Introducing Ukrainian medical terminology as a component of doctor-patient communication for international students in an English-medium education setting

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Abstract.
The article explores the growing interest in effective strategies and approaches for teaching medical terminology to non-native speakers in English-medium education contexts. The author highlights the importance of incorporating lexico-grammatical constructions into materials for teaching communication between doctors and patients as essential components of medical language instruction. The paper also offers some suggestions to enhance students' understanding and application of Ukrainian medical terminology.

Keywords:
Ukrainian language
medical terminology
English medium
In recent years, there has been a growing interest in studying effective strategies and approaches to teaching medical terminology to non-native speakers in English-medium educational contexts. Some research studies and publications provide valuable information on related areas, such as teaching medical terminology in other languages and issues related to teaching professional language in general [1][2].

Some studies specifically focus on teaching Ukrainian medical terminology to foreign students. Among the materials related to this topic, two groups of publications can be identified. They address the teaching of specialized terminology to foreign students studying in Ukrainian [3] and the challenges of teaching Ukrainian terminology to foreigners whose language of instruction is English [4].

The overwhelming majority of such works are dedicated to teaching Ukrainian medical terminology to Ukrainian students or foreign students studying in Ukrainian. Meanwhile, clinical rotations of medical students studying in English also involve direct interactions with patients and staff who do not speak English, taking medical histories, performing physical examinations, and participating in the overall hospital team’s activities. While foreign students in the Ukrainian-medium education system spend a year learning Ukrainian at the preparatory faculty, including becoming familiar with the scientific style of speech and studying natural science disciplines in Ukrainian, and then similarly enrich their knowledge and skills at the medical faculty, students in the English-medium education system often learn Ukrainian as an elective subject alongside their core subjects. In some universities, Ukrainian language programs allocate a significant number of hours for teaching Ukrainian to English-medium foreigners, and in these cases, the situation is comparable to those studying in Ukrainian. In other institutions, the amount of class time dedicated to learning Ukrainian in the classroom is constantly decreasing, so the task of mastering medical terminology largely has to be solved by optimizing instructional materials and increasing the volume of independent student work.

It should be noted that in the described circumstances, communication with patients in hospital settings during clinical rotations is virtually the only sphere of application
of Ukrainian medical terminology for foreigners studying in English, which implies a limited set of terms used in describing the patient's condition during the dialogue with the doctor.

In teaching the scientific style of speech to students studying in the language of the host country, the presentation of material in the form of lexical-grammatical constructions is often used, for example, «Що – (це) що» (Легені – це орган дихання) for describing objects and phenomena in general, "Що є чим" (Кісень є газом) for characterizing an object by internal features, "Що має що" (Серце людини має чотири камери) for characterizing an object by composition, "Що відбувається/здійснюється + де + коли + за яких умов" (Кругообіг речовин у природі здійснюється постійно) for describing the course of a chemical reaction or a process [5].

In programs for students instructed in English, the study of the scientific style of speech is generally absent. Such constructions are not used for presenting grammatical and lexical material, and sentence structure is primarily presented in the form of the S+V+O formula (or in the form of an impersonal sentence with O3 and O2). Passive constructions are not studied. At the same time, it is assumed that when starting a course, students are already familiar with all the cases.

The content of textbooks dedicated to doctor-patient communication is generally based on materials related to specific organ systems. Additionally, the textbook may include a section on the patient's personal information, but its content does not pose difficulties for students as the syntax and vocabulary used in it are well-studied by that time.

Regarding the structure of a conversation between a doctor and a patient, the following structure can be identified in such dialogues [6]:

1) general complaints: "Що вас турбує?", "На що ви скаржитесь?", "Як давно ви хворієте?";
2) presence/absence of a symptom: "У вас є кашель?", "Яка у вас температура?" and its characteristics:
   a) intensity: "У вас сильний кашель?";
When discussing secretions that accompany a symptom, such as urine or sputum, the doctor can ask about colour, consistency, volume, frequency of discharge, and time of occurrence.

When there is such a symptom as pain, which is characteristic of all organ systems, the intensity, duration, onset, accompanying conditions ("що супроводжує біль?") and localization of the pain are also discussed.

The popular Calgary-Cambridge model of medical consultation recommends using open-ended questions at the beginning of the dialogue and during the information-gathering stage to allow the patients to describe their problems or symptoms in their own words. Such an approach has proven to be effective [7], but considering the limited linguistic knowledge of students, it would be more practical in this case to practice their skills using closed-ended questions.

By asking questions, the doctor forms assumptions about the patient's condition and adjusts their hypothesis by providing prompts, or possible answers, such as "Який у вас біль: гострий чи тупий?" or "Задишка виникає у спокої чи при фізичному навантаженні?" [8].

The dialogue structures described above are also followed in the manuals "A communication training for foreign medical students: a manual for English-medium students" [9] and "Professional Dialogue Training: Doctor - Patient" [10], based on which the course "Medical Terminology" was developed at the Department of Language Training, V.N. Karazin Kharkiv National University, aimed at teaching students communication skills for interacting with their patients.

As mentioned earlier, in manuals of "doctor-patient" type, lesson topics are usually dedicated to the human organ systems. The Medical Terminology course is based on the following four systems: respiratory, cardiovascular, digestive, and urinary. At the beginning of each lesson, students learn what they need for communication with the patient within the framework of the particular organ system that the lesson focuses on. For example (hereinafter, examples
from the manual are presented in italics or bold font):

1) First, you need to know some anatomical terms that relate to the digestive system.
2) You also need to know some symptoms and names of some diseases.
3) And you should know some words, word combinations, and verbs used in describing the symptoms.

Then a small dictionary of words and phrases that students will encounter in the corresponding lesson is provided, followed by an explanation of the material in English. For example, in the first topic "Respiratory System," students familiarize themselves with the terms that they will also encounter when working on other organ systems, after which they learn how to use the presented words.

This is how we use these words:
First off, you should remember that they are intended to be used in a dialog with a patient and the first question and answer are about their problem in general.

So, the doctor asks: Що вас турбує? (What troubles you?) and, depending on the answer, writes down the problem in the medical history according to the formula:

КОГО? + ТУРЕУЄ + ЩО? (проблема) = О4 +непокоіть + S (О1)

<table>
<thead>
<tr>
<th>КОГО? (О4)</th>
<th>ЩО? (О1=S) сімптом</th>
</tr>
</thead>
<tbody>
<tr>
<td>Мене</td>
<td>незять (runny nose)</td>
</tr>
<tr>
<td>Вас</td>
<td>задишка (dyspnea)</td>
</tr>
<tr>
<td>Ліцієнта</td>
<td>кашель (cough)</td>
</tr>
<tr>
<td>Хворого</td>
<td>висока температура (high temperature)</td>
</tr>
<tr>
<td>Ліцієнтку</td>
<td>головний біль (headache)</td>
</tr>
<tr>
<td>Хвору</td>
<td>біль (у ділянці = in the area of)</td>
</tr>
<tr>
<td>+</td>
<td>грудній клітини, у потлиці (pain in the area of the chest, back of the head), у потливій дільніці (in the occipital area)</td>
</tr>
<tr>
<td>+</td>
<td>(O1)</td>
</tr>
</tbody>
</table>

Next, students become introduced to a new lexical-grammatical construction; the motivation that drives them in this situation is the practical need of communication with
the patient, rather than the necessity of studying the grammar of a foreign language. The explanation of the material takes the form of recommendations for identifying the problem that concerns the patient and that the future doctor needs to identify. Additionally, the principle of repetition is used here, which facilitates the learning of words and phrases.

\[\text{ХТО?} + \text{СКАРЖИТЬСЯ} + \text{НА} + \text{ЩО?} (на яку проблему) = S (O1) + \text{скаржиться на O4 (WHO complains of WHAT?)}\]

<table>
<thead>
<tr>
<th>ХТО? (O1)</th>
<th>+</th>
<th>НА</th>
<th>+</th>
<th>ЩО? (O4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Пациєнт</td>
<td>+</td>
<td>скаржиться</td>
<td>+</td>
<td>температуру</td>
</tr>
<tr>
<td>Хворий</td>
<td></td>
<td></td>
<td></td>
<td>(high temperature)</td>
</tr>
<tr>
<td>Він</td>
<td></td>
<td></td>
<td></td>
<td>біль у ділянці серця</td>
</tr>
<tr>
<td>Пациєнка</td>
<td></td>
<td></td>
<td></td>
<td>(у грудній клітині, потилиці)</td>
</tr>
<tr>
<td>Хвора</td>
<td></td>
<td></td>
<td></td>
<td>(pain in the area of the heart)</td>
</tr>
<tr>
<td>Вона</td>
<td></td>
<td></td>
<td></td>
<td>(chest, back of the head)</td>
</tr>
</tbody>
</table>

Symptoms are listed both separately and in combination with their place of occurrence.

The sequence of presenting constructions and explanations corresponds to the aforementioned dialogue formation scheme between the doctor and the patient, while the main content remains unchanged: we are talking about a patient who can serve as a subject or object in grammatical constructions and can be referred to using first, second, or third-person pronouns in various cases. Such words constitute the first
group of words in these constructions. In the table provided above, the first-person personal pronoun is absent because in response to the question "What do you complain of?" the patient will never answer "I complain of..." but will simply start discussing their problem using the construction "У КОГО? + (Є) + ЩО?" However, it should be noted that such dialogue is not the only practical application of the knowledge acquired in the course: students should also write down the complaints they listen to while recording a patient’s medical history. Such aspects related to the practical application are also highlighted in the explanations for students.

The second group of words consists of symptom names, which can also function as subjects or objects in grammatical constructions. In this case, nouns denoting symptoms are often accompanied by adjectives (сильний/легкий кашель, постійний/приступоподібний біль). In a real-life situation, as mentioned earlier, the doctor "interviews" the patient by offering possible options (e.g., "Яке у вас мокротиння: рідке чи в'язке?").

This is reflected in the explanations provided in the course:

ЯКИЙ? (ЯКА? ЯКЕ? ЯКИ?) + У КОГО? + ЩО? (СИМПТОМ) (WHAT KIND of symptom do you have?)

Яке у вас мокротиння? (What kind of sputum do you have?).

When speaking about sputum which can be:

<table>
<thead>
<tr>
<th>ЯКЕ?</th>
<th>ЩО? (01/04)</th>
</tr>
</thead>
<tbody>
<tr>
<td>слизувате (mucoid)</td>
<td></td>
</tr>
<tr>
<td>гнійне (purulent)</td>
<td></td>
</tr>
<tr>
<td>рідке (liquid)</td>
<td>мокротиння (sputum)</td>
</tr>
<tr>
<td>в’язке (viscous)</td>
<td></td>
</tr>
</tbody>
</table>

we ask:

Яке мокротиння ви відкашлюєте? (What kind of sputum do you cough up?)

The third group of words consists of widely used anatomical terms (голова, груди) and words indicating location or direction (праворуч/ліворуч, у правому/лівому боці, у праву/ліву половину тіла).
There are words and phrases used to specify the conditions of symptom occurrence, such as time (зранку/вечері), subsequent or, less frequently, preceding events (після прийому ліків, перед сніданком), and activity level (у спокої/при фізичному навантаженні).

ЩО? (проблема) + буває/з’являється + КОЛИ? (WHAT happens/occurs WHEN?)

<table>
<thead>
<tr>
<th>ЩО? (O1)</th>
<th>КОЛИ?</th>
</tr>
</thead>
<tbody>
<tr>
<td>печія (heartburn) відрізка (belch) нудота (nausea) блювання (vomiting)</td>
<td>зранку (in the morning) вдень (in the afternoon) ввечері (in the evening) вночі (at night) натхнені вранці (on an empty stomach in the morning) після прийому іжі чи незалежно від прийому іжі (after taking a meal or it isn’t connected with eating) відразу після прийому іжі чи через якийсь проміжок часу (at once after taking a meal or some time after a meal/eating)</td>
</tr>
</tbody>
</table>

The fifth group consists of a small list of verbs that are not medical terms (турбувати, викликати, супроводжуватися).

Since a significant portion of the lexical-grammatical constructions and words from the third and fourth groups remain unchanged, when studying subsequent organ systems, students can focus on acquiring new words, building upon the
existing foundation. Expanding the range of response options and practicing them will enable students to transition to wider use of open-ended questions in the future.

Various exercises are used to facilitate the assimilation of words and constructions, including audio materials where students are prompted to ask questions as doctors or respond as patients. It is advisable to dedicate time during the lesson to practice the "doctor-patient" dialogue, both between the teacher and students and among students themselves, gradually expanding the lexical content and variability of the question-and-answer sets. For further independent development of communication skills of interaction between doctors and patients, students can use online AI platforms based on such dialogues.

References:
PHILOLOGY AND LINGUISTICS

