

Theoretical and Methodological Principles of Teaching Professional English to Future Doctors

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Abstract. Modern social processes determine new vital areas of reconstruction of the educational process in higher medical school on the way to teaching future professionals in all fields of medicine. The objective reality of Ukraine's development today is the expansion of international ties and integration into the European community. Medical professionals' knowledge of foreign languages is becoming essential in such circumstances. The article aims to develop and scientifically substantiate methodological concepts and theoretical bases of the English language professional teaching of future doctors in higher medical schools, characterize the levels of English professional knowledge of medical students, analyze the findings and imply them to future research and practice. The pedagogical conditions of English-language professional teaching of future doctors such as motivational stability and awareness of the need to learn English for further professional communication; integration of professional and linguistic (English-speaking) disciplines in the educational process of the higher medical school; creation of the developmental English-speaking professional environment in medical higher schools; involvement of future doctors in active English-speaking professionally-oriented activities were defined and substantiated. The authors designed and verified the model of English-language professional teaching to future doctors in higher medical schools. Besides, they experimentally established and statistically confirmed the positive dynamics of the levels of English-language professional teaching to students in the experimental group. This was achieved due to the introduction of the designed methodology to future doctors who study at higher medical schools. The application of the Kolmogorov-Smirnov λ -test confirms the validity of the proposed model and experimental technique.

Keywords: *professional teaching, English-language professional teaching, English language preparedness, pedagogical conditions, medical higher schools, future doctor.*

Русалкіна Людмила, Томашевська Агнесса. Теоретичні та методологічні принципи навчання професійної англійської мови майбутніх лікарів.

Анотація. Сучасні суспільні процеси визначають нові важливі напрямки реконструкції навчального процесу у вищій медичній школі на шляху підготовки майбутніх фахівців у всіх

галузях медицини. Об'єктивною реальністю розвитку України сьогодні є розширення міжнародних зв'язків та інтеграція до європейського співтовариства. За таких обставин знання іноземних мов медичними працівниками набуває особливого значення. Мета статті-розробити та науково обґрунтувати методологічні концепції та теоретичні основи професійної підготовки майбутніх лікарів англійської мови у вищих медичних навчальних закладах, охарактеризувати рівні англомовної професійної підготовки майбутніх лікарів, проаналізувати отримані результати та передбачити їх для майбутні дослідження та практика. У дослідженні визначено та обґрунтовано педагогічні умови англомовної професійної підготовки майбутніх лікарів: мотиваційна стійкість та усвідомлення необхідності майбутніх лікарів вивчати англійську мову для подальшого професійного спілкування; інтеграція професійних та лінгвістичних (англомовних) дисциплін в освітній процес вищої медичної школи; створення розвиваючого англомовного професійного середовища у медичному закладі вищої освіти; залучення майбутніх лікарів до процесу навчання до активної англомовної професійно орієнтованої діяльності. Розроблено та обґрунтовано модель англомовної професійної підготовки майбутніх лікарів у медичних закладах вищої освіти, апробовано експериментальну методичку англомовної професійної підготовки майбутніх лікарів, проаналізовано результати.

Ключові слова: професійна підготовка, англомовна професійна підготовка, підготовленість до англійської мови, педагогічні умови, медичні вищі школи, майбутні лікарі.

Introduction

Our rapidly changing life at the beginning of the XXI century in all spheres of education poses a crucial task for higher education teachers. They need not only to carry out vocational teaching but also to educate well-developed and conscious professionals whose knowledge level corresponds to modern society's requirements. The provision of international standards to the medical field is possible provided a new generation of professional specialists who speak foreign languages are trained. According to the modern requirements for the professional activity of doctors, it is necessary to work with primary sources of medicines primarily published in English, which today is foreground and of current interest. Kovtun (2013), Martynova (2007), Nikolaeva (2002), Popova (2017), and Tarnopolsky (1991) developed methodological principles of foreign language teaching as a means to realize professional knowledge and skills. The research results of the scientists became the basis for developing methods for medical students' linguistic competence formation (Yefremova, 2009; Krysak, 2016). Teaching English for specific purposes (ESL) was investigated by Dudely-Evans and Jo St John (1998), Flowerdew and Peacock (2001), and Hutchinson and Waters (2010).

The analyzed researches of Ukrainian scientists cover a wide range of theoretical and methodological problems on the formation of professional foreign language readiness of medical freelance students in general and concrete directions. However, these scientific works concern only certain aspects of foreign language communication and strategic teaching. Therefore, they do not reflect the specifics of professional English-language teaching of future doctors in medical institutions of higher education.

Professional teaching is considered a purposeful pedagogical process aimed at equipping future professionals with a system of professional knowledge, skills and abilities, formation of professionally significant personality qualities that meet the

profession's requirements and contribute to the successful implementation of professional activities.

We understand the English-language professional teaching of future doctors as a purposeful process of mastering English-language linguistic, socio-cultural, local lore, scientific and medical knowledge, specifically medical skills, awareness of the importance of the medical profession, and formed professional qualities of the individual, foreign colleagues, to make intercultural (international) professional contacts.

Following Osipova (2016, p. 20), preparedness is a result of teaching, a complex multi-component professional-oriented education that characterizes the integrity of the individual with the available professional knowledge, skills and abilities, values and values and established positive motivation for professional activity.

Professional teaching of future doctors as a result of purposeful professional medical teaching in medical institutions of higher education forms professional qualities of personality due to the doctor's specifics and ability to provide timely medical care to patients.

English-speaking professional activity of future doctors is treated as the identification of various forms of activity of future doctors as subjects of English-speaking professional activity, determined by socially significant results in the medical field for which the doctor is responsible.

Despite its active study by researchers, English-language professional teaching of future doctors is still the scientific focus. This is because almost all parameters of this pedagogical phenomenon are due to variable features and uniqueness of the socio-pedagogical state of the subject of such activity and the specifics of professional orientation. It is taken into account that the educational and professional potential of the higher medical school and its implementation are conditioned by the scientific basis, where the constructive methodological guidelines are decisive.

Based on the conducted analysis, it should be concluded that Ukrainian scientists make a significant contribution to the modern foreign language teaching system, laying the fundamental basis for its further development through their research. As for the studies on foreign language teaching of future doctors in higher educational institutions, it should be noted that there is an insufficient number of complex research works aimed at improving such teaching as an integrated system in all its aspects based on interdisciplinary integration. Without a detailed study of the international experience, developing an effective national foreign language teaching system, especially vocationally oriented and adapted to the EU and the best international educational standards, is impossible.

The communicative approach to language and professional education reflected in the works by Batsevich (2004), Bogush (2008), Brown (2001), and Kovtun (2013) considers a modern understanding of the purpose of language learning (both native and foreign) in the process of communication. Iskandarova (2000), Krysak (2016), and Tsymbrovska (2017) provided for the maximum approximation of the content and process of educational activities of students to the future English-language interaction of doctors with patients, i.e. the introduction of higher education medical institutions in the educational process "quasi-professional activity" (Kovtun, 2013) of English orientation.

The stimulus for such activities was the quasi-professional communicative need for future doctors to master professionally-oriented English.

Today, there is an urgent need to resolve conflicts between society's objectively existing social order in the preparation of highly skilled medical professionals who actively use English in professional activities and practice teaching English in medical higher school.

The article aims to scientifically substantiate methodological concepts and pedagogical conditions of English-language professional teaching of future doctors in medical institutions of higher education and check their effectiveness.

Methods

As far as our research was carried out at the medical university, we considered that English-language professional teaching of future doctors would be effective if the following pedagogical conditions were implemented:

- motivational stability and awareness of the need for future doctors to learn English for further professional communication;
- integration of professional and linguistic (English-language orientation) disciplines in the educational process of medical health care;
- providing future doctors with active professionally-oriented English-language activities in the process of teaching;
- creation of a developmental English-speaking environment of professional orientation in a medical institution of higher education;
- involvement of future doctors in the teaching process in active English-speaking professionally-oriented activities.

A survey among medical students who study English in their first and second years was conducted to determine the tasks and content of forming English-speaking professional skills in future doctors. Its goal was to highlight their understanding and attitude toward the current state of English-language professional teaching. The survey involved students of Odesa National Medical University, Ukraine. One hundred ten questionnaires were collected. The analysis of the survey results showed that the vast majority of future doctors know the need and importance of developing English-language professional skills.

To determine the reliability of the results obtained after the formative experiment, a statistical hypothesis H1 was put forward: the difference between the distributions of the control and experimental groups was significant (given the point of the maximum accumulated discrepancy between them).

The experiment included higher medical educational institutions such as Odesa National Medical University, Lviv National Medical University, Ternopil State Medical University, and State Institution "Dnipropetrovsk Medical Academy". At different stages, the experimental research covered more than 300 students – future doctors, 20 teachers of higher medical education institutions in Ukraine, and 60 medical practitioners.

The experiment followed seminars with teachers of linguistic ("English (for professional purposes)", "Ukrainian (for professional purposes)", "Latin") and professional ("Anatomy", "Histology", "Pharmacology") educational disciplines that were involved in the formative stage of the experiment. Lectures "The essence and specifics of English-language professional teaching of future doctors" and "Interdisciplinary links on the English-language orientation of teaching professional disciplines" were given. In addition, teachings were conducted: "English in the professional activity of future doctors", "Communicative barriers in the English-speaking professional interaction of a doctor with patients".

The model and experimental technique of English-language professional teaching of future doctors were developed and tested, and the comparative characteristic of levels of formation of English-language professional teaching of future doctors was carried out. The results of the experimental study were generalized and statistically verified.

At the propaedeutic stage, an elective course (at the students' free choice), "English-speaking professional speech activity of a doctor", was developed.

At the formative stage, the model of English-language professional teaching of future doctors was developed, including the purpose, methodological approaches, stages, pedagogical conditions, forms and methods, criteria and results of experimental work. The formation of English-language professional teaching of future doctors in the medical institutions of higher education occurred in the following stages: motivational, activity, communicative teaching, and reflection-evaluation.

At the motivational stage, students worked on the content of the elective course "English-speaking professional speech activity of a doctor." In the first lecture, "English in the professional activity of a modern doctor", students were involved in the discussion and resolution of problematic situations that may be accidental in the activities of a doctor, in particular with foreign patients ("Accident in transport", "On the beach", "Injured passerby", "Journey around Europe"). After the lecture, the students of medical institutions of higher education took part in a round table "Why does a doctor need English?" and in the teaching "English-language communicative models of doctor-patient interaction." At this stage, visualization lectures were held on "Speech etiquette of a doctor in English communication" and "Communicative models of doctor's interaction with patients." For independent work, future doctors were tasked with compiling thematic dictionaries of professional vocabulary in English. During the lectures, students were asked to solve problem situations of doctor-patient interaction ("First acquaintance with the patient", "Foreign patient at the doctor's appointment", "Why didn't the patient follow the doctor's appointment?", "Polite words and phrases", "English proverbs of medical orientation").

In the lecture "National and religious features of diseases and their treatment", students of medical institutions of higher education gave examples from the literature offered by the teacher, from the Internet, expressed their attitudes, and suggested actions of the doctor in extreme situations. The pedagogical condition "Motivational stability and awareness of the need for future doctors to learn English for further professional communication" was implemented at this stage.

At the activity stage, students were involved in English-language work on the content of professional ("Anatomy", "Histology", "Pharmacology") and linguistic disciplines ("Latin", "Ukrainian language (for professional purposes).". In addition, future doctors translated medical texts into English: "Myocardial infarction: causes, symptoms, treatment", "Nephritis", "Gastric ulcer: manifestations, treatment"), and English medical texts they translated into Ukrainian.

In the process of studying linguistic and professional disciplines, future doctors were involved in English-language thematic tasks and exercises in linguistic and specialized disciplines available in the experiment (translations of the text "Pneumonia", "Food Poisoning"), "Fill in the prescription", "Fill in the table in English", "Who is faster?", "Find mistakes"), were involved in phonetic, lexical games, professional situations ("At the doctor's office," "Surgeon", "Therapist"), lexical competition "Medical catchphrases in English." At the activity stage, the pedagogical condition "Integration of professional and linguistic (English-language orientation) disciplines in the educational process of medical health care" was introduced.

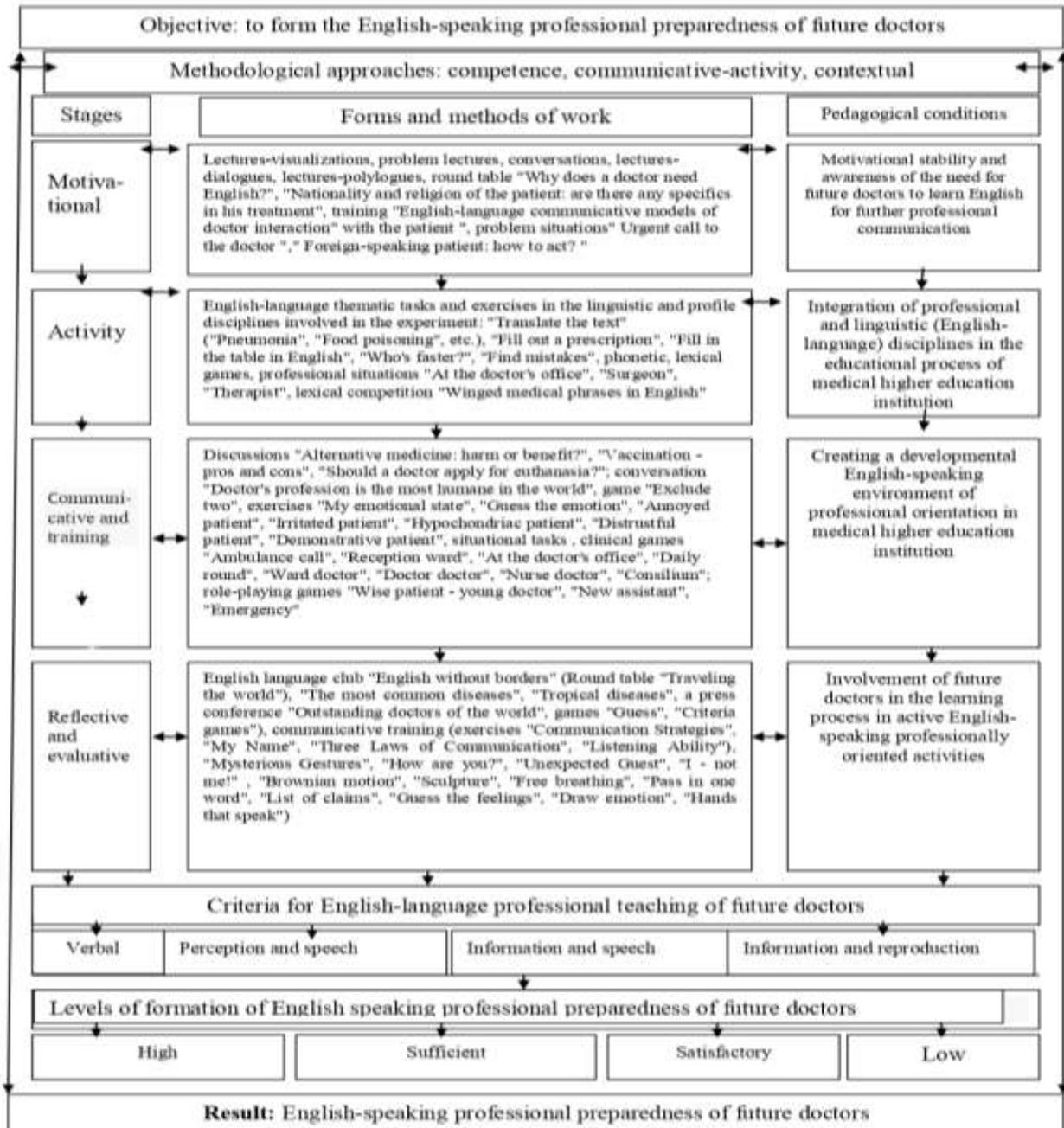
At the communicative-teaching stage, several practical classes and teachings in English on the elective course "English-speaking professional speech activity of a doctor" were conducted with students. Exercises "My emotional state", "Guess the emotion", "Irritated patient", "Hypochondriac patient", "Distrustful patient", "Demonstrative patient", "Wise patient & young doctor" were conducted at the practical lesson on the topic "Professional portrait of a doctor", "New Assistant". Discussions and round tables were organized on the following topics: "Alternative medicine: harm or benefit?" ("Alternative medicine: harm or benefit"), "Inoculation - for and against", "Euthanasia: my point of view", during which future doctors had to answer the question: "What prompted you to choose the profession of a doctor?" Future doctors independently created situations of doctor's dialogue with patients who were in different states. Students were offered cards describing specific characteristics of the patient's behaviour, according to which they had to identify possible causes of this condition and build an appropriate dialogue.

At the communicative-teaching stage, future doctors were involved in independent work with a resource from Oxford University Press (a capacious service that contains virtual textbooks on medical English: Medicine 1, Medicine 2, Nursing 1, Nursing 2); resource "Interactive Anatomy" from InnerBody), which provides free access, visualization of terms in English: symptoms, causes, methods of treatment and prevention of many diseases. The pedagogical condition was realized at this stage: "Creating a developmental English-speaking environment of professional orientation in medical freelance education."

The core work at the reflection and evaluation stage was the English Club "English Without Borders", which also involved foreign students. A series of round tables, "Traveling Around the World" (various English-speaking countries), press conferences "Outstanding Doctors of the World", and "Modern Medicine: Finds and Prospects" were held at the club meetings; communicative teachings "Strategies of multilingual communication", "Brownian movement", "Hands and language of the doctor". In addition, in the practical classes, students were asked to write essays: "My profession is a

doctor", "My friend is a doctor", "My professional future", and the like in order to determine the formation of self-esteem and mutual evaluation of future doctors. The pedagogical condition "Involvement of future doctors in the learning process in active English-speaking professionally-oriented activities" was implemented at this stage. The model of teaching professional English to future doctors is presented below (see Fig. 1).

Figure 1
The model of teaching professional English to future doctors



Model of English-language professional teaching of future doctors

Results and Discussion

The survey results showed that the vast majority (94%) of students knew the importance of English professional skills for a doctor's future effective professional activity. However, a significant part of students (58%) noted that the formation of professional English language is provided by a set of language and professional teaching disciplines. The survey results also confirmed that the main task of this course students saw in their preparation for English professional communication. This made it possible to conclude that the content of English-language professional teaching does not meet students' expectations for developing English professional skills.

The model (motivational, activity, communicative-teaching, reflection-evaluation stages) and experimental methods of English-language professional teaching of future doctors in medical higher schools have been developed and tested. The implementation of the pedagogical condition "motivational stability and awareness of the need for future doctors to learn English for further professional communication" at the motivational stage contributed to lectures-visualizations, problem lectures, conversations, lectures-dialogues, lectures-polylogues, round table "Why do doctors need English?", "Nationality and religion of the patient: are there specifics in his treatment", teaching "English-language communicative models of doctor-patient interaction", problem situations "Urgent doctor's call", "Foreign-language patient: how to act?".

At the activity stage, medical institutions of higher education students were involved in English-language work on the content of professional and linguistic disciplines. English-language thematic tasks and exercises were used (translations of the text "Pneumonia", "Food poisoning", "Fill in the patient's prescription", "Fill in the table in English", "Who is faster?", "Find mistakes"), phonetic, lexical games, professional situations ("At the doctor's office", "Surgeon", "Therapist"), lexical competition "Winged medical phrases in English", etc. The pedagogical condition "Integration of professional and linguistic (English-language orientation) disciplines in the educational process of medical freelance education" was introduced.

At the communicative-teaching stage, several practical classes and teachings were conducted in English on the elective course "English-speaking professional speech activity of a doctor", exercises ("My emotional state", "Guess emotion", "Irritated patient", "A wise patient is a young doctor", "New assistant"), discussions and round tables ("Alternative medicine: harm or benefit?", "Vaccination - pros and cons" "Should a doctor apply for euthanasia?"), Clinical games "Ambulance call", "Reception department", "At the doctor's office", "Ward doctor", "Doctor - doctor", "Doctor - nurse"; role-playing game "Wise patient - young doctor".

At the end of the formative stage of the experiment, a final cut was made to determine the model's effectiveness, pedagogical conditions and experimental methods of English-language teaching to future doctors in medical higher educational institutions (see Table 1).

Table 1

Comparative data on the levels of formation of English-language professional teaching of future doctors at the ascertaining and final stages of the experiment

Group	Research stage	Levels of formation of English-language professional teaching of future doctors, per cent			
		High	Sufficient	Satisfactory	Low
EG	Ascertaining	10.14	14.86	37.84	37.16
	Final	21.62	38.52	27.70	21.16
CG	Ascertaining	11.18	15.13	38.16	35.53
	Final	15.13	25.00	33.55	26.32

EG – experimental group; CG – control group

Thus, hypothesis H1 put forward at the outset showed that the difference between the distributions of the control and experimental groups was significant. After the experimental work, it was stated that $\lambda_{emp} = 1.73$. Therefore, $\lambda_{emp} > \lambda_{cr}$, which confirmed hypothesis H1. The empirical distribution is more significant than λ_{cr} , i.e. the results obtained in the experimental group after the formative stage of the experiment are statistically significant. As a result, it has been experimentally established and statistically confirmed that the positive dynamics of English-language professionalism of students in the experimental group are made possible by introducing the developed experimental methodology of English-language teaching to future doctors in higher education.

Conclusions

The results of the experimental work give reasons to believe that the aim is achieved through the realization of objectives, which in turn demonstrates the importance of the conducted research and its outcomes for theory and practical implementation in the modern context of higher medical educational institutions. Nevertheless, the results do not claim to be a perfect and final exhaustive coverage of the issue under the study.

Implementing the model and experimental methods of English-language professional teaching of future doctors in medical institutions of higher education with the gradual introduction of certain pedagogical conditions allowed significant positive changes in the experimental group in contrast to the control.

Thus, the comparative analysis of quantitative and qualitative indicators of English-speaking professional teaching of future doctors at the beginning and end of the experimental work proved its effectiveness and the proposed model, pedagogical conditions and experimental methods of English-language teaching of future doctors in higher education.

We see prospects for further research in the study of the issue of interlingual communication of future doctors from the psycholinguistic point of view..

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