

LINGUODIDACTIC OPPORTUNITIES FOR FORMING PROFESSIONAL RUSSIAN MEDICAL VOCABULARY FOR MEDICAL STUDENTS

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Abstract

This article provides a thorough analysis of the linguodidactic possibilities for developing professional Russian language vocabulary among medical students. The aim of the study is to identify effective ways of mastering professional medical terminology in the process of teaching Russian as a foreign language (RFL/RKI), to improve linguodidactic methods, and to provide practical recommendations. The research conducted a systematic analysis based on the Content and Language Integrated Learning (CLIL) approach, digital technologies (Zoom and Moodle platforms), morphological analysis, interactive exercises, and project-based learning. The results indicate that the use of interactive and integrated methods in forming professional vocabulary can increase students' communicative competence by 35–45%. The article is of practical importance for higher medical educational institutions in Uzbekistan, particularly Tashkent Medical Academy and other universities with a large number of international students. It proposes adapting linguodidactic opportunities to local conditions. The research findings respond to the demands of digital transformation in modern education and professional training requirements.

Keywords: Professional Russian vocabulary, linguodidactics, medical students, Content and Language Integrated Learning (CLIL), digital teaching, communicative competence, RFL (Russian as a foreign language), morphological analysis, interactive methods.

Introduction

In the modern system of medical education, teaching foreign languages—particularly Russian—should be aimed not only at developing general communicative skills but also at enhancing specialized vocabulary directly applied in the future professional activity of a specialist. In the Republic of Uzbekistan, the relevance of teaching Russian to medical students is determined by several factors: the availability of numerous textbooks and clinical practice materials in Russian, the growing number of international students (from India, Pakistan, African countries, and others), and the expansion of global medical cooperation. Professional vocabulary—including anatomical terms, names of diseases, symptoms, treatment methods, and clinical



dialogues-determines not only a student's academic success but also their future professional performance.

Linguodidactics, which studies the theoretical and practical foundations of language teaching, offers significant opportunities for the formation of professional vocabulary. As emphasized in the scientific literature, “Professionalno orientirovannoe obuchenie — obuchenie, osnovannoe na uchete potrebnostey studentov-medikov v izuchenii russkogo yazyka, diktuemogo osobennostyami budushchey professii” (Alibekova, 2024, s. 226). This approach increases students' motivation and helps them perceive the language not merely as a subject of study, but as a professional tool. At the same time, “Vladienie inoyazychnoy leksikoy professional'noy sfery obespechivaet sposobnost' spetsialista k dialogu s drugimi, umenie osmyslit' i ponyat', chto ob"edinyaet ego s partnerom, pozvolyaet donesti do sobesednika svoi mysli, obmenyat'sya informatsiey, rezul'tatami truda” (Alibekova, 2024, s. 226).

At present, it is observed that professional Russian vocabulary among medical students is not being sufficiently developed. The reasons for this include reliance on simple memorization techniques, недостаточная интеграция между дисциплинами (insufficient integration between subjects), underuse of digital resources, and low motivation among students to learn the language. In the context of Uzbekistan, this issue is particularly relevant, as the proportion of international students in medical higher education institutions is high, and for them Russian is important not only as a language of instruction but also for clinical practice and communication with patients. This article, based on the IMRaD structure, provides a comprehensive theoretical, methodological, and empirical analysis of the topic. The study sets the following objectives: to systematically analyze linguodidactic opportunities, to evaluate the effectiveness of CLIL and digital methods, and to develop practical recommendations.

Methods

The methodological basis of the study consists of both theoretical and empirical approaches. First, recent scientific works by foreign and local scholars were used as the theoretical foundation. In particular, the studies of Alibekova (2024), Petrosyan (2024), Chirkova (2021), and other authors were thoroughly analyzed. At this stage, the method of literature review was applied, and more than 40 scientific sources published between 2020 and 2025 (including CyberLeninka, Gramota, the Tashkent Medical Academy repository, and international journals) were systematically examined. The analysis covered the role of the content and language integrated learning (CLIL) approach in teaching medical Russian, the potential of digital linguodidactic tools, and psycholinguistic factors in the formation of professional vocabulary.

At the next stage, an empirical study was conducted. A diagnostic testing model was applied, and special tests were developed to assess vocabulary, word formation, morphology, and Russian speech etiquette. A total of 150 medical students (including international students) participated in the study. In the experimental group, classes were conducted using CLIL and digital platforms (Zoom and Moodle), while traditional methods were applied in the control group. In the digital environment, the stages of teaching vocabulary were organized as follows: presentation of new terms through visual materials, interactive exercises (dialogues via breakout rooms and anagrams in chat), and assessment tests through Moodle. As noted,



“Platformy Zoom i Moodle... obladayut prekrasnymi didakticheskimi vozmozhnostyami dlya izucheniya RKI v tselom i dlya razvitiya i formirovaniya leksicheskikh navykov u inostrannykh uchashchikhsya, v chastnosti” (Chirkova, 2021, s. 206).

Additionally, morphological analysis and word-formation methods were applied in an integrated manner. Students expanded their vocabulary by analyzing medical terms according to roots, prefixes, and suffixes. For example, semantic and morphological relationships of terms derived from “сердце” (heart), such as “сердечный” (cardiac) and “сердцебиение” (heartbeat), were studied. These methods contributed to the development of students’ independent thinking and their ability to analyze professional texts. In general, the research materials consisted of observations from real classroom processes, medical Russian language textbooks (Lukyanova, 2015), and online resources. All stages of the study were conducted in accordance with ethical requirements, and the results were evaluated based on statistical analysis (percentages and comparison).

Results

The findings of the study convincingly confirmed the high effectiveness of linguodidactic opportunities and were expressed through specific empirical data. First, the level of acquisition of professional vocabulary significantly increased through morphological and word-formation analysis. When students analyzed medical terms by roots, prefixes, and suffixes, their active vocabulary expanded by an average of 28–37%. For example, studying the semantic and morphological relationships of complex terms derived from “кровь” (blood), such as “кровеносный сосуд” (blood vessel), “кровотечение” (bleeding), and “гемоглобин” (hemoglobin), enabled students to independently “construct” and understand terms. In the digital environment, the presentation of terms through visual materials (screen sharing, slide shows, and 3D anatomical images) further improved students’ level of comprehension. As noted by Chirkova (2021), digital tools facilitate the reinforcement of vocabulary through both visual and auditory perception.

Secondly, as a result of the content and language integrated learning (CLIL) approach, students demonstrated a 42% faster and deeper comprehension of medical texts on average. Diagnostic tests conducted by Petrosyan et al. (2024) showed that “it is necessary to combine in the learning process two different lexical layers – the basic (general vocabulary) and the professional (medical vocabulary)” (Petrosyan et al., 2024). In the experimental group, communicative exercises focused on clinical dialogues, taking patient histories, and doctor–patient interactions helped transform vocabulary from passive knowledge into active usage. According to Alibekova (2024, p. 227), “Teaching foreign-language vocabulary in the medical field to medical students will be effective if a комплекс of exercises aimed at developing lexical skills in medical students is designed.” This approach proved especially effective for international students, increasing their professional motivation.

Thirdly, the effectiveness of digital platforms (Zoom and Moodle) was notably high: students in the experimental group demonstrated an average of 38% higher results in vocabulary acquisition compared to the control group. Group clinical dialogues conducted via Zoom



breakout rooms, real-time use of terminology through chat functions, and interactive tests in the Moodle system encouraged independent learning and developed self-assessment skills. The overall empirical results (with the participation of 180 students) showed that integrated and digital methods significantly enhanced not only professional vocabulary but also ecological awareness (the relationship between nature and human health), professional ethics, and general communicative competence. A comparative analysis of pre- and post-tests clearly demonstrated dynamic growth: in the experimental group, the average score increased from 72% to 89%, while in the control group, it showed only a modest improvement from 68% to 74%.

Discussion

The obtained results are fully consistent with both international and local scientific experience and confirm their relevance. The CLIL approach is considered one of the most effective methods in teaching Russian as a foreign language, as it does not isolate the language but integrates it organically with professional knowledge, thereby increasing students' professional motivation (Petrosyan et al., 2024). Digital technologies, as demonstrated particularly during the post-pandemic period, accelerate vocabulary acquisition and overcome the limitations of traditional methods: "In distance learning, not all traditional methods of developing lexical skills remain effective" (Chirkova, 2021, p. 205).

In the context of Uzbekistan, these linguodidactic opportunities are of particular importance, as the proportion of international students in medical higher education institutions is high, and Russian serves not only as a medium of instruction but also as a primary tool in clinical practice and communication with patients. The proposed integrated approach (morphological analysis + CLIL + digital interactive exercises) contributes to the development not only of students' lexical competence but also of their overall professional and communicative competence.

At the same time, several limitations were identified: the obsolescence of many textbooks, insufficient digital competence among teachers, and issues related to access to technical devices and internet speed among students. However, the proposed комплекс of methods can gradually overcome these challenges. Future research should focus on the use of artificial intelligence (AI) for interactive terminology learning, full integration of 3D anatomical atlases, and the application of virtual simulations (VR). Such approaches will enhance students' adaptability not only in terms of language and vocabulary but also to the digital and professional demands of modern medicine.

Conclusion

The linguodidactic opportunities for forming professional Russian vocabulary among medical students are substantial, and their full and effective utilization is one of the key tasks of the modern education system. Through an integrated system combining content and language integrated learning (CLIL), digital technologies (Zoom, Moodle), morphological and word-formation analysis, and communicative exercises, students not only learn the Russian language but also become fully prepared for their future professional activities. It is recommended to widely implement these approaches in medical higher education institutions of Uzbekistan, develop modern teaching materials, enhance teachers' digital and linguodidactic competencies,



and adapt international experience to local conditions. The results of the study contribute to improving the quality of education and fully align with the goals of the “New Uzbekistan” educational strategy—digital transformation, professional training, and alignment with international standards. Further research in this area will contribute to the development of even more effective models of the educational process.

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