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### **IMPROVEMENT OF FUTURE DOCTORS' FOREIGN LANGUAGE COMPETENCE FORMATION METHODOLOGY IN THE CONTEXT OF MEDICAL EMERGENCIES**

The article deals with the improvement of foreign language competence formation in the context of medical emergencies on the base of Cambridge methods of EFL teaching. The future doctors regardless their specialty should be able to deal with medical emergencies that can occur to everybody at any time and in any country. The ability to provide first aid for a medical emergency is key evidence that shows the level of doctor's qualification. Thus it is vitally important for future doctors to learn the procedure of providing first aid for medical emergencies not in native language but in foreign language as well. The process of future doctors' foreign language competence formation is very challenging task not only for students, but also for teachers. There are specially improved Cambridge methods that are presented in the article, to form future doctors' foreign language competence formation in the context of medical emergencies. They are organized in the particular way during the lesson in order to achieve better results by means of teaching vocabulary related to medical emergencies. It is also provided the additional stage to the sequence of the lesson. Finally, it is created specially designed task for production stage taking into consideration the specific vocabulary. To fulfill this task, teachers also should be aware of peculiarities of medical vocabulary, so we provided some reference materials.

**Key words:** future doctors' foreign language competence formation, medical emergency, presentation, practice, production, verification, conclusion, vocabulary training.

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### **ВДОСКОНАЛЕННЯ МЕТОДИКИ ФОРМУВАННЯ ІНШОМОВНОЇ КОМПЕТЕНТНОСТІ МАЙБУТНІХ ЛІКАРІВ У КОНТЕКСТІ НЕВІДКЛАДНИХ СТАНІВ**

У статті розкрито підходи до вдосконалення процесу формування іншомовної компетентності майбутніх лікарів у контексті невідкладних станів на основі методів Кембриджської методики викладання англійської мови як іноземної. Встановлено, що майбутні лікарі, незалежно від їх спеціалізації, повинні вміти надавати медичну допомогу при невідкладних станах. Уміння надавати першу медичну допомогу при невідкладному стані є свідченням рівня лікарської кваліфікації. Така необхідність може виникнути у будь якій точці світу, тому для майбутніх лікарів важливо опанувати процедуру надання медичної допомоги при невідкладних станах не тільки рідною мовою, але й іноземною. Процес формування іншомовної компетентності майбутніх лікарів є складним завданням не тільки для студентів, а також і для викладачів. У статті представлено вдосконалення організації практичного заняття таким чином, щоб досягти кращих результатів у формуванні іншомовної компетентності майбутніх лікарів у контексті невідкладних станів, особливо у вивченні спеціалізованої термінології. Удосконалення методики полягає у впровадженні додаткового етапу у базову Кембриджську методику. Крім того, спеціально розроблено завдання для етапу заняття “застосування знань”. Зважаючи на специфіку медичної термінології, у статті також подано довідкові матеріали.

**Ключові слова:** формування іншомовної компетентності майбутніх лікарів, невідкладні стани, презентація, відпрацювання, застосування знань, перевірка, завершення, навчання лексики.

**Introduction.** Professional education in High Medical School is a core component of the continuing higher medical educational system and represents the integrated hi-tech networking principles and technologies for developing medical science, treatment patients and creating modern attitude to patients, their relatives, life-style and even health [4, p. 517]. Due to globalization and internationalization of modern society currently medical education requires transformational changes. Therefore main purpose of a new European process is to create conditions that support the formation of future specialists' professional competence. Foreign language competence is one of the important components of it. It provides the opportunity to receive more scientific information particularly in the context of medical emergencies (ME). Future medical specialists, regardless their specialties, must be able to deal with ME that can happen to any person at any time and any place. In order to cope with this challenging task, future doctors should learn the procedure how to provide the first aid for different ME. Since they can occur in any country, doctors have to be ready to give instructions in foreign language.

The researchers J. Harmer [2,3], J. Scrivener [12], S. Thornburry [11], P. Ur [14], D. Nunan [9] present different methods of English as a Foreign Language (EFL) teaching, however the methodology of foreign language competence in the context of ME were not paid enough attention. Nevertheless, this issue remains as one of the central in professional competence formation of any doctor. As a result, there is a necessity to develop methods in order to form future doctors' foreign language competence in the context of ME.

**The aim of the article** is to discover methods and substantiate their improvement for future doctors' foreign language competence formation in the context of medical emergencies.

**The basic part.** Medical vocabulary plays a significant role in formation of future doctors' foreign language competence. For this purpose Higher medical schools use methods of vocabulary lesson teaching where all exercises and activities are designed to train students' vocabulary knowledge. Scientists J. Scrivener [7, p. 237], J. Harmer [3, p. 37] and N. Schmitt [10, p. 5] admit the necessity of learning vocabulary in the particular context. Very often the relationship between a word and its referent is not direct one [10, p. 6], what is significant in context of ME. This idea is extremely relevant because in medical field some English terms may be named completely different. For example the word "rash" (concerns allergy, skin, infectious diseases) is a very simple term, for many people, which can describe a noticeable change in the texture or color of the skin. In fact, it can be quite diversely clinically manifested, and it differs much according to its morphological structure. Consequently each kind of rash possesses a particular name: "rash", "eruption", "rosacea", "blister", "pimple", "papule", "vesicule", "erythema", "macula", "acne", "urticaria". These words specify different rash elements which can occur as symptoms of different infectious diseases and even medical emergencies. Like the term "urticaria" which is a kind of rash typical for "hives" (severe allergic reaction) only. This point may seem confusing for specialists in linguistics, but it is obvious for medical specialists. Thus, teaching vocabulary component is important for forming future doctors' foreign language competence, especially in the context of ME.

Scientists J. Harmer [2, p. 180], J. Scrivener [11, p. 87], S. Thornburry [12, p. 37], D. Nunan [9, p. 28], P. Ur [14, p. 37] and others emphasize the importance of friendly environment creation for facilitating the process of foreign language learning. It is worth mentioning that the vocabulary related to the context of ME is referred to the situations which are usually not friendly at all, but they contain factors of fear and anxiety. Own teaching experience evidences that students are able to memorize the words, but very often they cannot apply them in practice. Nevertheless, any doctor must be ready to use his knowledge in any situations. For this purpose, it is offered to imitate real life situations where students have the opportunity to apply their professional and foreign language competencies. It is beneficial to use realia – different things (stethoscopes, needles, syringes, tourniquets, drugs) for creating the appropriate environment.

According to Cambridge methods of EFL (CMEFL) teaching, the lesson consists of the main parts: Presentation, Practice and Production (PPP). It is characterized by the high degree of teacher's control at first part of the lesson and finally allowing the learner to move gradually away from the teacher's support towards more automatic production and understanding [14, p. 17]. On the base of own pedagogical experience in order to form future doctors' foreign language competence in the context of ME it became obvious, that is necessary to improve it with additional stage which allows to summarize and verify students' knowledge.

The first part of the lesson in accordance with CMEFL teaching starts with the “Presentation stage” which consists of two steps: the introduction and the presentation of new vocabulary material. During the *introduction* (2 - 5 min.) the teacher presents with the topic of the lesson, i.e. particular ME for the purpose to involve the students into the English-speaking environment with a picture, a short video or a “funny” story (may be used to encourage students to guess the topic of the lesson). It is a good technique to ask students whether they had an experience of dealing with a medical emergency cases and experience of providing first aid.

During the *presentation* (15 min.), the teacher uses different methods to present new vocabulary related to ME such as brainstorming, eliciting. In this situation it is important to take in consideration that from the first year of studying, students learn Latin language and anatomy which are the great source of English vocabulary knowledge, so the teacher’s task is to activate it. The trainer may show a video or give a task to read a text or listen to a tape about particular medical emergency or just show some pictures with the new vocabulary. After that students should work with this new vocabulary. For example, if students are provided with the text, it is a good technique to ask students to find Latin or Greek terms that they already know. Then it is important for the teacher to pay attention to difference in pronunciation of these terms in English and Latin or Greek.

It is also possible to use matching activities (matching a word with a definition or matching a word with a picture). “Minding maps” or “spider grams” are very helpful to activate students’ knowledge. For instance, the instructor writes the word “hives” and students need to say what words can be associated with this dangerous allergic reaction. During this stage students will not remain silent. In this way teacher’s talking time (TTT) decreases and we increase students’ talking time (STT). Though, according to standards of PPP lesson TTT may prevail over STT [2].

The second, “*Practice stage*” (20 min), focuses on different exercises and activities designed to train accuracy. Students should be trained the new language in a controlled way. It is important for future doctors’ foreign language competence formation to correct students’ mistakes once they occur. At the same time practice stage is not a test or production stage, so students may rely on teacher’s support if they doubt accuracy. At this stage students may be asked to *drill sentences or dialogues by repeating* after the teacher or the tape, *match parts of one sentence, complete sentences or dialogues, ask or answer different questions, fill the gaps in the sentences, cross out an odd word, categorize the words, find synonyms or antonyms to a given word, construct new words by adding prefixes or suffixes* (example: conscious – unconscious, treat - treatment), *do crosswords, compose sentences* with a given word and other vocabulary games which are very essential in practising vocabulary and using the target language.

The third, “*Production stage*” is the longest (40 min) and the most important part of the lesson: students use the presented vocabulary in real life situations. According to standards of CMEFL teaching, tasks for production stage may be different [2]. The main aim is to create the situation for the students where they can apply their knowledge. Taking into account the specificity of presented material, we advise using different “*Role plays*”. They are very effective method to teach vocabulary in the context of ME as students are involved in real life situations. In this way this activity prepares them for a medical career. For instance, “*Rescue team*”- the group of three person, organized in emergency medical situation for immediate help and care. There is one leader and two participants - the leader gives instructions to the participants, after that they change roles. It is extremely important due to Tuning project which states that the students have to be practically and psychologically prepared for their future roles in society, especially in non typical situations [13]. By conducting such kind of activity, we involve students during the class in simulating tense professional situations where they have to start applying vocabulary knowledge. In this way we form not only foreign language competence but professional one as well. Moreover, the activity that was described above is designed to form students’ leadership competence which is vitally important for a future doctor as it is considered “as maturity to take responsibility for themselves and for the whole group of people; that is why, the role of ability to work in a team, especially in international one, increases” [5, p. 262]. And vice versa, the absence or poor level of confidence may lead to the number of negative phenomena: psychological disorders such as anxiety, lack of self-confidence, frus-

tration, depression, inferiority complex, tension inside the community, decrease of working capacity [5, p. 263]. So, “Production” shows the main results of the teacher’s work and it is considered as a feedback. Consequently STT should prevail over TTT [2, p. 67]. At this stage a teacher monitors the students’ work and may correct the way of activity, at the same time students should be ready to apply the presented vocabulary in situation which is close to life without any teacher’s support.

It is necessary to admit that foreign language competence in the context of ME is a one of the key components of vocabulary training of future doctors due to its relevance. This task is challenging for both teachers and students. Teachers, as professional linguists, are not specialists in medicine. At the same time, first year students do not study clinical subjects. Beyond doubt, acquiring this professional component takes time, so we provided reference materials on some ME, presented in Table 1. It can be useful both for teachers and students as a guidance to increase the level of their foreign language competence in the context of ME.

**Table 1**

*General characteristics of medical emergencies*

**ANAPHYLACTIC SHOCK**

**Definition.** An allergic reaction that can occur very fast within seconds or minutes of coming into contact with an allergen [15].

**Etiology and pathogenesis.** The known cases of shock are consumption of food products, sting wasps, bees, bumble bees, when carrying out specific treatment and allergological examination, as well as in response to exposure to cold factor. Drug anaphylactic shock is the most terrible manifestation of side effects of drugs.

Scheme of development of anaphylactic shock consists of three stages.

*Immune stage* – the stage of sensitization. The complex allergen-antibody is formed at this stage. The specific antibodies produced in an allergic reaction are known as Immunoglobulin E. These antibodies trigger the release of histamine and other chemicals when the organism is exposed to an allergen. *Pathochemical stage* is characterized by release of chemical transmitters (histamine) which trigger the allergic reaction. Histamine causes smooth muscles of the airways and gastrointestinal tract to be contracted. It also increases the secretion of mucous production and pruritus. Histamine causes blood vessels to dilate and become more permeable. In the lungs histamine causes swelling of airways. *Pathophysiological stage*- clinical manifestations [1, p.132].

**Methods of diagnostics.** Taking anamnesis, assess airways, breathing, circulation, disability, exposure (ABCD), pulseoximetry, skin test (to define the allergen). [7]

**Clinical pattern.** Signs and symptoms depend on the stage of shock:

I stage: dizziness, headache, tremor, skin reactions: erythema, redness, itching, swelling.

II stage. Additionally: nausea, vomiting, drastic drop in blood pressure, tachycardia, and shortness of breath.

III stage. Additionally: bronchospasm, emotional shock, cramps of central origin.

IV stage. Cardiac arrest. No signs of cardiac function. [7, p.7]

**First aid** is provided at the place where medical emergency happened.

1. Stop administering an allergen immediately,

2. Inject epinephrine (0,01ml per kilogram) into anterolateral area of the thigh. Make a note of time and dose.

3. Position of the patient:

*Supine with the feet raised* – if the patient has unstable blood circulation,

*Sitting posture* – if person suffocates (respiratory failure),

*Recovery position* – if person is unconscious.

4. Provide intravenous approach (2 veins) using either needles or catheters with wide cannulae (14-16 calibre). Patients with cardiovascular insufficiency are required bolus injection of saline solution (20ml per kilogram)

5. Control blood pressure.

6. Inject IV or intramuscular H1- and H2- histamine receptors blockers

7. Inject corticosteroids IV (slow, drip-feed or intramuscular).

**NOTA BENE:** the danger of laryngeal oedema (in this case, call anesthesiologist or surgical airway management is necessary) [7, p.14].

*Table 1 (continuation)*

<b>SYNCOPE (FAINT)</b>
<p><b>Definition.</b> A temporary hypoxia of the brain. [6, p. 7]</p> <p><b>Etiology &amp; Pathogenesis.</b> Bleeding, hypoglycemia, dehydration, low blood pressure, problems with the heart rhythm and others.</p> <p><b>Clinical pattern.</b> Slurred speech, confusion, dizziness, a rapid heartbeat, glassy stare, inability to respond to any stimuli or shaking [17, 18].</p> <p><b>First Aid</b> is provided at the place where medical emergency happened.</p> <ol style="list-style-type: none"> <li>1. Put the person supine with the feet raised.</li> <li>2. Loosen any restrictive clothes or belts.</li> <li>3. Provide fresh air.</li> <li>4. If the person does not regain consciousness within a minute, call an ambulance.</li> </ol> <p>Check again to see if the person is breathing, coughing or moving. If the signs of cardiac functioning are absent, perform CPR (cardiopulmonary resuscitation) until ambulance arrives.</p>
<b>SUDDEN CARDIAC ARREST</b>
<p><b>Definition.</b> The heart suddenly stops contracting effectively and blood is not circulated by the heart.</p> <p><b>Etiology and pathogenesis.</b> Coronary artery disease (CAD), which reduces blood flow to the heart muscle, profuse bleeding, severe lack of oxygen. The mechanism of death in the majority of people dying of sudden cardiac death is ventricular fibrillation (VF). In ventricular fibrillation, the ventricles do not contract normally. Instead, they quiver very rapidly and irregularly. When this happens, the heart pumps little or no blood to the body. <a href="#">Oxygen-starved brain cells start to die. Death occurs in minutes [19].</a></p> <p><b>Methods of diagnostics.</b> Physical examination (checking vital functions (CAB): circulation, airways, breathing), ECG (electrocardiography), pulseoximetry (checking the level of oxygen saturation).<a href="#">[8, p. 7]</a></p> <p><b>Clinical pattern.</b> Apnoea, not moving, not responding to any stimulation, such as being touched or spoken to.</p> <p><b>First Aid.</b> Before providing CPR, it is necessary to check the patient's consciousness by calling him or shaking gently.</p> <p>CPR is performed in the following way (according to NHS's recommendations):</p> <ol style="list-style-type: none"> <li>1. Place the heel of your hand on the centre of the person's chest, then place your other hand on top of your first hand and interlock your fingers. Then press down by 5-6cm (2-2.5 inches) at a steady rate of 100 to 120 compressions per minute.</li> <li>2. After every 30 chest compressions, give two rescue breaths.</li> <li>3. Tilt the casualty's head gently and lift the chin up with two fingers. Pinch the person's nose. Seal your mouth over their mouth and blow steadily and firmly into their mouth for about one second. Check that the chest rises. Give two rescue breaths.</li> <li>4. Continue with cycles of 30 chest compressions and two rescue breaths until they begin to recover, emergency help arrives or you become exhausted.</li> </ol> <p>If a rescuer is not completely confident in his/her skills, hands-only CPR should be performed instead <a href="#">[16]</a>.</p> <p><b>Defibrillation.</b> This is the most important treatment for cardiac arrest. It is performed using a medical device that gives an electrical shock to the heart. The shock can get the heart beating normally again. This treatment works best when given within a few minutes. <a href="#">[8, p. 11]</a></p>

Since vocabulary topic, partly presented in Table 1, is considered very difficult for the students, it was offered to improve CMEFL teaching by adding “**Verification stage**” (5min) in the sequence of the lesson. The aim of this part is to review the vocabulary of the lesson. It gives a chance to check whether students have learned all details of presented material. It is useful to ask learners to comment on several statements whether they are true or false or just ask some questions in order to check material comprehension. This stage will allow students to review presented vocabulary topic once again.

The last stage is “*conclusion*” (2-5min). At this stage the teacher sums up students' knowledge of the lesson. At the end of the class it is necessary to praise the students for good work as the topic “medical emergency” is a very difficult task. It is necessary to admit that English teachers have to present much information into a very limited range of time.

**Conclusion.** On the basis of scientific sources and own pedagogical experience, it has been substantiated the improvement of the methodical bases of future doctors' foreign language competence formation in the context of ME by adding new "verification stage" to the CMEFL teaching technology. It has been implemented specially designed task "Rescue team" into the production stage of CMEFL teaching. In addition, it has been created reference materials on three ME (anaphylactic shock, syncope, sudden cardiac arrest).

The further research will concern development of supplementary materials on other ME.

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