# Unlocking Success: Exploring Diverse Learning Habits in Medical English Language Acquisition

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DOI: 10.56177/red.10.2024.art.2

## Abstract

This study investigates the varied learning preferences among dentistry and medicine students in a single higher education centre regarding medical English language acquisition. Through a detailed survey, students' inclinations towards different learning methods for mastering medical English vocabulary and concepts were examined. The findings reveal a diverse spectrum of learning preferences, including visual aids, interactive exercises, collaborative learning, and technological integration. Notably, the research highlights the importance of tailoring teaching strategies to accommodate individual learning styles, emphasising the value of using technology and real-world medical contexts in language learning activities.

**Keywords:** medical English; language learning; learning preferences; vocabulary acquisition; technology integration.

**JEL Classification:** I20, I21, I23

## 1. Introduction

English for Specific Purposes (ESP) refers to the teaching and learning of English language skills in a specific context or field, tailored to the needs of learners in that particular discipline (Hutchinson & Waters, 1987). Unlike General English courses, ESP focuses on developing language proficiency and communication skills relevant to professional or academic domains such as medicine, engineering, business, or tourism. ESP courses typically emphasise the vocabulary, discourse, and communicative functions specific to the target field, aiming to equip

learners with the language tools necessary for effective communication within their professional contexts (Dudley-Evans & St John, 1998).

In the ever-evolving landscape of medical education, proficiency in Medical English (ME) language skills is paramount for students pursuing careers in healthcare fields. Mastery of ME not only facilitates effective communication within healthcare settings, but it also ensures comprehension of complex medical concepts and literature. Central to the pursuit of linguistic competence is the acknowledgement of diverse learning preferences among students, each with unique approaches and strategies for language acquisition. Understanding and catering for these individual preferences are imperative for educators seeking to optimise teaching methodologies and enhance student engagement and proficiency. From visual learners who thrive on diagrams and illustrations to auditory learners who absorb information through discussions and lectures, each student brings a distinctive set of preferences and strengths to the learning environment. Whether through interactive exercises, technology-enhanced learning tools, or real-world case studies, educators have the opportunity to engage students in meaningful learning experiences that align with their interests and aspirations.

In an increasingly interconnected world, acquiring ME is not merely about mastering a language, it is about equipping students with the linguistic skills and cultural competence necessary to excel as competent, compassionate, and globally-minded healthcare professionals. ME plays an important role in training medical professionals due to various factors. First of all, medicine is a global field where professionals often collaborate across borders. Proficiency in ME enables students, the future professionals, to communicate effectively with peers, patients, and colleagues from diverse linguistic backgrounds, facilitating collaboration and exchange of medical knowledge. Secondly, a tremendous amount of medical literature, research papers, and academic resources are published in English. Mastery of ME grants students access to a vast repository of essential and accurate information, allowing them to stay updated with the latest advancements in their field, and contribute to the global discourse on healthcare. Thirdly, ME provides a standardised language for communicating complex medical concepts and terminologies. This is particularly important in medical practice, where precise communication is essential to ensure accurate diagnoses, treatment plans, and patient care. For Romanian students, the shared Latin roots between Romanian and English can facilitate understanding medical terminology. For

Hungarian students, although Hungarian has its own unique terminology, learning ME can help bridge any gaps and enhance comprehension. Lastly, in an era in which not only is medical education internationalised (Lako, 2019), but also medical tourism is on the increase, proficiency in ME ensures clear and accurate communication, reducing the risk of misunderstandings, errors, and adverse outcomes.

## 2. Literature Review

Findings of the study by Khamitova, Mukhtarkhanova, and Zarkesheva (2019) reveal that ESP teachers consider vocabulary teaching essential for future specialists to understand and communicate in their professional domains. Nevertheless, some textbooks lack vocabulary tasks, and teachers often develop their own materials. Various vocabulary teaching techniques are employed, including identifying word types, context-based guessing, and using vocabulary cards. Lack of opportunities to use English outside the classroom is identified as a challenge for students in vocabulary acquisition. Moreover, students acknowledge the importance of learning ESP vocabulary, but they are oftentimes dissatisfied with their current vocabulary proficiency, indicating a preference for vocabulary learning styles, such as using vocabulary cards and learning words in context.

In the field of English for medical purposes (EMP), Šelmić (2021) discusses the application of the case study approach in teaching EMP, emphasising its effectiveness in integrating language learning with medical knowledge. Her paper explores how case studies aid in developing critical thinking, reflective learning, and communicative skills among students. The advantages of this approach include its practicality in preparing students for real-world medical scenarios and its facilitation of cooperative learning and teamwork.

Pavel (2020) examined the intricacies of academic motivation and learning strategies among students studying EMP. The questionnaire-based research conducted among undergraduate medical students analysed their motivation and learning strategies, the results indicating moderate to high motivation levels, with intrinsic motivation slightly outweighing extrinsic motivation. Pavel's analysis also revealed correlations between motivation levels and the use of learning strategies, suggesting that highly motivated students employ more complex strategies.

The author suggests that understanding students' motivation and employing tailored teaching strategies are vital for improving language competencies in medical students. She emphasises the need for continuous exposure to specialised vocabulary and engaging speaking activities to contextualise medical terminology effectively. Additionally, she highlights the influence of digital technologies on students' motivation and learning strategies, encouraging a balanced integration of traditional and digital teaching methods.

García-Ostbye and Martínez-Sáez (2023) discuss the challenges faced by healthcare students in accessing and understanding the vast amount of medical information available online. With the emergence of Medicine 2.0, characterised by Web 2.0 technologies in medicine, students are exposed to various online genres such as articles, editorials, and peer reviews, which require a good command of English, and thus presents a challenge for EMP educators in tertiary education.

The shift towards the Medicine 2.0 culture has led to the development of new genres and subgenres of writing online, asking for a re-evaluation of teaching methodologies in EMP courses. While authentic materials are preferred for their engagement and relevance, finding a balance between authenticity and acceptability is extremely important. Authentic materials enhance linguistic skills, knowledge, and intercultural communication, but educators must ensure that the content is not overly difficult for learners. The authors explore the classification of authentic materials in EMP, including audio/ video, visuals, printables, Realia, and online resources. These materials play an important role in teaching medical students how to manage and assimilate professional information, develop communication skills, and foster autonomy in their future careers. However, in order to maximise the benefits of authentic online materials in EMP classes, educators must carefully evaluate content for relevance, length, and readability.

Pop & Pașcan (2017) discuss a two-year project on self-access learning in EMP using the Edmodo platform. The aim of their study was to enhance students' EMP skills outside of regular class hours, focusing on various tasks like virtual poster presentations, communicating bad news, and conducting health surveys. The study found that using Edmodo led to positive outcomes in terms of error correction, student motivation, and satisfaction. It also provided flexibility and autonomy in learning, contributing to a more adequate evaluation of student preparation and involvement.

Furthermore, Pop (2016) investigated the use of technology-enhanced language learning, focusing on EMP writing among second-year dentistry students. Her paper discusses the benefits of technology integration, such as increased motivation and autonomy, but acknowledges challenges like perceived difficulty and time consumption. The study also examines the students' perceptions of a blog writing project and its impact on EMP writing skills. Results indicate that blog writing enhanced writing skills, provided individualised feedback, and promoted student autonomy. While most students were satisfied with the online materials, some preferred traditional classroom activities, suggesting that a blended approach may be optimal.

## 3. Methodology

For this study, we designed a questionnaire comprising 27 questions. The first four questions aimed at gathering information about the respondents' year of enrolment, field of study (medicine or dentistry), gender, and whether they were enrolled in a compulsory EMP course at the time of questionnaire completion. The remaining 24 questions inquired about the amount of time learners dedicated to studying EMP both in classroom settings and individually, their preferred methods for learning new ME vocabulary and concepts, and how frequently they reviewed such vocabulary. The questionnaire also asked about the preferred methods for individual study, and the effectiveness of different techniques in learning complex medical terminology. Furthermore, it investigated learners' preferences for practising and reinforcing ME vocabulary, their receptiveness to making connections with their native language or previous knowledge, and their comfort level with seeking help or clarification when encountering difficulties. Moreover, it explored the respondents' perceptions of the effectiveness of traditional classroom instruction versus self-directed study, as well as their envisioned application of EMP language skills in their future healthcare careers. Since no personal identifiers were required, recorded, or stored, ethical approval was not sought for this study.

The survey was administered between March and April 2024 to students studying medicine and dentistry at George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș, resulting in a total of ninety-three responses (N=93). The questionnaire was delivered via Microsoft Forms, and Microsoft Excel was used for statistical analysis.

## 4. Results and Discussions

All respondents participating in the study were enrolled in academic years 1 through 3 at the time of data collection. **Figure 1** illustrates the distribution of respondents across these academic years, while **Table 1** offers a breakdown of the respondents' fields of study, delineating between those in the fields of Medicine and Dentistry. These tabulated data provide a clear overview of the distribution of participants based on their respective fields for a deeper understanding of the composition of the study group.

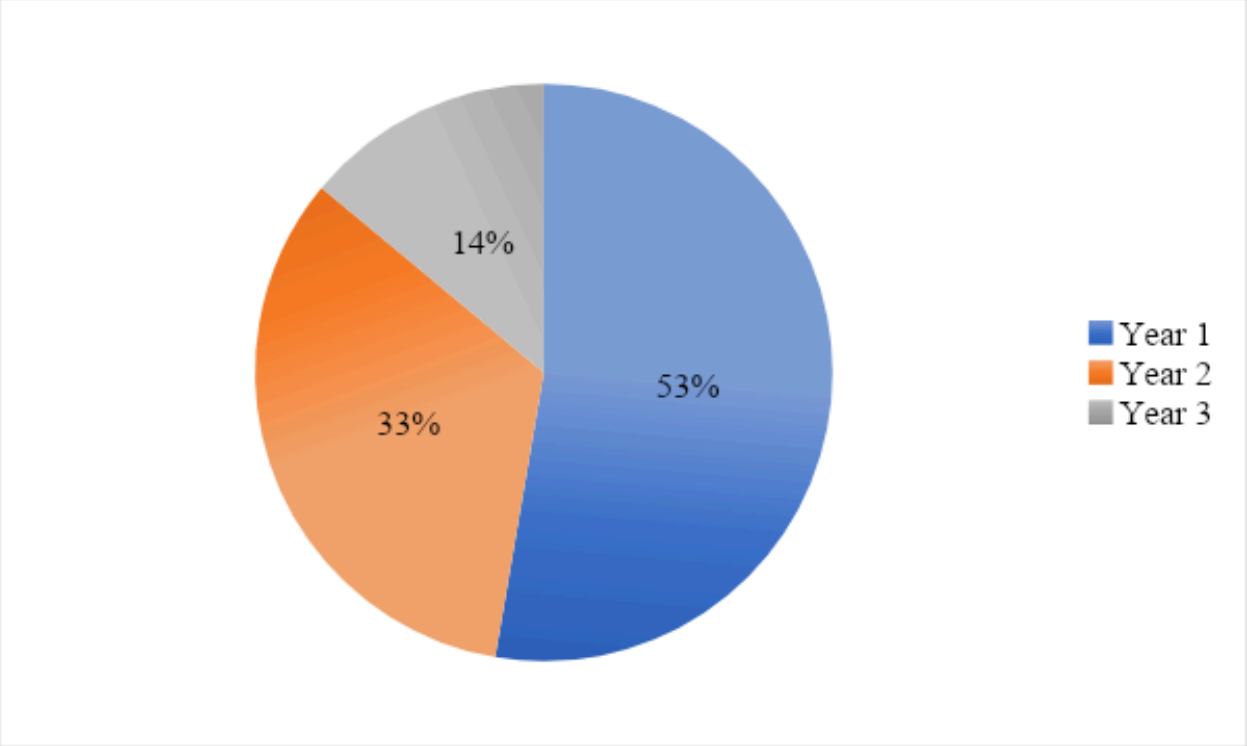


**Figure 1**. Distribution of respondents according to the year of study (N=93).

| Field of study | No. |
|---|---|
| Medicine | 65 |
| Dentistry | 28 |
| Grand total | 93 |

**Table 1**. The respondents' field of study.

In our university, a compulsory foreign language course is offered during the first two years of study in both medicine and dentistry. In medicine, this course consists of 2 hours per week across

all four semesters, totaling 8 modules (2 modules per semester). Conversely, in dentistry, there is no language course in module 7, but two such courses are included per week in module 8.

Of our 93 respondents, 15 were not enrolled in any EMP course at the time of the survey. Regarding the time respondents spent studying, most spent 2 hours in the classroom and less than 1 hour studying individually, as illustrated in **Figures 2** and **3**.

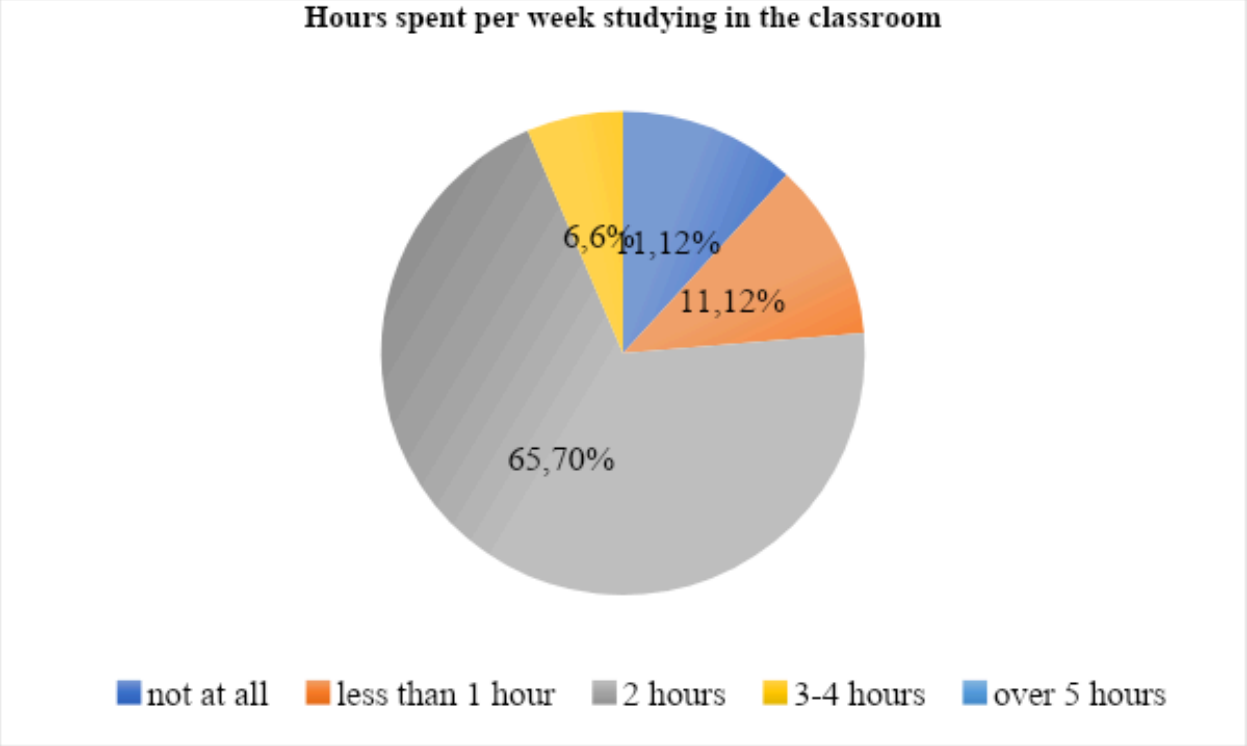


**Figure 2**. Weekly classroom study hours (no. of respondents; percentage).

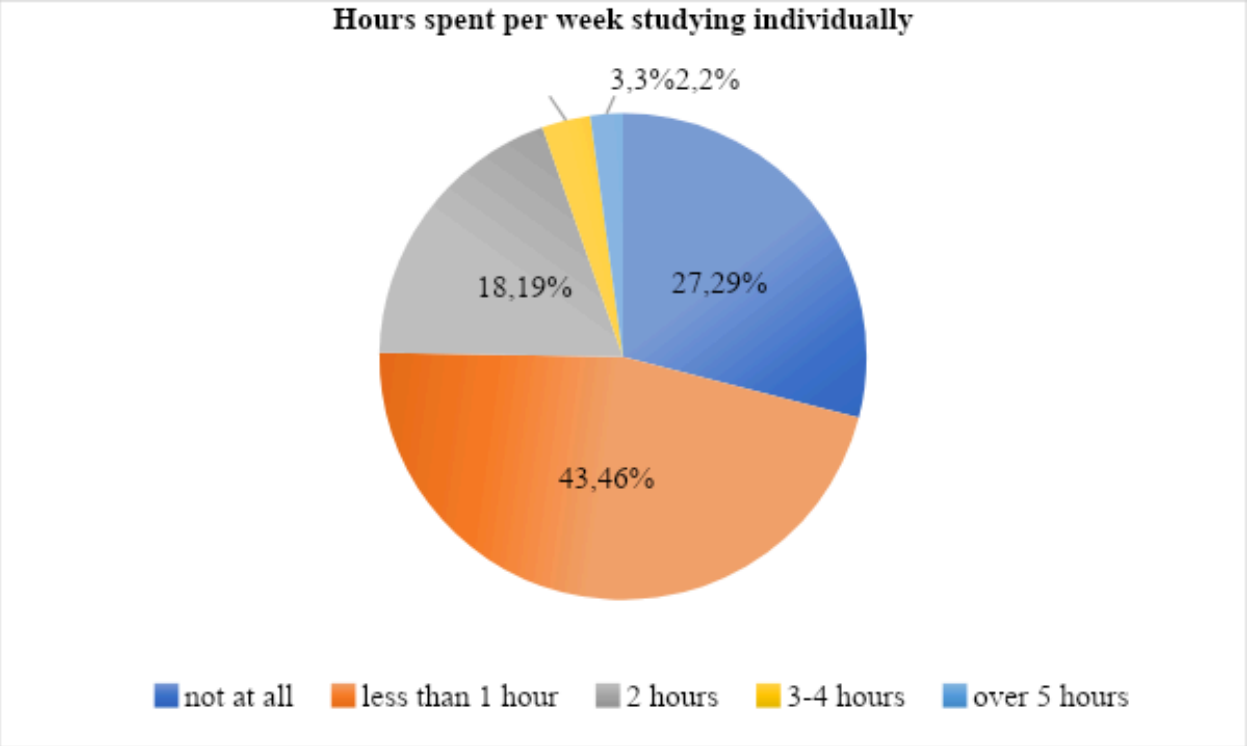


**Figure 3**. Weekly individual study hours (no. of respondents; percentage).

Regarding the individual study time, there were no significant differences between female and male learners, with percentages showing similar patterns (see **Figures 4** and **5**). Consequently, the two-tailed T-test for paired samples did not yield statistically significant results.

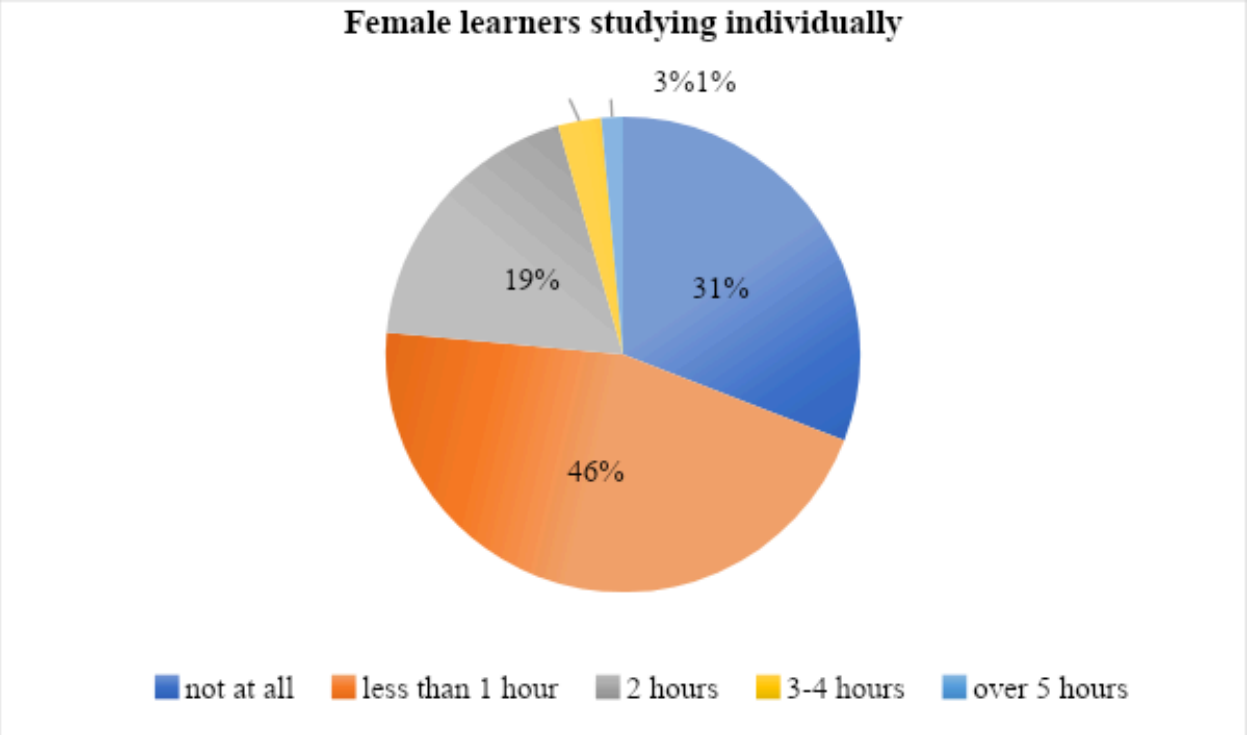


**Figure 4**. Time dedicated to individual studying by female students.

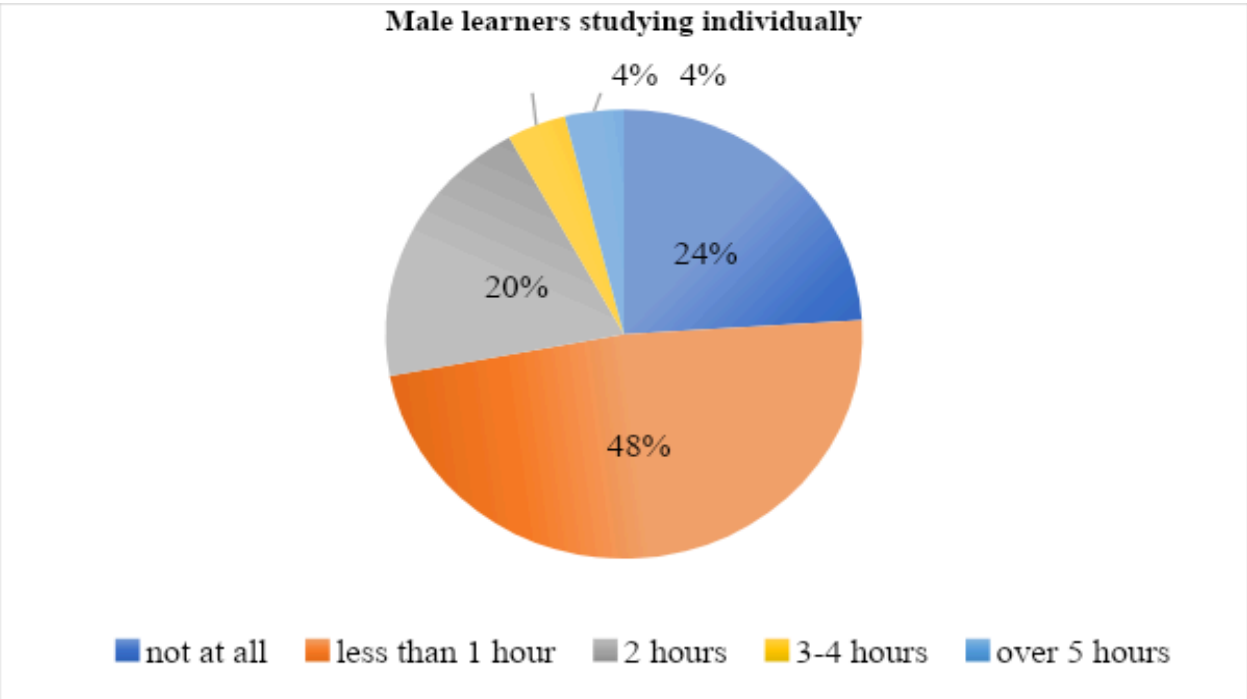


**Figure 5**. Time dedicated to individual studying by male students.

One of the multiple-choice questions sought to determine the type of materials students preferred. This question offered an "other" option, allowing respondents to specify additional preferred materials such as YouTube, movies, songs, and reading articles (see **Table 2**).

| Type of materials | No. of respondents | Percentage |
|---|---|---|
| Visual aids (diagrams, charts) | 34 | 36.56 |
| Verbal explanations (lectures, discussions) | 43 | 46.24 |
| Written materials (textbooks, handouts) | 31 | 33.33 |
| Interactive activities (games, quizzes) | 53 | 56.99 |
| Other | 3 | 3.23 |

**Table 2**. The types of materials preferred by respondents for acquiring ME vocabulary.

There were no statistically significant variations observed between female and male learners in terms of the frequency of revising ME vocabulary to facilitate retention (see **Table 3**).

| **Revision frequency** | **Females** | **Percentages** | **Males** | **Percentages** |
|---|---|---|---|---|
| Every few days | 18 | 26.47 | 7 | 28 |
| Daily | 2 | 2.94 | 0 | 0 |
| Weekly | 25 | 36.76 | 12 | 48 |
| Monthly | 23 | 33.82 | 6 | 24 |
| N | 68 | | 25 | |

**Table 3**. Revision of ME vocabulary.

One of our questions aimed at revealing the preferences of the participants concerning the materials they used for self-study purposes. This question was designed to elicit a comprehensive understanding of the various resources preferred by the respondents for independent learning. Participants were given the flexibility to select multiple options that best aligned with their individual study habits. Furthermore, the inclusion of an "other" option allowed participants to specify any additional materials they used for their self-directed learning, the majority of participants (89%) opting for the "YouTube and other videos" alternative (see **Table 4**).

| Preferred material for self-study | No. of answers | Percentage of respondents |
|---|---|---|
| YouTube or other similar videos | 83 | 89.25 |
| Websites designed for the study of medical English | 29 | 31.18 |
| Health websites | 38 | 40.86 |
| Textbooks, medical articles | 35 | 37.63 |

| | | |
|---|---|---|
| Atlases and dictionaries | 28 | 30.11 |
| Podcasts on health topics | 30 | 32.26 |
| World Health Organization (WHO) website | 10 | 10.75 |
| Guidebooks on the treatment of diseases | 11 | 11.83 |
| Brochures and leaflets | 5 | 5.38 |
| Other | 1 | 1.08 |

**Table 4**. Preferred materials for individual study.

Another query in the survey sought to discern the preferences of the participants concerning the type of exercises they deemed most advantageous for mastering ME vocabulary. This question also provided an "other" option, allowing respondents to specify their preferred method; however, no such responses were recorded. The responses of the participants are illustrated in **Table 5**.

| Type of exercise | No. of responses | Percentage |
|---|---|---|
| Multiple choice questions | 49 | 52.69 |
| Word formation | 37 | 39.78 |
| Open cloze | 28 | 30.11 |
| Matching terms and definitions | 46 | 49.46 |
| Choosing the correct word from a given list | 17 | 18.28 |
| Collocations | 9 | 9.68 |
| Other | 0 | 0 |

**Table 5**. Preferred type of exercise to learn new vocabulary.

Making connections to one's native language or previous knowledge is a common technique in language learning, known to facilitate understanding and retention of new vocabulary. By asking respondents about their views on this approach, we aimed to gain insights into the effectiveness of this strategy, specifically in the context of ME acquisition. Understanding whether students find it helpful to relate new vocabulary to familiar concepts can guide educators in tailoring teaching methods and materials to better meet the learners' needs and preferences. The majority of participants (61) stated that making such connections enhanced their comprehension and retention of the material. Only a small minority (4) expressed a preference for independent vocabulary learning, while a substantial number (29) indicated that their approach depended on the specific concept being learned. Additionally, a few respondents (2) were uncertain about the

effectiveness of this strategy. Notably, no participants provided alternative explanations beyond the options given (see **Figure 6**; percentages are displayed by the red bar).

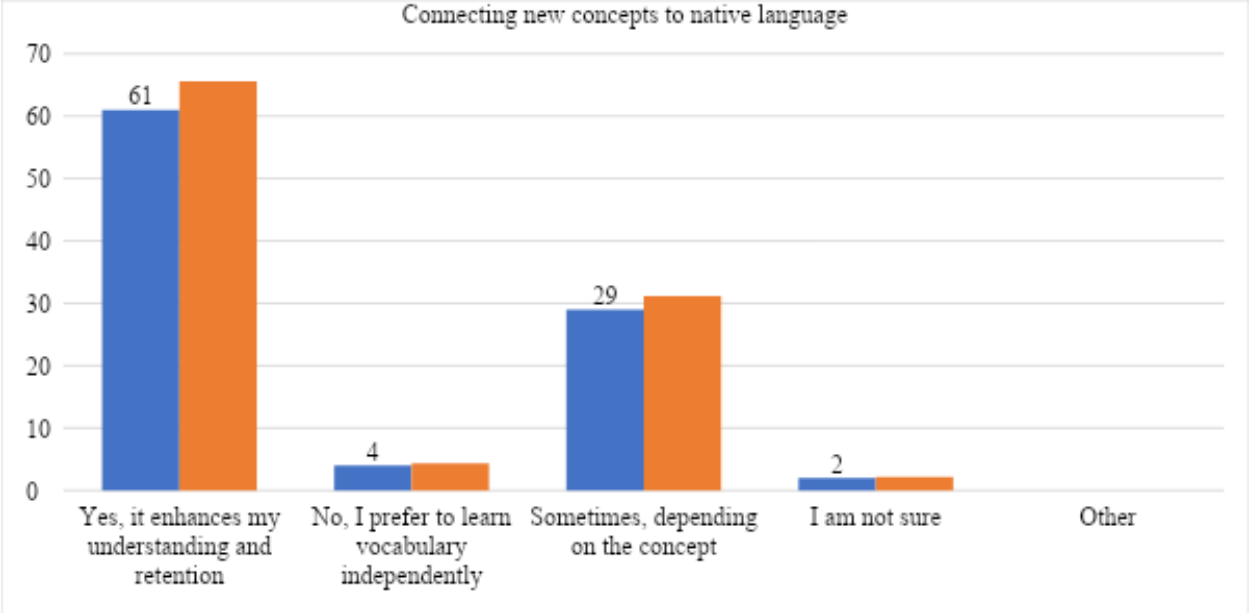


**Figure 6**. Connecting new concepts to those in the mother tongue.

In response to the question regarding the effectiveness of traditional classroom instruction versus self-directed or independent study for learning ME language and terminology, the majority of participants (34) perceived self-directed or independent study as more effective. Conversely, 16 respondents favoured traditional classroom instruction, while 42 participants believed that both methods were equally effective. Interestingly, no respondents indicated that neither method was particularly effective. Additionally, one participant provided an alternative response. This suggests a prevailing preference for self-directed learning approaches among the surveyed individuals, emphasising the perceived efficacy of autonomous study methods in acquiring ME language skills and terminology (see **Table 6**).

| Type of classroom | No. of answers | Percentage |
|---|---|---|
| Traditional classroom instruction is more effective | 17 | 18.27 |
| Self-directed or independent study is more effective | 34 | 36.55 |
| Both methods are equally effective | 42 | 45.16 |
| Neither method is particularly effective | 0 | 0 |

**Table 6**. Perceptions of effectiveness: traditional classroom instruction vs. self-directed study.

Another question in our survey aimed to gain insights into the participants' perceptions of the practical relevance of their language learning endeavours. This question is important because it provides valuable information on the specific contexts in which participants foresee using their language skills, such as patient communication, international collaboration, accessing medical literature, and engaging in global healthcare initiatives. By understanding their anticipated applications of ME language skills, we can tailor language learning programmes to better align with their career aspirations and professional needs. This insight helps educators and curriculum developers design language learning materials and activities that better prepare students for the linguistic demands they are likely to encounter in their future healthcare careers (see **Table 7**).

| Expected use of ME | No. of answers | Percentage |
|---|---|---|
| Collaborating with colleagues in international medical research or conferences | 62 | 66.67 |
| Participating in global healthcare initiatives or volunteering abroad | 49 | 52.69 |
| Accessing and understanding medical literature published in English | 50 | 53.76 |
| Other (working abroad) | 1 | 1.08 |

**Table 7**. Expectations regarding the future use of ME.

## 5. Conclusions

Our study aimed to shed light on the diverse learning preferences and strategies employed by students in acquiring ME language skills. Through the questionnaire administered to participants enrolled in years 1-3 of the Medicine and Dentistry programmes, we gathered information about various aspects of language learning, including study habits, material preferences, and perceptions of instructional effectiveness.

The results revealed that students exhibited varied inclinations towards learning methods, with preferences ranging from interactive activities and visual aids to self-directed study through online resources, such as YouTube and health websites.

Importantly, our study elucidated the practical relevance of ME language skills in the professional realm, as evidenced by the participants' envisioned applications in collaborating in international medical research, accessing medical literature, and engaging in global healthcare initiatives. Consequently, educators can tailor language learning programmes to better align with students' career aspirations and equip them with the linguistic tools necessary for success in their

future healthcare professions. Our research contributes to the ongoing discourse on student-centred pedagogies and emphasises the value of personalised learning experiences in medical education.

However, there are certain limitations that we need to acknowledge. Our research was conducted within a single centre, limiting the generalisability of the findings to a broader population. Variations in educational contexts, institutional policies, and student demographics across different institutions may influence learning preferences and behaviours differently. Secondly, the relatively small sample size of 93 respondents may pose limitations in terms of statistical power and representativeness. A larger and more diverse sample could offer a more comprehensive understanding of the learning preferences and behaviours among medical and dentistry students. Additionally, this small sample size may restrict the exploration of subgroup differences based on factors such as gender, academic performance, or prior language proficiency. Furthermore, the reliance on self-reported data through a questionnaire introduces potential biases, such as social desirability bias or recall bias. Participants may have provided responses that they perceived as socially acceptable or may have inaccurately recalled their learning habits.

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