THE INTEGRAL CONNECTION BETWEEN LANGUAGE AND TECHNOLOGY

Khamdamova Shakhnoza Yusupaliyevna
Fergana Medicine Institute of Public Health
Teacher of the Department of
Uzbek and Foreign Languages, PhD
https://doi.org/10.5281/zenodo.18107222

ARTICLE INFO

Received: 28th December 2025
Accepted: 29th December 2025
Online: 30th December 2025

KEYWORDS

medical terminology, mobile applications, English language, Uzbek language, translation, equivalence, synonymy, linguistic correspondence, interactive education, terminology database, word formation, terminology, lexicography, neologism, dictionary, medical terms, term formation

ABSTRACT

This article examines the interpretation of medical terms in English and Uzbek within mobile applications, their translation features, as well as issues of lexical-semantic correspondence. Accurate and precise interpretation of terminology in the process of using mobile technologies in medical education plays a significant role in enhancing students' professional competence. The article also analyzes linguistic challenges, synonymy, and equivalence in translating English medical terms into Uzbek. The interactive use of terminology in mobile applications enables effective acquisition of medical vocabulary. In addition, the article highlights the role and importance of word formation in modern lexicography. In particular, it analyzes the formation of new medical terms in English and Uzbek, their morphological and semantic structures, as well as the stages of incorporating terminology into dictionaries. The article also discusses the rapid dissemination of new terms and the expansion of their usage through digital technologies and mobile applications.

Introduction

Today, mobile technologies are widely used in the process of medical education. Mobile applications allow learners to reinforce terminology anytime and anywhere, listen to pronunciation, and understand meanings. The correct translation of many medical terms formed in English into Uzbek and their accurate interpretation in terms of meaning and function directly affects the quality of medical education.

1. The Role of Medical Terminology in Mobile Application.

Modern medical mobile applications such as Medscape, UpToDate, Lexicomp, and Enki present terminology in a systematic and user-friendly manner. They provide:

- English forms of terms,
- pronunciation,
- brief clinical explanations,
- and often translations or synonyms.

Interactive learning of terminology through such applications significantly increases educational effectiveness.

2. Differences in the Interpretation of English and Uzbek Medical Terms

The interpretation of medical terms in English and Uzbek is often conveyed not through literal translation but through contextual equivalence. For example:

English Term
Uzbek Interpretation
Explanation
Inflammation
Yallig‘lanish
Clinical condition
Hypertension
Increased blood pressure
Contextual clinical interpretation
Benign tumor
Benign neoplasm
Medical term
Malignant tumor
Malignant neoplasm

As seen above, many terms are translated through semantic equivalence, which is essential for the correct formation of medical thinking.

3. Linguistic Challenges in the Translation Process

• Multiplicity of synonyms: Some English terms have several Uzbek equivalents (e.g., stroke — insult or cerebrovascular disorder).

• Context-dependent meaning: The same term may have different interpretations in different disciplines.

• International terminology: Certain terms (e.g., diabetes mellitus) are used without translation.

• Affixes and suffixes: Terminological units are often based on Greek and Latin roots and require explanation rather than direct translation.

4. Advantages of Interactive Interpretation in Mobile Applications

• Formation of correct pronunciation skills through audio support;
• Better memorization of terms using audio, video, and visual aids;
• Availability of synonyms and explanations;
• Demonstration of terminology usage in clinical contexts.

5. Integration of Language and Medical Education

English, as the international language of medicine, plays an essential role in the educational process. The use of mobile applications:

• enriches students’ terminological vocabulary,
• strengthens interdisciplinary integration,
• encourages independent learning.

Expanding Uzbek medical terminology databases and integrating them into mobile applications enhances the quality of medical education.

Accurate interpretation of medical terms in English and Uzbek is crucial in digital education. Mobile applications support interactive learning, reinforcing pronunciation and meaning simultaneously. Maintaining semantic accuracy, correct synonymy, and equivalence in translation improves medical literacy, which is a key factor in international communication and practical application of medical knowledge.

Word Formation and Terminology Development

As language evolves, the need arises to express new concepts, phenomena, and technologies, resulting in the formation of new words and terms. Word formation is not merely a grammatical or morphological process but a crucial factor in incorporating modern scientific, technical, and medical knowledge into the language system. The medical field is one of the most productive areas for new term formation, most of which originate from English and are adapted into Uzbek through corresponding linguistic forms.

1. Lexicographic Significance of Word Formation.

Word formation plays a central role in enriching the language system and expanding vocabulary. Lexicography studies the sources of new words and terms, their morphological structure, frequency of usage, and standardization processes.

2. Sources of Term Formation

- Scientific terms derived from Greek and Latin roots (e.g., cardiology, neurology);
- English terms associated with technological advancement (e.g., telemedicine, biobank);
- Terms introduced through translation or calquing (e.g., online education, remote consultation).

3. Popularization of Terms through Mobile Applications.

Today, many medical terms rapidly reach a wide audience through mobile applications, online platforms, and digital dictionaries. This accelerates their inclusion in dictionaries and standardization processes.

4. Stages of Lexicographic Registration

- Identification and analysis of neologisms;
- Monitoring usage frequency;
- Verification of scientific and technical accuracy;
- Inclusion and standardization in dictionaries.

5. English and Uzbek Language Comparison

In English, new terms are mainly formed through affixation, compounding, and abbreviations (telehealth, e-medicine). In Uzbek, these terms are introduced through translation or transliteration (telemeditsina, e-tibbiyot). Thus, medical terminology becomes an integral part of the global scientific environment.

Standardization of Medical Terminology in the Global Information Space.

The rapid development of medicine increases the importance of global information exchange. Accurate transmission of medical information requires unified terminological standards. Therefore, many international organizations conduct systematic work on standardizing medical terminology, improving the efficiency of healthcare systems, research, and clinical practice.

1. The Need for Terminology Standardization

A single medical concept may have different names across countries, causing confusion in clinical data exchange. Unified terminology ensures consistency.

Example:

heart attack — yurak xuruji — myocardial infarction (standard terms)

2. International Terminological Systems

- International Classification of Diseases (ICD) by WHO;
- SNOMED CT — a comprehensive clinical terminology system;
- Unified Medical Language System (UMLS) — integrates various terminologies.

These systems function as a universal language for medical information exchange.

3. Global Information Environment and Medical Terminology.

Digital technologies, electronic medical records, telemedicine, and mobile health applications require standardized terminology to ensure compatibility across databases and systems.

4. Adaptation in English and Uzbek.

Many medical terms originate from English and are adapted into Uzbek through translation, transliteration, or calquing (e.g., telemedicine → telemeditsina, COVID-19 → COVID-19 infection). This process must align with national language policy while maintaining international standards.

5. Advantages of Standardization

- Improves efficiency of global healthcare information exchange;
- Ensures diagnostic and treatment accuracy;
- Guarantees consistency in statistics and research;
- Enhances precision in machine translation, AI, and telemedicine systems.

6. Challenges and Solutions

Challenges:

- Differences in national language adaptation;
- Technical and linguistic barriers;
- Rapid implementation of terminological innovations.

Solutions: strengthening international cooperation, integrating terminological databases into national systems, and ensuring collaboration between linguists and medical specialists.

Conclusion

The standardization of medical terminology in the global information environment is an essential component of modern healthcare. Unified terminology enhances scientific communication, clinical collaboration, and the effective use of innovative technologies. Adapting Uzbek medical terminology to international standards improves the quality of medical education and practice..

Used literature:

1. Dorland’s Illustrated Medical Dictionary. – Elsevier, 2020.
2. Oxford Concise Medical Dictionary. – Oxford University Press, 2022.
3. Karimov, U. “Tibbiy terminologiyaning lingvistik xususiyatlari.” Filologiya fanlari jurnali, 2021.
4. Туйчиева, О. С. (2021). Использование кластерной системы как одного из видов педагогических технологий. Молодой ученый, (15), 341-343.

5. Ахмедова, У. Э. (2020). Эффективность технологии накопления и Систематизации информации на занятиях русского языка в Медицинском вузе. I Университетская наука: взгляд в будущее (pp. 708-710).
6. Mastura, J. R. (2022). The use of social forms in improving the effectiveness of the lesson. Eurasian Journal of Learning and Academic Teaching, 9, 118-122.
7. Karimovna, M. O. (2021). Structural properties of additional elements. Asian Journal Of Multidimensional Research, 10(5), 173-178.
8. Анваров, А. (2024). Роль использования студентами Вики-технологии в обучении иностранным языкам. Общество и инновации, 5(10/S), 105-110.
9. Хамдамова, Ш.Ю.(2024). Возможности дидактики в про ориентационном обучении английскому языку студентов медицинских специальностей. Общество и инновации, 5(4/S), 286-290.
10. Yusupaliyevna, H. S. (2024). Model and technology for the Development of professional abilities of students in medical Education. Innovative developments and research in Education, 3(28), 399-403.
11. Yusupalievna, K. S. (2022). The Role of Phonetics in Pronunciation English Borrowing in Medical Terminology. Procedia of Social Sciences and Humanities, 4, 21-22