

The incorporation of digital technologies into the instruction of medical English

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Abstract

English for Medical Purposes (EMP) is a specialized branch of English language teaching that focuses on the language used in the medical profession. It is a crucial aspect of medical education as it enables medical professionals to communicate effectively with patients, colleagues, and other healthcare professionals from around the world. In recent years, the importance of EMP has become increasingly evident due to the globalization of healthcare and the growing diversity of patients and healthcare professionals. With data collected from 14 teachers at the Department of Foreign Languages, University of Medicine and Pharmacy at Ho Chi Minh City (UMP), this article explores the integration of digital technology in teaching medical English to non-native speakers. The use of technology, such as interactive whiteboards, online resources, and mobile applications, provides opportunities for learners to engage in authentic language use and simulation of clinical situations. The article highlights the benefits of incorporating digital technology in medical English instruction, including increased student motivation, enhanced language proficiency, and improved clinical communication skills. It also addresses potential challenges and suggests strategies for effective implementation. Overall, the article suggests that the use of digital technology can significantly enhance the learning experience of medical English learners and help prepare them for real-world medical settings.

Key words: English for medical purposes, digital technology, communication skills

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1. Introduction

In recent years, the use of digital technologies has become more prevalent in language teaching. As noted by scholars like Warschauer and Matuchniak (2010), technology can provide language learners with opportunities to engage in authentic communication, access authentic materials, and collaborate with others, thereby enhancing their language learning experiences. The incorporation of digital tools like social media, mobile apps, and online language-learning platforms has also allowed for more flexible and personalized learning experiences (Thorne & Reinhardt, 2008). However, while digital technologies offer numerous benefits for language learning, there are also challenges and concerns that need to be addressed, such as the digital divide, privacy concerns, and issues with the quality and reliability of online resources (Levy & Stockwell, 2006). Therefore, it is important for language teachers to carefully consider the use of digital technologies in their instructional practices and to develop effective strategies for incorporating these tools in a way that maximizes their benefits while minimizing their drawbacks.

In today's globalized world, the ability to communicate effectively in English is crucial for healthcare professionals. However, many non-native speakers of English face challenges in mastering the specialized language used in medical settings. To address this issue, the integration of digital technologies in the instruction of medical English has become increasingly popular. This study aims to investigate the incorporation of digital technologies in teaching medical English at UMP. Specifically, the study will examine the impact of digital technologies on the motivation and language proficiency of non-native speakers, as well as identify effective strategies for implementing digital technology in teaching clinical communication skills. The findings of this study will provide valuable insights for educators, policymakers, and healthcare professionals who are interested in improving the language proficiency and clinical communication skills of medical English learners.

2. Literature review

In recent years, the incorporation of digital technologies in language education has gained significant attention. Particularly in the field of medical English, the use of technology has been recognized as a valuable tool for enhancing the language proficiency and clinical communication skills of non-native speakers. This literature review aims to explore research on the incorporation of digital technologies in the instruction of medical English, with a specific focus on the University of Medicine and Pharmacy at HCMC, highlighting the importance of medical English, the benefits and challenges of digital technologies in this evolving field.

English for Medical Purposes (EMP) is a specialized area of English for Specific Purposes (ESP) that has gained importance over the years. Medical professionals who are non-native speakers of English often require communication skills in English to effectively interact with their colleagues, patients, and other healthcare professionals from different countries. As such, the demand for medical English courses has increased in recent times, and many universities and language institutes have started offering courses in EMP to meet this demand. According to research by Jenkins and Walker (2018), EMP is important for medical professionals to ensure patient safety and effective communication in the healthcare setting. The authors emphasize the need for a strong focus on EMP in medical education programs to improve the communication skills of medical professionals.

As stated by Linares and Buitrago (2018), EMP is essential for healthcare professionals to provide safe and effective care. The ability to communicate clearly and accurately in English can make all the difference in providing accurate diagnoses, prescribing the correct medications, and giving clear instructions to patients. In addition, the use of standardized medical terminology in English facilitates communication among healthcare professionals from different countries and disciplines, improving patient care and safety.

Furthermore, in the current era of globalization, the ability to communicate in English has become a necessary skill for medical professionals who wish to pursue research, attend international conferences, and collaborate with colleagues from different countries. As noted by Simpson (2019), the ability to read and write in English is critical for publishing research articles in prestigious international medical journals and presenting research findings at international conferences.

The digital age learning matrix plays a crucial role in facilitating effective teaching and learning language in the digital age. According to Redmond and Lock (2021), the matrix provides a framework for integrating digital tools and resources into instructional practices, enabling educators to design and implement technology-enhanced learning experiences. By leveraging the matrix, instructors can identify the most appropriate digital tools and resources to support their instructional goals and the needs of their learners. Additionally, the matrix encourages instructors to adopt learner-centered approaches, where learners take an active role in their learning, facilitated by the use of digital tools (Redmond & Lock, 2021). Overall, the digital age learning matrix offers a comprehensive approach to digital learning and can help ensure that language learners acquire the skills and competencies necessary to thrive in the digital age.

Several studies have reported positive outcomes of integrating digital technologies in the teaching of medical English. For example, research by Miller and others (2014) demonstrated that interactive multimedia resources improved medical students' vocabulary acquisition and comprehension of medical terminology. Similarly, virtual simulations have been shown to enhance clinical communication skills and cultural competence among healthcare professionals (Marja & Aura Sui, 2021). Moreover, online platforms and mobile applications offer flexible and accessible learning options, enabling learners to engage in self-directed study and collaborate with peers across geographical boundaries (Garcia, 2019). Wang and Li (2019) also found that the use of mobile applications and online resources significantly improved the language proficiency of medical English learners. Similarly, Bouchamma and others (2016) reported that the use of an interactive whiteboard enhanced learners' engagement and communication skills in a clinical simulation context.

However, other studies have highlighted potential challenges and limitations of incorporating digital technologies in language education. For instance, Zhu and others (2019) reported that learners may face technical difficulties and distractions when using digital tools, which may negatively impact their learning experience. Additionally, Fikri and others (2018) found that some learners may prefer traditional classroom instruction over digital-mediated instruction. Incorporating digital technologies into the teaching of Medical English also poses certain difficulties for teachers to be taken into account. A key concern is ensuring that teachers receive adequate training and support to seamlessly integrate digital tools into their instructional methods (Wilson and others, 2013). Furthermore, matters concerning the dependability and standard of digital materials, along with concern regarding data privacy and security, necessitate thorough evaluation when choosing and incorporating digital technologies in educational contexts.

Despite these challenges, the overall findings suggest that the incorporation of digital technologies in the instruction of medical English has the potential to enhance learners' motivation, engagement, and language proficiency. Moreover, the use of digital tools can simulate real-life clinical situations, which may improve learners' clinical communication skills.

In conclusion, this literature review highlights the importance of investigating the incorporation of digital technologies in the instruction of medical English at the University of Medicine and Pharmacy at HCMC. By exploring the impact and challenges of digital-mediated instruction on language proficiency and clinical communication skills, this study can provide valuable insights for educators and policymakers in the field of medical English education.

3. Study design and Participations

This exploratory study used qualitative methodology to explore the teachers' teaching practices in depth. Participants included 14 teachers (3 males and 11 females) of English working at the Department of Foreign Languages, UMP. They are responsible for teaching Medical English for students majoring in Medicine. Each teacher was invited to take part in a 30-minute semi-structured interview. The interviews were carried out in Vietnamese and recorded in audio format to facilitate subsequent transcription. During the interviews, educators were prompted to enumerate the various digital technologies frequently employed in their English for Medical Purposes (EMP) classes. Subsequently, they were requested to provide detailed explanations regarding the incorporation of these digital technologies into their teaching activities.

Participants	Males	Females	Average age	Average years of experience
14	3	11	46.71	24.64

Table 1. Summary of participants

4. Findings

Educators noted the utilization of diverse digital devices in their English for Medical Purposes (EMP) classes to enhance both teaching and student learning. Figure 1 illustrates that a majority of teachers employed the classroom projector to display lesson slides. Four teachers favored the desktop computer provided in the classroom, while ten opted to bring their personal laptops. The primary rationale for this choice was the convenience offered by these devices. Teachers commonly relied on laptops for lots of information and teaching materials are there in their laptops even though some female teachers expressed concerns about the safety of transporting laptops in their bags. Those using personal laptops in class highlighted easy access to stored resources and materials.

Moreover, five teachers mentioned occasional use of mobile phones during teaching activities. Tablets were the least frequently employed devices, with only two teachers using them. Educators who incorporated mobile phones or tablets in their classroom activities emphasized the ability to leverage various applications that support language learning, making lessons more engaging and motivating for students.

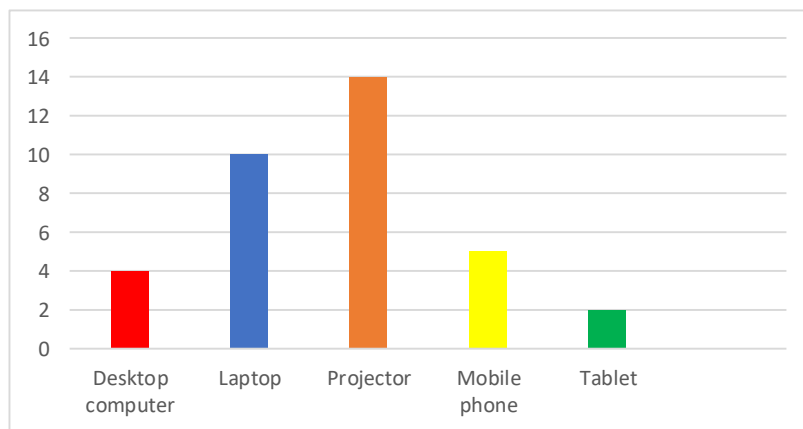


Figure 1. The number of teachers using different types of digital devices in teaching activities in EMP classes

Regarding specific digital tools, teachers participating in the interviews highlighted diverse applications in their classrooms. According to Figure 2, it is evident that all teachers acknowledged the use of slides created with the PowerPoint program for their lessons. A total of 57% of the teachers, equivalent to five individuals, downloaded video clips from platforms like YouTube or VOA Special English learning programs and integrated activities based on these clips. Furthermore, 78.5% (eleven teachers) made use of search tools such as Google or Wikipedia. Due to the limited use of mobile phones and tablets, only 28.5% (four teachers) of those interviewed indicated utilizing applications on these devices to enhance student learning. Notably, a few EMP course instructors mentioned incorporating social networks like Facebook (21.4%), implementing digital games (21.4%), and accessing web-based materials (14.2%).

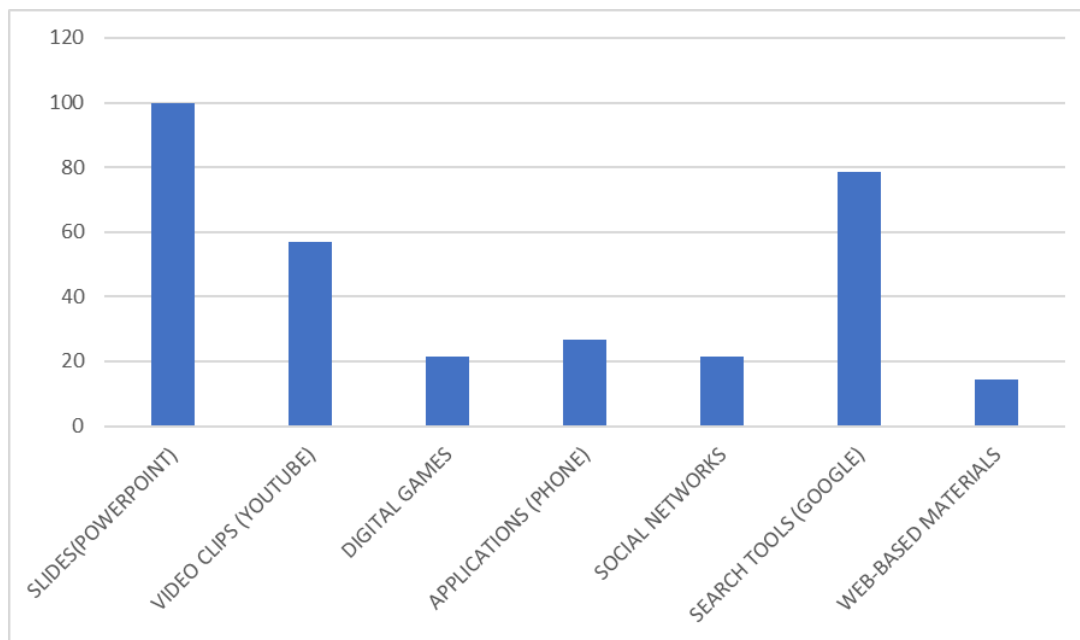


Figure 2. The percentage of teachers using different digital technologies in teaching activities in EMP classes

During the interviews, teachers shared their perspectives on incorporating digital technologies into their teaching methods. Firstly, they mentioned that they opted for digital tools because their students were already accustomed to using such devices for their studies. Consequently, the teachers aimed to engage and motivate students by leveraging technology to enhance their learning experience in English for Medical Purposes (EMP). Secondly, the accessibility of the Internet and advanced equipment offered both teachers and students access to authentic materials beneficial for honing not only language skills but also medical content knowledge. Lastly, integrating digital technologies into teaching activities was seen as a means to foster student autonomy and independence in learning, providing an effective strategy to boost English proficiency in professional contexts.

However, teachers also acknowledged challenges associated with using digital technologies in their teaching. A significant portion, 50% of the teachers, lacked confidence in their digital skills, leading to hesitation in incorporating technology into their classes. Fear of encountering technical issues further contributed to their apprehension. Additionally, teachers grappled with time constraints, feeling that the allocated time for EMP courses was insufficient to cover the extensive content. While recognizing the potential of digital technology as a valuable support tool, they expressed concerns about the extra time required for lesson preparation.

The teachers provided detailed descriptions of the teaching activities in which they used digital technologies or conducted students to use digital technologies to do the tasks requested (*Table 2*).

	Digital technology	Teaching activities
1	PowerPoint	The instructor requested that students give a presentation on a medical topic they had studied using slides.
		The instructor instructed the students to showcase unfamiliar vocabulary found in a reading passage during their presentation.
2	Video clips from Youtube, VOA	The instructor exhibited a video clip to the students on a medical subject and facilitated discussions afterward.
		The instructor tasked the students with creating video clips depicting conversations related to medical scenarios, such as presenting complaints, explaining, reassuring, or encouraging patients. Subsequently, the students were urged to share their clips on platforms like YouTube or Facebook.
		The instructor instructed the students to retrieve a medical news article (VOA) and record their own audio or video presentation of the news.
3	Digital games	The instructor tasked the students with creating a word game to reinforce the vocabulary they had learned, which could include options like crosswords, word puzzles, or spelling bees.
4	Applications	The instructor instructed the students to utilize applications like dictionaries, recorders, or podcasts during listening or speaking activities.
5	Social networks (Facebook)	The teachers established a Facebook group where they encouraged students to share their clips or recordings and engage in mutual commentary.
6	Search tools (Google or Wikipedia)	The instructor requested students to search for photos to illustrate medical vocabulary or topics related to medicine.
7	Web-based materials	The instructors instructed students to visit links to magazines or journals in the field of Medicine, locate a pertinent article, and practice summarizing and presenting it to the entire class.

Table 2. Descriptions of some teaching activities into which the participants integrated digital technologies

The elaborate explanations indicate that educators employed digital technologies in their teaching endeavors for diverse objectives. Their goal was to improve students' learning experiences by employing various digital tools. These applications can be classified into five categories as proposed by Starkey (2011): obtaining information, delivering information, generating or manipulating digital content, utilizing gaming or interactive

programs for educational purposes, and engaging in communication or collaboration. The above tools are employed in class as follow. Initially, instructors crafted presentation slides for lessons and prompted students to utilize PowerPoint or Prezi for delivering information. During this task, students were required to concentrate on creating presentations by amalgamating their acquired knowledge and comprehending essential medical concepts thoroughly. Subsequently, teachers incorporated video clips from platforms such as YouTube, or VOA programs to facilitate students in accessing information and generating digital content. The objective was for students to connect information, grasp medical concepts, and evaluate information, ultimately creating new products for sharing and feedback. Thirdly, gaming activities were introduced to foster learning through gameplay and empower students to design their own games. This integration aimed to engage students in various aspects of learning, from active participation to sharing newfound knowledge. In the fourth category, teachers encouraged students to leverage mobile applications on their phones or tablets for accessing medical information and deepening their understanding. The fifth category involved instructing students to utilize search tools and web-based materials to access diverse subject matter resources, enhancing both their understanding and critical evaluation skills. Lastly, educators encouraged students to use social networks like Facebook for information access, presentation, communication, and collaboration, fostering knowledge sharing and exchange.

5. Discussion

The findings of the research on the incorporation of digital technologies in the instruction of medical English at the University of Medicine and Pharmacy at HCMC highlight the growing importance of these technologies in language instruction, particularly in the healthcare industry. The widespread use of digital tools such as powerpoint, video clips, digital games, applications, social networks, search tools and web-based materials for language learning indicates that instructors at the university are embracing the benefits of these technologies for language learning.

One of the key findings of the research is the positive impact of digital technologies on student engagement. Based on these findings, it is recommended that instructors at the University of Medicine and Pharmacy at HCMC continue to incorporate digital technologies in their medical English instruction, particularly in vocabulary building and writing skills development. It is also recommended that instructors use a combination of traditional teaching methods and digital technologies for maximum effectiveness and that they collaborate with other instructors and instructional technology experts to identify and implement the most effective digital tools for their teaching activities.

The research also found that a combination of traditional teaching methods and digital technologies is most effective in improving student learning outcomes. This suggests that while digital tools can be valuable in language instruction, they are most effective when used in conjunction with traditional teaching methods such as lectures, discussion groups, and written assignments.

In conclusion, the findings of this research demonstrate the benefits of incorporating digital technologies in the instruction of medical English at the University of Medicine and Pharmacy at HCMC. Instructors at the university should continue to explore the use of these tools in their teaching activities and collaborate with other instructors and instructional technology experts to identify and implement the most effective digital tools for language learning. By doing so, they can help ensure that their students have the language skills necessary to succeed in today's globalized healthcare industry.

6. Conclusion

In fact, English for Medical Purposes is of vital importance in the medical profession. The ability to communicate effectively in English is essential for providing safe and effective patient care, as well as for pursuing research and collaborating with colleagues from different countries. As such, medical education programs should include robust EMP training to ensure that healthcare professionals have the necessary language skills to meet the demands of a globalized healthcare system.

In summary, the investigation into the integration of digital technologies into the teaching of medical English at the University of Medicine and Pharmacy in Ho Chi Minh City reveals a growing significance of these technologies in language education, especially within the healthcare sector. The extensive adoption of digital tools suggests that educators at the university are recognizing and incorporating the advantages of these technologies for effective language learning.

The research findings highlight the positive impact of digital technologies on student engagement, as well as the effectiveness of a combination of traditional teaching methods and digital technologies in improving student learning outcomes. This suggests that while digital tools can be valuable in language instruction, they are most effective when used in conjunction with traditional teaching methods.

The COVID-19 pandemic has also accelerated the adoption of digital technologies in medical English instruction, as the need for remote learning has increased. This highlights the importance of developing and implementing effective strategies for the use of digital tools in language instruction, particularly in light of the continued uncertainty around the pandemic.

Instructors at the University of Medicine and Pharmacy at HCMC are encouraged to continue exploring the use of digital technologies in their teaching activities and collaborate with other instructors and instructional technology experts to identify and implement the most effective digital tools for language learning. By doing so, they can help ensure that their students have the language skills necessary to succeed in today's globalized healthcare industry.

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