

THE IMPACT OF STRUCTURED AND WEB-BASED MEDICAL VOCABULARY INSTRUCTION ON LEXICAL RETENTION AND READING COMPREHENSION IN FOUNDATION MEDICAL ENGLISH SKILLS (FMES)

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Annotation: English language proficiency is becoming more and more important for medical personnel in Uzbekistan's quickly globalising healthcare industry. Global medical research and practice guidelines are primarily written in English. Globalisation and advances in medical technology have led to a major increase in the demand for English proficiency among medical students. This scientific article examines the effectiveness of structured and web-based medical vocabulary instruction in improving lexical retention and reading comprehension among students studying Foundation Medical English Skills (FMES). Medical English contains specialized terminology that often creates difficulties for learners in English as a Foreign Language (EFL) contexts. Integrating structured vocabulary teaching strategies with digital learning platforms provides learners with systematic exposure to medical terminology and contextualized practice. The article analyzes theoretical perspectives on vocabulary acquisition and discusses how web-based learning tools enhance vocabulary retention and comprehension of medical texts.

Keywords: Medical English, vocabulary instruction, lexical retention, reading comprehension, web-based learning.

Introduction

English has become the dominant language of international medical communication, research publications, and professional collaboration. Consequently, medical students worldwide are required to develop proficiency in English for Medical Purposes (EMP) in order to access scientific literature and communicate effectively in global healthcare contexts. However, mastering medical terminology presents significant challenges for learners studying English as a foreign language.

Medical vocabulary is characterized by complex word formation patterns, including prefixes, suffixes, and Greek-Latin roots. These linguistic features often make medical texts difficult for students to comprehend without explicit vocabulary instruction. Research shows that understanding the morphological structure of medical terminology helps learners interpret complex terms and improves reading comprehension in medical English texts.

In many medical universities, Foundation Medical English Skills (FMES) courses are designed to prepare students for future clinical and academic communication. Nevertheless, traditional vocabulary teaching methods often rely on memorization of isolated word lists, which may not effectively support long-term retention or comprehension.

Recent developments in educational technology have introduced web-based learning environments that allow learners to practice vocabulary through multimedia materials, interactive exercises, and online collaboration. Combining structured vocabulary instruction with digital learning tools may provide a more effective approach to developing lexical knowledge and reading skills in medical English.

This article investigates how structured and web-based medical vocabulary instruction influences lexical retention and reading comprehension among students studying FMES.

Methodology

Today, in non-philological higher education institutions, the emphasis is on language education within the framework of the field, teaching its terminology, and improving professional competence. This has led to the formation of a direction called "English for specialists" or "English for specific purposes" (ESP), an educational process based on the needs and goals of students in learning the language. If we pay attention to the difference between ESP and English for general purposes, scholars such as Hutchinson and Waters answer as follows: "In theory there is no difference, but in practice there is a very large difference".

According to Bojovic: "ESP has its own unique methods, because it is not only related to linguistics, but also to other disciplines. ESP is focused on the needs of the learner, and its main goal is to enable the learner to communicate effectively and fluently in the field of study or work in which he is working".

Each field benefits from its own "jargon", that is, a set of words that are frequently used only by specialists in a particular field, which allows communication - its terminology. In this regard, Kenneth and Chuntana Methold (1975) commented as follows: "Medical writing is based on a very specialized vocabulary. Many of these words cannot be translated or defined in a useful way. Medical writing is often so obscure that it requires a variety of approaches to understand its long words and more complex terms".

Parkinson (1976) considers clinical histories of various departments, such as "thoracic, psychiatry, gynecology, and pediatrics", to be "a useful teaching aid for reviewing and recording basic medical terms". Medical terminology is thus a specialized language used by physicians, medical students, and health researchers. Medical texts are complex and often written with a specialized vocabulary. Many terms are difficult to understand, and some do not even have a clear definition. Medical terminology reflects specific ideas and concepts, and its full understanding requires a certain level of knowledge and critical thinking.

Classical methods of teaching vocabulary are seen to be too mechanical for classroom instruction. According to Genç (2004), teachers should experiment with various vocabulary teaching methods in order to pique students' interest and consciousness about vocabulary development and make the vocabulary learning process more meaningful. Acat (2008) asserts that mechanical vocabulary learning, simply memorising new vocabulary word by word without interacting with existing knowledge, does little to improve students' vocabulary.

Learning English has become even more crucial because it is a medium in today's communication era, when expressing one's opinions could result in emerging worldwide integration. This discipline has also grown as a result of the need to communicate particular information. The common language for conveying the fundamental ideas of many disciplines, including medicine, is English according to Faraj (2015). In addition to teaching and learning, medical professionals and researchers must learn English in order to publish their findings. The quality of medical English used in textbooks, courses, and journal articles has reportedly been progressively improving (Hwang & Lin, 2010). Because a large portion of scientific, technological, and academic information is conveyed globally in English, the English language plays a crucial role in the medical profession (Creswell, 2013). Thus, encouraging medical professionals and students to learn English is crucial (Milosavljević, 2008). English proficiency would be required to obtain the necessary medical and scientific information, as it was previously said that "English is the de facto language of international medicine." (Heming & Nandagopal, 2012). The importance of the English language in medical education is demonstrated by more than just conducting research and obtaining information. Lack of language proficiency may even have a detrimental effect on the quality of medical care (Ibrahim, 2010). Given the importance of the English language in medical education,

teaching medical vocabulary deserves more attention. Despite the fact that vocabulary has been the focus of numerous studies, few have identified an efficient method for teaching medical vocabulary, particularly the impact of employing medical terminology through collocations on vocabulary retention. Educational professionals are also quite concerned about EFL medical students' inadequate medical vocabulary.

Results and discussion

Vocabulary knowledge plays a fundamental role in language learning and reading comprehension. In the context of medical education, understanding specialized terminology is essential for interpreting clinical case reports, medical textbooks, and research articles.

Studies indicate that limited knowledge of medical terminology is one of the major barriers faced by medical students when reading professional texts. Students often rely on contextual clues, morphological analysis, and prior knowledge to infer the meaning of unfamiliar terms.

Medical vocabulary also reflects specific linguistic patterns derived from Greek and Latin roots. Learning these patterns helps students decode unfamiliar terminology and develop a deeper understanding of medical discourse.

Therefore, systematic vocabulary instruction is essential in FMES courses to support students' academic and professional development.

Structured Medical Vocabulary Instruction

Structured vocabulary instruction refers to organized and systematic teaching strategies designed to facilitate vocabulary acquisition and retention. This approach emphasizes explicit teaching of word meanings, morphological structures, and contextual usage.

Structured vocabulary instruction typically includes the following components:

- explicit explanation of medical terminology
- morphological analysis of prefixes, roots, and suffixes
- contextualized examples from authentic medical texts
- repeated practice and review activities

Research on vocabulary instruction suggests that structured learning strategies significantly improve vocabulary retention and usage. Regular practice, repetition, and contextual exposure contribute to long-term memory of new lexical items.

Another important component of structured vocabulary learning is contextual integration. When vocabulary is introduced within authentic medical texts, students are able to understand how terms function in real communication settings.

Web-Based Vocabulary Learning in Medical English

Web-based learning environments provide new opportunities for teaching medical vocabulary. Digital platforms enable students to engage in interactive learning activities such as online quizzes, multimedia lessons, and collaborative tasks.

Web-based instruction offers several advantages for vocabulary learning:

1. Interactive learning environments

Students can practice vocabulary through digital flashcards, quizzes, and pronunciation exercises.

2. Immediate feedback

Online learning platforms provide instant evaluation of learners' responses.

3. Multimedia support

Visual diagrams, videos, and animations help learners understand medical concepts more clearly.

4. Flexible learning opportunities

Students can review vocabulary outside the classroom at their own pace.

Research also suggests that combining language instruction with authentic medical materials enhances vocabulary acquisition and comprehension skills.

In FMES courses, web-based tools can be used to present clinical case studies, medical reports, and patient communication scenarios, allowing students to practice vocabulary in meaningful contexts.

The Relationship Between Vocabulary Knowledge and Reading Comprehension

Vocabulary knowledge is strongly connected to reading comprehension. Learners who possess a larger vocabulary are better able to understand complex academic texts.

Medical English reading often requires interpreting specialized terminology, abbreviations, and technical descriptions. Students with limited lexical knowledge may struggle to understand key concepts in medical literature.

Studies show that learners frequently use strategies such as guessing word meanings from context and analyzing morphological clues when reading medical texts. However, these strategies are more effective when students already possess basic vocabulary knowledge.

Structured and web-based vocabulary instruction can therefore play an important role in strengthening students' reading comprehension by expanding their lexical knowledge and providing repeated exposure to medical terminology.

Integrating structured and web-based vocabulary instruction into FMES curricula can improve both lexical retention and reading comprehension.

Several pedagogical strategies can be implemented:

- ✓ using digital vocabulary platforms for interactive learning
- ✓ integrating medical terminology into reading tasks
- ✓ teaching morphological analysis of medical terms
- ✓ encouraging collaborative learning through online discussion forums
- ✓ providing regular formative assessments to monitor vocabulary

development.

Such strategies help students actively engage with medical vocabulary and develop the skills required to interpret complex medical texts.

Conclusion

In general, the first task in teaching English to medical students is to create the necessary lexical reserve for students to conduct their professional activities in English. At the same time, it is to form professional terminology and conversational skills.

Medical vocabulary knowledge is a fundamental component of successful learning in Foundation Medical English Skills courses. The complexity of medical terminology often creates difficulties for students studying English as a foreign language, particularly when reading professional medical texts.

This study highlights the importance of combining structured vocabulary instruction with web-based learning tools to enhance lexical retention and reading comprehension. Structured teaching methods provide systematic explanations of medical terminology, while digital learning environments offer interactive and flexible practice opportunities.

The integration of these approaches can significantly improve students' understanding of medical texts, strengthen vocabulary retention, and support the development of academic literacy in medical English. Future research should explore empirical classroom experiments to measure the long-term effectiveness of technology-enhanced vocabulary instruction in FMES programs.

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