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METHODOLOGY FOR FORMING PROFESSIONAL STUDENTS' COMMUNICATIVE COMPETENCE DIRECTIONS

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Abstract. The article examines a methodology for developing the professional communicative competence of international students majoring in Biomedical Engineering in Russian language classes. The author substantiates the effectiveness of situational conversations as a pedagogical technique that facilitates the development of professional communication skills in academic, professional, and workplace contexts. The paper outlines the theoretical foundations of the communicative approach, describes the structure of situational conversations, and proposes a classification of professional communicative situations specifically designed for Biomedical Engineering students.

Keywords: professional communicative competence, situational conversation, Russian as a Foreign Language (RFL).

Introduction. The integration of the Republic of Uzbekistan into the global scientific and educational space poses fundamentally new tasks for the higher technical education system. Among them is the training of specialists capable of conducting professional communication in Russian in multi-profile contexts: when interacting with medical personnel, working with technical documentation, during scientific discussions, and at production meetings.

Students studying in the field of "Biomedical Engineering" represent a special category of students: their professional activities are at the intersection of medicine and engineering technologies, which implies the possession of not one, but two specialized terminological systems. That is why forming professional communicative competence (hereinafter referred to as PCC) in them requires a specially developed methodology that accounts for the specifics of this field.

An analysis of scientific and methodological literature and Russian language teaching practice in Uzbekistan's technical universities shows that existing teaching aids and methodological developments are insufficiently oriented toward the needs of biomedical students. As a rule, the Russian language course is built on general scientific texts, while the educational and professional situations characteristic of biomedical engineering are left aside. This article is dedicated to filling this gap by developing and testing a methodology based on situational conversations.

PCK component Content Example in the context of BMI

Linguistic Mastering medical and engineering terminology, as well as scientific-style grammar Correct use of terms such as "electrocardiogram," "biocompatibility," and "transducer"

Pragmatic Ability to choose speech strategies depending on the situation and communication participants Explaining the operating principle of MRI to the doctor and explaining the same device to the patient

Discursive Ability to construct a coherent professional text/dialogue Conducting technical consultations, writing the device's passport

Socio-cultural Knowledge of professional behavioral norms and ethics in the medical-technical environment Compliance with business communication norms when interacting with medical personnel

StrategicAbility to compensate for linguistic difficulties in professional communication Re-interrogation, clarification, and paraphrasing during technical discussions

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The theoretical justification for using situational conversations is A. A. Leontyev's concept of speech activity [6], according to which true language mastery is possible only under conditions as close as possible to real communication. The communicative method of E. I. Passov [8] requires that the educational situation possess personal significance for the learner, while the communicative task possesses practical motivation.

3. Methodology for forming PPC through situational conversations

3.1. Principles of selecting professional situations

The development of a system of situational interviews for biomedical students was carried out based on the following principles: (1) the principle of professional authenticity - situations reflect the real production and research contexts of the biomedical engineer's activity; (2) the principle of increasing complexity—from everyday professional situations to scientific-discussion situations; (3) the principle of communicative value—every situation ensures the resolution of a real communicative task; (4) the principle of interdisciplinary connection - situation topics are correlated with the content of specialized disciplines.

I (basic) Acquaintance. Presenting oneself as a specialist. Job description "Tell your new colleague about your specialty" Nominative function, present tense of the verb, vocabulary of the specialty

II (medium) Explaining the operating principle of the device. Patient briefing. Technical consultation "Explain to the doctor how the ECG machine works" Passive constructions, infinitive of necessity, terminology

III (high) Participation in a scientific discussion. Defense of the design solution. Negotiations with the customer "Justify the choice of biomaterial for the implant at the technical meeting" Argumentation, conditional constructions, scientific speech style

3.2. Structure of situational conversation during the lesson

Based on the analysis of methodological sources [2; 5; 7; 8] and the author's experience of working with students of technical specialties, the following structure of situational conversation was developed, which includes four stages.

Table 3. Structure of situational conversation in Russian language lessons

Stage Name Actions of the teacher and students Time (min)

1 Motivational-orientational The teacher creates a communicative situation (role card + task). Students familiarize themselves with the conditions and clarify unfamiliar words. 5–7

2 Linguistic preparation Activation of necessary vocabulary, speech clichés, and grammatical constructions. Mini-training on key linguistic models of situations. 7-10

3 Conversation Implementation Students conduct a situational conversation in pairs or small groups. The teacher observes, notes mistakes, and does not interrupt the communication. 10–15

4 Analysis and reflection Discussion of communication success, analysis of typical linguistic errors, self-assessment of students according to proposed criteria. 5–8

3.3. Example of situational conversation (level II)

Situation: "Hospital consultation"

Parameter Content

Participants Biomedical engineer (student A) and cardiologist (student B)

Space Cabinet of the chief physician of the cardiology department

Purpose The engineer must explain the operating principle of the new ECG device and answer the doctor's questions.

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Task A You are a biomedical engineer. You were invited to the hospital to explain to the doctor how the new ECG machine works. Explain its operating principle, advantages of the device, and safety rules for use.

Task B You are a cardiologist. Do you want to know: how does the device work? Is it safe to use? What are the advantages compared to the old device? Ask at least 4 questions.

Speech clichés "This device is designed for...," "The operating principle is based on...," "Unlike the previous model...," "It is important to note that...," "Allow me to clarify..."

4. Approbation results of the methodology

The testing of the developed methodology was conducted over one academic semester (2023–2024 academic year) at Tashkent State Technical University. The experiment involved 48 foreign students in the 2nd year of biomedical engineering, divided into experimental (EG, n=24) and control (CG, n=24) groups. EG students worked with a system of situational conversations, while CG students studied using traditional methods.

Diagnostics of the PPC level were conducted at the beginning and end of the semester based on four parameters: linguistic, pragmatic, discursive, and strategic (see Table 1). Assessment tools: role-playing in pairs (assessed by three experts on a single scale), written professional text, and student self-assessment questionnaire.

Table 4. Dynamics of PCK levels in experimental and control groups (average score on a scale of 0-10)

PCK component		EG before	EG after	KG before	KG after
Linguistic	4.1	7.6	4.2	5.8	
Pragmatic	3,8	7,2	3,9	5,1	
Discursive	3.5	7.0	3.6	4.9	
Strategic3.2	6.8	3.3	4.6		
Average value	3.65	7.15	3.75	5.10	

As evidenced by the data in Table 4, students in the experimental group demonstrated significantly higher growth dynamics across all components of the PCS. The greatest increase was recorded in the pragmatic component (+3.4 points in the EG versus +1.2 points in the CG), which confirms the effectiveness of situational conversations specifically for forming speech interaction skills in a professional context. Statistically significant differences between the groups after training were confirmed using the Mann-Whitney test ($p < 0.05$).

5. Conclusion

The conducted research confirmed the effectiveness of the methodology for forming the professional communicative competence of biomedical engineering students through situational conversations in Russian language classes. The proposed classification of three-level professional communicative situations and the four-stage structure of the lesson ensure the sequential formation of all components of the professional communicative situation.

The practical significance of the research lies in the fact that the developed materials can be directly applied in the educational process of technical universities conducting training in the field of "Biomedical Engineering." The prospects for further research include developing similar methodologies for related technical specialties, as well as creating digital educational resources based on simulation modeling of professional situations.

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