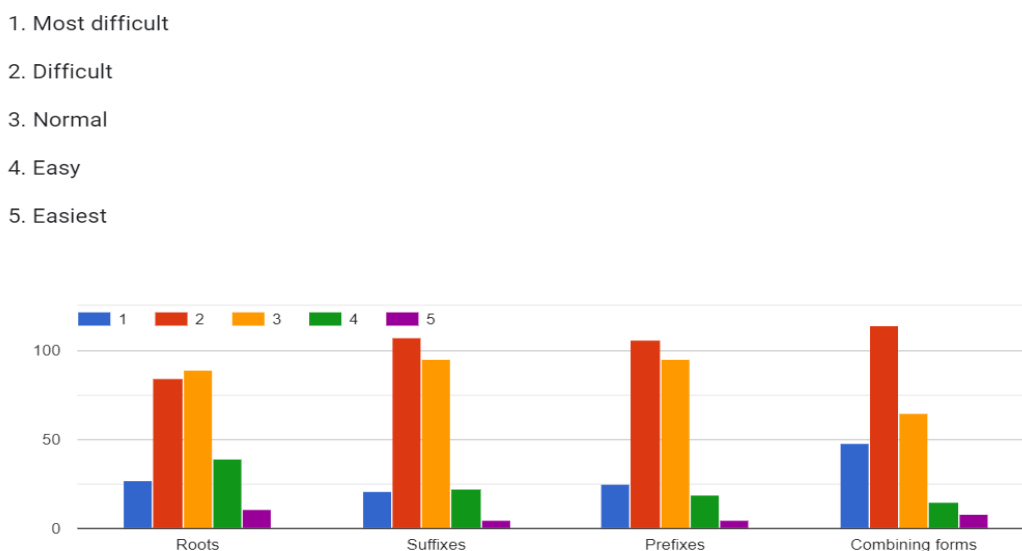
Figure 6. Difficulties in studying parts of medical terms

To determine the specific parts of medical terms that students found difficult to study, the survey asked students to rank them from 1 (most difficult) to 5 (least difficult). The findings showed that combining forms were perceived as the most challenging part (ranked 1st), followed by prefixes (ranked 2nd), suffixes (ranked 3rd), and roots (ranked the least difficult). These results indicated that affixes and combining forms presented more complex medical terms for students, possibly due to their specific grammatical and semantic functions.

Strategies for learning English and French medical terms

Figure 7. Methods of learning new medical English/French terms

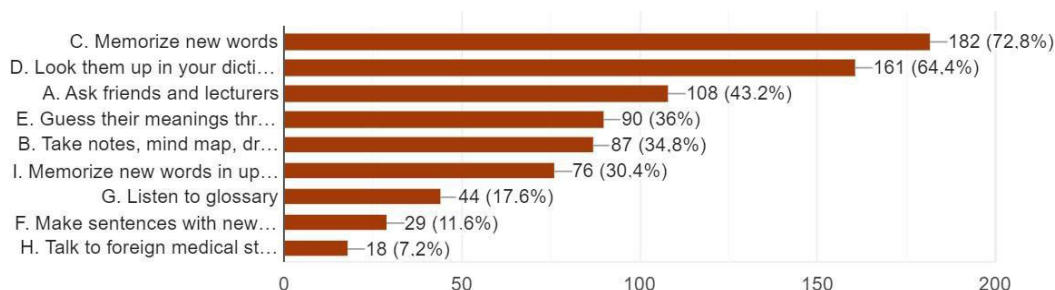Survey results on medical English/French term learning revealed diverse student strategies. 43.2% (108 students) preferred collaborative approaches, seeking help from friends and teachers. 34.8% utilized cognitive methods, like note-taking and mind mapping, for visual learning. Memorization was essential for 72.8%, emphasizing the importance of rote learning. Resourcefulness was evident in 64.4% who used dictionaries. 36% inferred word meanings from context, showcasing their skills. Active learning practices included making sentences (11.6%) and listening to categories (17.6%). Exposure to authentic medical language contexts was valued by 7.2% through interactions with foreign medical staff. Additionally, 30.4% employed metacognitive strategies, aligning with lesson progress for a strategic approach to language learning.
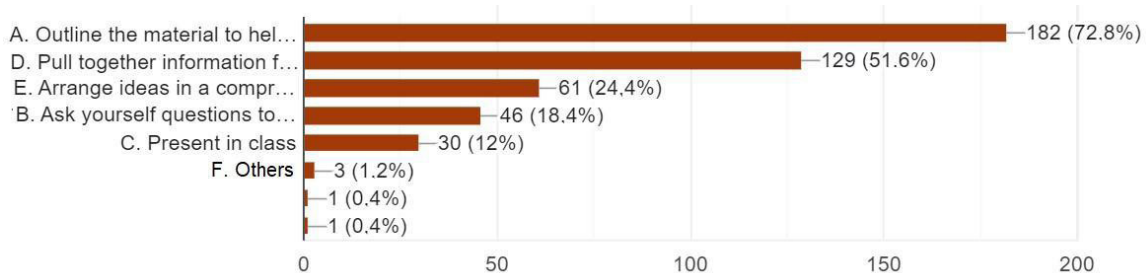
Others: Nothing (1.2%)

            Look up in the dictionary and learn (0.4%)

            Memorize new words (0.4%)

Figure 8. Strategies for learning texts relating to medical English/French terms

Regarding learning texts related to medical English/French terms, a significant proportion (72.8%) preferred cognitive strategies, such as outlining the material to aid in organizing their thoughts, indicating a structured and systematic approach to comprehending complex medical texts. Moreover, 18.4% utilized metacognitive strategies by asking themselves questions to ensure understanding of the content, showcasing their reflective learning practices. Additionally, 12% employed metacognitive strategies by presenting in class, indicating an active engagement in knowledge dissemination. Furthermore, 51.6% used resource-oriented techniques by consolidating information from various sources such as lectures, readings, and discussions, demonstrating their ability to integrate knowledge from diverse learning experiences. Additionally, 24.4% adopted motivational strategies by arranging ideas comprehensively and interestingly to facilitate easy recall, emphasizing the role of personal motivation in effective learning. A small proportion employed other techniques, such as learning the text directly or finding content in dictionaries, suggesting individualized learning approaches.

In the pursuit of high scores during final exams in English/French medical terminology, a substantial majority of students (62%) revealed a preference for deep learning strategies, showcasing an inclination towards comprehensive understanding and the development of a profound grasp of medical language concepts. This approach emphasizes a strategic focus on the intricacies of the subject matter, promoting meaningful comprehension beyond mere memorization. In contrast, 38% of students opted for surface learning strategies, indicating a more superficial approach that centers on memorization without delving into a deeper understanding of the material. These

findings illuminate a critical aspect of the student's study habits, underscoring the significance of promoting deep learning strategies within the academic framework. Encouraging students to engage with the material at a conceptual level not only enhances their understanding but also facilitates the practical application of medical terminology in clinical contexts. The study advocates for a pedagogical approach that cultivates a robust foundation of knowledge, aligning with the broader goal of fostering well-rounded and proficient medical practitioners.
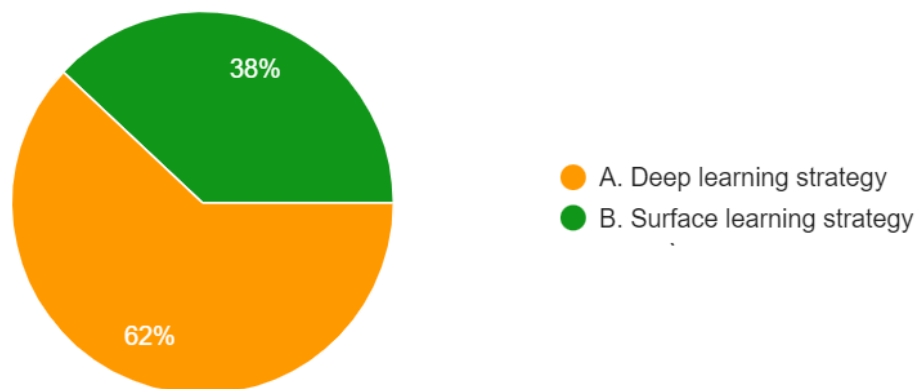

Figure 9. Strategies to get high scores in the final exams

DISCUSSION AND CONCLUSION

In essence, this research aimed to unravel the intricacies of learning English and French medical terminology among first-year medical students at a university in Vietnam, shedding light on both challenges and adopted learning strategies. The identified difficulties, stemming from subjective and objective factors, unveiled a multifaceted landscape of hurdles. From language proficiency issues and limited self-study time to ambiguous resources and variations in pronunciation, the obstacles were diverse and nuanced. Combining forms emerged as particularly challenging, surpassing prefixes, suffixes, and roots in complexity.

On the flip side, the exploration of learning strategies showcased a mosaic of student approaches. From social and discovery strategies to cognitive tactics and determination, memorization took precedence, with 72.8% of students relying on this method. Furthermore, the study revealed a noteworthy split in learning approaches, with 62% opting for deep learning strategies and 38% embracing surface learning to achieve their academic goals.

The findings align with previous research conducted by Khan (2016) indicating that medical terms are difficult because these are originally not English but borrowed from other languages like Greek and Latin.

While abbreviations represent a difficulty for 36,4% of the students in this present study, they pose problems to a larger number of participants (73.3%) in the research of Khan (2016). Also, the findings showed that combining forms were perceived as the most challenging part (ranked 1st), followed by prefixes (ranked 2nd), suffixes (ranked 3rd), and roots (ranked the least difficult) for students. In contrast, roots were the most difficult to learn and prefixes were easier to learn than roots for most of the participants (more than 70%) in Khan's study (2016).

The findings also highlighted the importance of learning strategies used by students to overcome the difficulties in learning medical terminology. These strategies were various, and all four strategies mentioned in previous studies were presented: social strategies, cognitive strategies, metacognitive strategies, and affective/emotional strategies.

In conclusion, these findings hold substantial implications for students, teachers, and researchers in the medical education realm. Students can leverage the reported strategies to enhance their language proficiency, while teachers can tailor their instructional methods to address specific difficulties and foster engagement. The research also paves the way for future investigations, encouraging researchers to delve deeper into the complexities of language learning within the medical domain, potentially expanding the scope beyond the confines of a single university.

Despite the valuable insights gained, it is essential to acknowledge the study's limitations, primarily its focus on a singular university and reliance on self-reported data. To broaden the scope and enhance the robustness of future research, exploring difficulties and strategies across diverse academic settings and conducting longitudinal studies would provide a more comprehensive understanding of long-term effectiveness.

Furthermore, the qualitative dimension remains untapped, and future research could delve into the experiences of instructors and healthcare professionals, offering nuanced perspectives for curriculum development and clinical practice. By embracing a broader lens, the medical education community can refine teaching methodologies and bridge the gap between language proficiency and effective healthcare communication, ultimately enhancing patient care.

In conclusion, this study serves as a beacon illuminating the challenges and strategies inherent in learning medical terminology among first-year medical students in Vietnam. Addressing these challenges can mold proficient medical professionals, ultimately elevating the standards of healthcare communication and patient care. As language proficiency proves to be a cornerstone in the medical field, this research contributes significantly to the ongoing improvement of medical education and language teaching methodologies. Advocating for larger survey cohorts and establishing trust with participants emerge as critical elements in pursuing more accurate and comprehensive results in future investigations.

REFERENCES

Argentieri, A., Culacciati, C. B., Basterrechea, L.T., Squassi, A., Salgado, P.A., Bordoni, N. (2018). Student learning strategies according to years spent studying for a degree in dentistry. *Acta Odontol Latinoam*, 32(2), 111

Derevianchenko, N., Lytovska, O., Diurba, D., Leshchyna Kharkiv, I. (2018). Impact of medical terminology on patients' comprehension of healthcare. *Georgian Medical News*, 01 Nov 2018, 159-163

Efklides, A. (2011). Interactions of metacognition with motivation and affect in self-regulated learning: The MASRL model. *Educational Psychologist*, 46(1), 6-25.

Fabry, G. & Giesler, M. (2012). Novice medical students: Individual patterns in the use of learning strategies and how they change during the first academic year. *GMS Zeitschrift für Medizinische Ausbildung* , 29(4)

Fang, F. S. (1985). The investigation and evaluation of the teaching methods on medical terminology. *Second National Conference on TESOL*, Taipei, Taiwan, R.O.C.

Khan, I.A. (2016). Difficulties in Mastering and Using English for Specific Purpose (Medical Vocabulary): A Linguistic Analysis of Working Saudi Hospital Professionals. *International Journal of Education*, 8(1)

Maratka, Z. (1991). The role of terminology in medical education and training. *Scandinavian Journal of Gastroenterology,* 189, 30-31

Pekrun, R., & Linnenbrink-Garcia, L. (2012). Academic emotions and student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 259-282). Springer.

Stegers-Jager, K. M., Cohen-Schotanus, J. & Themmen, A. P. N. (2012). Motivation, learning strategies, participation and medical school performance. *Medical Education*, 46, 678–688. DOI:10.1111/j.1365-2923.2012.04284

Vecchiato, S. & Gerolimich, S. V. (2013). La langue médicale est-elle « trop complexe»?. *Nouvelles perspectives en sciences sociales*, 9(1), 81–122. https://doi.org/10.7202/1024039ar

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Weinstein, C. E., & Mayer, R. E. (1986). The teaching of learning strategies. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 315-327). Macmillan.

Yang, M. N. (2005). Nursing Pre-professionals' Medical Terminology Learning Strategies. *Asian EFL Journal*, 7(1)

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