SCIENCE HUB REVIEW
2026
Volume 1
Issue 2
www.sciencehubreview.uz
ILMIY ELEKTRON JURNAL

DEVELOPING MEDICAL ENGLISH LEXICAL COMPETENCE THROUGH BLENDED LEARNING APPROACHES

Rashidova Nodira Khabibullayevna

Doctor of Philosophy (PhD) in Pedagogical Sciences, Professor of Namangan State University

Abstract

The development of medical English lexical competence is essential for medical students who need to access scientific literature, communicate in international contexts, and perform effectively in clinical practice. Blended learning, which combines traditional face-to-face instruction with online learning environments, offers flexible and interactive opportunities for vocabulary acquisition. This study investigates the effectiveness of blended learning approaches in developing medical English lexical competence among medical students. A mixed-methods research design was employed, including vocabulary tests, questionnaires, and semi-structured interviews with students enrolled in a medical English course. The findings indicate that blended learning significantly improves students' retention and understanding of medical terminology. Online tools such as digital flashcards, interactive quizzes, and multimedia resources were found to enhance motivation and independent learning. The study concludes that blended learning is an effective approach for developing medical English lexical competence when supported by well-structured instructional design.

Keywords

Medical English, lexical competence, blended learning, vocabulary acquisition, medical students, digital learning

Introduction

English has become the dominant language of medical communication, research, and education worldwide. Medical students are required to master a large body of specialized vocabulary to understand academic texts, communicate with colleagues, and participate in international professional environments. However, acquiring medical English lexical competence is often challenging due to the complexity and volume of terminology.

Traditional classroom instruction alone may not provide sufficient exposure and practice opportunities for vocabulary development. As a result, blended learning has emerged as a promising instructional approach that combines face-to-face teaching with

online learning activities. This model allows students to engage with digital resources, practice independently, and receive continuous feedback. Blended learning integrates the strengths of both traditional and digital education, offering flexibility, interactivity, and learner autonomy. In the context of medical English, it provides opportunities for repeated exposure to terminology through multimedia content, interactive exercises, and online assessments.

The purpose of this study is to examine how blended learning approaches contribute to the development of medical English lexical competence among medical students and to identify the most effective instructional strategies.

Methods

Research Design: This study employed a mixed-methods research design combining quantitative and qualitative approaches to evaluate the effectiveness of blended learning in medical English vocabulary acquisition.

Participants: The participants included 40 second-year medical students enrolled in a Medical English course at a university. All students had intermediate-level general English proficiency but limited knowledge of medical terminology.

Data were collected using three instruments:

1. Pre-test and post-test measuring medical vocabulary knowledge.
2. Student questionnaire assessing perceptions of blended learning effectiveness.
3. Semi-structured interviews with 15 selected students to explore learning experiences in depth.

Blended learning instruction included classroom lectures, online vocabulary platforms, digital flashcards (e.g., Quizlet-style tools), and multimedia resources such as medical videos and interactive quizzes.

Data Analysis: Quantitative data from tests were analyzed using descriptive statistics and paired-sample comparisons. Qualitative data from interviews were analyzed using thematic analysis to identify key learning experiences and perceptions.

Results

❖ **Improvement in Lexical Competence:** The results of the vocabulary tests showed a significant improvement in students' medical English lexical competence. The average pre-test score was 58%, while the post-test score increased to 82%, indicating substantial vocabulary acquisition.

❖ **Effectiveness of Blended Learning Tools:** Students reported that online tools such as digital flashcards, interactive quizzes, and video-based learning materials helped them memorize and understand medical terminology more effectively. Repeated exposure and self-paced learning were identified as key advantages.

❖ **Increased Learner Autonomy and Motivation:** Seventy-eight percent of participants reported that blended learning increased their motivation to study medical English. Students appreciated the flexibility of accessing materials outside the classroom and the ability to learn at their own pace.

❖ **Challenges Identified:** Despite positive outcomes, students reported some challenges, including limited internet access, difficulty managing independent study time, and occasional overload of digital materials.

Discussion

The findings demonstrate that blended learning is an effective approach for developing medical English lexical competence. The significant improvement in vocabulary test scores suggests that combining traditional instruction with digital learning tools enhances retention and understanding of specialized terminology. The results align with constructivist learning theory, which emphasizes active engagement and learner-centered instruction. Blended learning environments allow students to interact with vocabulary in multiple formats, reinforcing memory through repetition and contextual learning. Digital tools such as flashcards and multimedia content were particularly effective in supporting lexical acquisition. These tools promote spaced repetition, visual learning, and contextual exposure, all of which are essential for mastering medical terminology.

Conclusion

Blended learning is a highly effective approach for developing medical English lexical competence among medical students. The integration of face-to-face instruction with digital learning tools significantly improves vocabulary acquisition, learner motivation, and autonomous learning skills. Despite some challenges such as technological limitations and time management difficulties, the overall impact of blended learning is positive. Future research should explore the long-term retention of medical vocabulary and the integration of advanced technologies such as artificial intelligence in blended medical English instruction.

References:

1. Bonk, C. J., & Graham, C. R. (2006). The Handbook of Blended Learning: Global Perspectives, Local Designs. Pfeiffer.

2. Dudley-Evans, T., & St John, M. J. (1998). Developments in English for Specific Purposes. Cambridge University Press.

3. Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential. Internet and Higher Education, 7(2), 95–105.

4. Hutchinson, T., & Waters, A. (1987). English for Specific Purposes. Cambridge University Press.

5. Mayer, R. E. (2009). Multimedia Learning. Cambridge University Press.

6. Nation, I. S. P. (2013). Learning Vocabulary in Another Language. Cambridge University Press.

7. Picciano, A. G. (2009). Blended learning: Implications for growth and access. Journal of Asynchronous Learning Networks, 13(1), 95–102.

8. Schmitt, N. (2000). Vocabulary in Language Teaching. Cambridge University Press.

9. Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.