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ПОШУКОВО-ІНФОРМАЦІЙНА КОМПЕТЕНТНІСТЬ МАЙБУТНІХ ІНЖЕНЕРІВ-БІОМЕДИКІВ ТА ЕКОНОМІСТІВ ЯК ВАЖЛИВА СКЛАДОВА КОРИГУВАННЯ СТАНДАРТІВ БЕЗПЕКИ ПРОФЕСІЙНОЇ ДІЯЛЬНОСТІ

Анотація. У статті розглядається проблема формування пошуково-інформаційної компетентності в системі професійної підготовки майбутніх інженерів-біомедиків та економістів на заняттях з іноземної мови. Шляхом вивчення та аналізу науково-методичної літератури визначено основні напрями розвитку електронної лінгводидактики рідної мови в цілому та розробки та впровадження електронних лексичних завдань навчального призначення зокрема. Для розвитку пошуково-інформаційної компетентності автори пропонують використовувати інформаційні технології, зокрема систему вправ і завдань, пов'язаних із використанням електронних словників. Рівень сформованості пошуково-інформаційної компетентності є дієвою складовою коригування норм професійної діяльності в майбутньому. Автори зосередили увагу на проблемі формування пошуково-інформаційної компетентності майбутніх інженерів-біомедиків та економістів у процесі роботи з лексико-інформаційною літературою. Наведено основні підходи до сутності поняття пошуково-інформаційної компетентності в педагогічній та психологічній літературі. Однією з головних проблем у реалізації загальнотеоретичної підготовки майбутніх інженерів-біомедиків та економістів до професійної діяльності з використанням інноваційної техніки та комп'ютерних технологій є відсутність інформаційно-методичного забезпечення. Спеціально розроблені навчальні посібники, лабораторні практикуми тощо, в яких студенти зможуть

не тільки отримати знання з використання комп'ютерних технологій, але й представити результати своїх досліджень із запропонованих тем. Варіативність завдань та колективне обговорення робіт студентів значно підвищить інтенсивність навчального процесу та розширить загальне уявлення майбутніх інженерів-біомедиків та економістів про інформаційні ресурси для забезпечення навчального процесу. Визначення пошуково-інформаційної компетентності набуває нових відтінків, отримує нове наповнення та пояснення в роботі. Теоретично та експериментально обґрунтовано модель формування пошуково-інформаційної компетентності. Визначено, що загальні дидактичні навички роботи з лексико-інформаційною літературою є обов'язковими як головна умова формування пошуково-інформаційної компетентності.

Ключові слова: електронний (онлайн) словник; комп'ютерна лексикографія; пошуково-інформаційна компетентність; майбутні інженери-біомедики та економісти; поняття компетентності; професійна лексика; відповідні завдання.

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SEARCH-INFORMATIONAL COMPETENCE OF FUTURE BIOMEDICAL ENGINEERS AND ECONOMISTS AS AN IMPORTANT COMPONENT OF ADJUSTMENT OF SAFETY PROFESSIONAL ACTIVITY STANDARDS

Abstract. The article considers the problem of formation of search-informational competence in the system of professional training of the future biomedical engineers and economists in foreign language classes. By studying and analysing the scientific and methodological literature, the main directions of the development of native electronic language didactics in general and the development and implementation of electronic lexical tasks for educational purposes in particular. To develop search-informational competence, the authors propose to use information technologies, including a system of exercises and tasks related to the use of electronic dictionaries. The level of formation of search-informational competence is an effective component of adjusting the norms of professional activities in the future. Authors focused on the problem of forming the search-informational competence of future biomedical engineers and economists in the process of work with the lexical-informational literature. The main approaches to essence of the concept of search-informational

competence in the pedagogical and psychological literature are given. The definition of search-informational competence acquires new shades, receives new filling and explanation in the work. One of the main problems in the implementation of general theoretical training of future biomedical engineers and economists for professional activities using innovative techniques and computer technologies is the lack of information and methodological support. Specially developed teaching aids, laboratory workshops, etc., in which students would be able not only to gain knowledge on the use of computer technologies, but also to represent the results of their research on the proposed topics. The variability of tasks and collective discussion of student work will significantly increase the intensity of the learning process and expand the general understanding of future biomedical engineers and economists about information resources to support the educational process. The model of forming the search-informational competence is theoretically grounded and experimentally based. It is determined that the common didactical skills of the work with lexical-informational literature are required as the main condition to form the search-informational competence.

Keywords: electronic (online) dictionary; computer lexicography; search-informational competence; future biomedical engineers and economists; concept of competence; professional vocabulary; relevant tasks.

Highlights. Competence approach puts in the first place not the knowledge of the future specialist, but the ability to solve problems that arise in cognitive, technological and technical activities, in the areas of ethical, social, legal, professional, personal relationships.

The degree of expression of each of the components and their integrity has become an indicator of a certain (high, intermediate, sufficient, elementary, insufficient) level of formation of search-informational competence of future biomedical engineers and economists.

The ability to operate with known / unknown language material in the new context quickly provides an opportunity to understand the language units of the information source and, thus, the entire information message or fable text. Essential for foreign language reading is the fact that both the author and the reader must know the language approximately equally.

The development and improvement of technical means of teaching, increasing their technical and didactic capabilities, new options for their creation and use to achieve a higher pedagogical effect are appeared. A new solution to the scientific problem is presented – a substantiated and experimentally tested effectiveness of the model of formation of search-informational competence of future biomedical engineers and economists when working with dictionary literature.

Introduction. While studying a foreign language in the first year in a higher educational institution of technical direction, the future specialists are faced with various elements that they can deal with their professional activity. For example: texts and articles of professional orientation, training exercises, abstracts, reports in a foreign language, conversational topics, etc. In the process of learning foreign languages, an important tool of learning along with the textbook is a dictionary.

With the help of a dictionary, the student must find the translation and meaning not only of commonly used words, but also of professional terms that can be given in the list of meanings of commonly used vocabulary. Today, many dictionaries have been published, most of which are of general purpose. In addition, a number of specialized (legal, mathematical, physical and technical, which can unite industries) and others, more specialized have been developed. As a rule, the volume of such dictionaries is not large; the terms are separated from the common vocabulary, carefully selected, which allows not only to find a suitable translation of the word, but also to see examples of usage in phrases and sentences. Language teaching in higher education institutions in accordance with the National Strategy for the Development of Education in Ukraine until 2021, the concept of language education should be aimed at forming a person who is fluent in the means of language in any speech situation [9]. It is impossible to imagine foreign language classes without a dictionary. Their presence is necessary for a modern qualified specialist when working with foreign professional literature, documentation, contracts and in many other cases. The dictionary is also needed for communication during the international conferences, internships, receptions of foreign delegations, etc. However, the usage of printed dictionaries is impractical in such situation, especially given the possibilities of the Internet (online dictionaries). However, so far insufficient attention has been paid to the usage of electronic dictionaries in teaching foreign languages to students of technical higher education institutions.

We consider the usage of information and communication technologies to be the key for solving this problem. There is no need to prove their importance in the modern world, in particular – in the educational process. In recent years, information technologies have entered the lives of Ukrainian educational institutions. A. Andreyev [1], O. Voronkin [4] and others made a significant contribution to the development of both theoretical and practical use of information technologies of education. They pointed out the ways of effective learning using various technical means, including a computer that is connected to the Internet. S. Bodnar [3], J. Menshikova [8], O. Paliy [10], S. Shevchenko [11] and others devoted their works to the problem of using information technologies in teaching foreign languages. But O. Kasilov [5] and others dedicated their works to the creation of electronic dictionaries.

The aim of this article is to consider the advantages of electronic educational dictionaries in the formation of search-informational competence and the possibility of their use in the process of teaching professional vocabulary in a foreign language. It is also to determine the features of the vocabulary of students of technical field, to analyze different types of educational materials that will contribute to the formation of lexical competence.

Research methods. To achieve this goal, the following research methods were used: analysis and synthesis of pedagogical literature, questionnaires, generalization and interpretation of questionnaires results.

The main goal of any educational system is the need to form students' skills of independent acquisition of knowledge and navigation in a complex information space, extraction of necessary information from various sources, especially from

foreign languages sources with the help of skills and abilities to work with dictionaries and reference literature. At the present stage of market relations, when the rate of accumulation and transmission of information is growing, there is a contradiction between the production of information and the possibilities of its consumption, processing and using.

Taking into account the selection of words and the nature of their explanation, lexicographers divide all dictionaries into two main types: linguistic and encyclopedic. Linguistic dictionaries have their own division according to their purposes. For example, general linguistic dictionaries describe all words of the language or their main part: explanatory, translated, historical, dialectal and others. Encyclopedic dictionaries are divided into general, universal and branch. Linguistic and encyclopedic dictionaries have different purposes and tasks. Two types of dictionaries – encyclopedic and linguistic in practice show a tendency to rapprochement.

The emergence of cinema and television, which began with the showing of everyday life events, has become qualitatively new phenomenon by virtue of the impact on the formation and development of man. Their perception and widespread usage in everyday life have put forward new requirements for traditional systems of education and upbringing. Analyzing modern information sources, they can be divided into classical (printed) and electronic.

Thus, one of the main means of teaching foreign language vocabulary is a dictionary. Currently, the dictionary performs an auxiliary function. How to organize the learning process using dictionaries properly is a question that is increasingly faced by the teacher, who begins to work in a different leveled group of students with different motivations. It is also noted that the vast majority of dictionaries do not seek to explain the understanding of foreign words, and give only their possible translations in different contexts.

The level of formation of search competence of future specialists of technical specialties is investigated and the model of formation of search-informational competence of future specialists of technical specialties in the conditions of optimization of profile program vocabulary during the work with electronic general and branch dictionaries at foreign language classes is developed.

In university practice it is extremely important to develop a system of using dictionaries. First of all, it is necessary to popularize dictionaries of different types that are published among the students, to discuss them as the novelties of literature, to summarize at classes. The general scheme, which we propose to follow when solving the problem of using dictionaries, seems to us as follows: dictionaries should be interpreted primarily as a universal source of knowledge, as an indicator of the culture of the people, an important factor in its development; to develop a system in the use of dictionaries, to subordinate this work as much as possible to the education of curiosity, the development of independence, self-discipline of future specialists; to diversify forms of work with dictionaries, to use them during classes, to organize independent acquaintance with dictionaries, to provide dictionary subjects in programs.

With the advent of new information technologies, along with printed dictionaries and reference books, new ways of information searching for – from electronic once appear.

Since the work on paper dictionaries is well regulated at the pre-computer level, it is quite natural that computer lexicography began to develop from the automated preparation and publication of paper dictionaries.

In world pedagogy there is a popular concept of competence, which is based on the idea of the ability to apply knowledge with the greatest efficiency, this concept is put into the foundation of our research.

Competence approach puts in the first place not the knowledge of the future specialist, but the ability to solve problems that arise in cognitive, technological and technical activities, in the areas of ethical, social, legal, professional, personal relationships.

Obviously, the competency approach requires strengthening personal orientation in shaping the content of education. Today in the world educational practice the leading approaches are activity, personality-oriented and competence. Implemented into curricula and playing a role in shaping the educational space, the competency approach also changes the perception of professionals about assessment. It is not the individual's internal organization of knowledge, personal qualities and abilities that is important, but the ability to apply competencies in learning and life.

In the structure of professionalism of future biomedical engineers and economists, information culture is becoming increasingly important, which is becoming one of the most important requirements of their professional competence, and therefore it should be an integral part of their training. Nowadays, the attitude to the content of the educational dictionary is changing. The dictionary is understood as “a lexicographic work of any type and volume, specially designed to assist in the study of language as a tool of transmitting their own and perception of other people's information states” [7], as a supplement to a foreign language textbook. Summarizing the above regarding the work with dictionaries, it can be noted that: the absence of all forms of words in a bilingual dictionary significantly complicates the use of this dictionary; the presence of some grammatical explanations (rules) in the dictionary will facilitate the use of the dictionary; the ability to use the dictionary should be developed on the basis of a clear, well-thought-out system of cognitive exercises, built taking into account all the leading principles of didactics; learning to use a dictionary has practical, educational and general educational significance and should begin as early as possible. This type of learning activity should take place regularly and consistently.

Difficulties in using the dictionary are gradually being overcome. Training, in our opinion, includes four stages: introductory – at the initial stage of learning foreign languages; preparatory – learning the skills to use the dictionary in the textbook; basic – the ability to use a common vocabulary; effective – actually checking how freshmen have learned to use a dictionary [6].

The computer can be used at all stages of the learning process: when explaining new material, consolidation, repetition and control. Dictionary-reference books will always be present during all stages of the lesson.

We used the concept of search-informational competence, which has the following content (meaning): the ability to carry out informational and search activities using the latest advanced technologies at the professional level (for professional growth) through mastering practical skills with profile dictionaries, analysis of information and its using [6].

Lack of study time prompted us to develop an effective (in our opinion) model that will help the student in finding the necessary information.

One of the main problems in the implementation of general theoretical training of future biomedical engineers and economists for professional activities using innovative techniques and computer technologies is the lack of information and methodological support. Specially developed teaching aids, laboratory workshops, etc., in which students would be able not only to gain knowledge on the use of computer technologies, but also to represent the results of their research on the proposed topics. The variability of tasks and collective discussion of student work will significantly increase the intensity of the learning process and expand the general understanding of future biomedical engineers and economists about information resources to support the educational process.

The scheme indicates the following internal conditions: attitude to dictionary and reference literature; ability to self-organize while working with dictionaries; formation of own thesaurus; level of search and information competence. By differentiating the methods, means and forms of learning, it is possible to solve the problem of forming language competence.

The sequence of training offered in our model gradually forms the knowledge, skills, and abilities, which are necessary for future experts of technical specialties, shown in Figure 1.

The model consists of interrelated methodological, activity-content and effective blocks. The methodological block defines the purpose, objectives and principles of the model, which are the basis for the formation of search-informational competence of future biomedical engineers and economists to search activities. Particular attention in the content component is focused on the formation of search-informational skills in the teaching of a foreign language, Ukrainian and professionally oriented disciplines. Classes in philological disciplines create prospects for the successful application of acquired skills in the acquisition of professionally oriented disciplines. The activity-content block envisages taking into account not only the quantitative accumulation of information and the specifics of working with it, but also the level of formation of search-informational competence of future biomedical engineers and economists at each stage. The process of formation of search-informational competence is carried out in three directions: personal (formation of personal qualities of future specialists); theoretical (providing the necessary knowledge for future professional and exploratory activities); practical (formation of professional search skills). The content of the model provides for the preparation of future professionals for search activities in the classroom (in the process of studying the relevant disciplines, including special courses) and extracurricular time (independent work of students). The criteria of formation of

search-informational competence of future biomedical engineers and economists in the conditions of modern educational process are formulated.

The first criterion – information literacy, is determined by the characteristics: knowledge of information sources; knowledge of the specifics of the influence of dictionary and reference literature on the development of personality; ability to find information from any informational sources.

The second criterion – the personal and professional attitude of the future biomedical engineers and economists to information products (dictionaries and reference literature) has the following features: knowledge that the search of information is a product of creative activity of the individual; knowledge about the scientific and pedagogical potential of dictionaries and reference literature; ability to choose personally relevant information optimally.

The third criterion – the ability to use information sources for professional purposes of future biomedical engineers and economists is characterized by the following features: the ability to identify information sources in accordance with the professional field correctly; ability to use information sources to prevent burnout; ability to use the found information for further professional growth.

Results and discussions. The degree of expression of each of the components and their integrity has become an indicator of a certain (high, intermediate, sufficient, elementary, insufficient) level of formation of search-informational competence of future biomedical engineers and economists.

We have developed a methodology for assessing the performance of exercises and obtained the appropriate results. In order to determine the initial level of formation of search-informational skills in the process of working with electronic dictionaries was developed and conducted a section on the skills and speed of using translation dictionaries before and after the introduction of appropriate methods.

The characteristic of each level of formation of search-informational competence of future biomedical engineers and economists as a whole was given.

High level (39-45 points) – the student shows special search abilities, works independently without additional control and help of the teacher, is able to find and process various information in a short time independently, uses acquired skills in unusual situations.

Intermediate level (30-38 points) – the student is able to compare, summarize, organize information under the guidance of the teacher, in general, independently finds and applies it in practice, but spends more time on its search and processing.

Sufficient level (18-29 points) – the student has the skills to search and process information, but only under guidance, is able with the help of the teacher to reproduce a significant amount of found information.

Elementary level (9-17 points) – the student knows where and how to find the necessary information, but does not have the necessary skills to search and process it. Without the guidance of a teacher, he begins to get lost, spends a lot of time searching for the necessary information.

Insufficient level (0-8 points) – the student has search and information skills at the elementary level, lingers on the search and understanding of various concepts,

words and information in general. He returns to what he has already read, each time spending precious time on it.

The model developed by us most fully, in our opinion, reflects the proposed scheme of professional training for the use of dictionary-reference literature, and a detailed analysis of its content and operational components are natural.

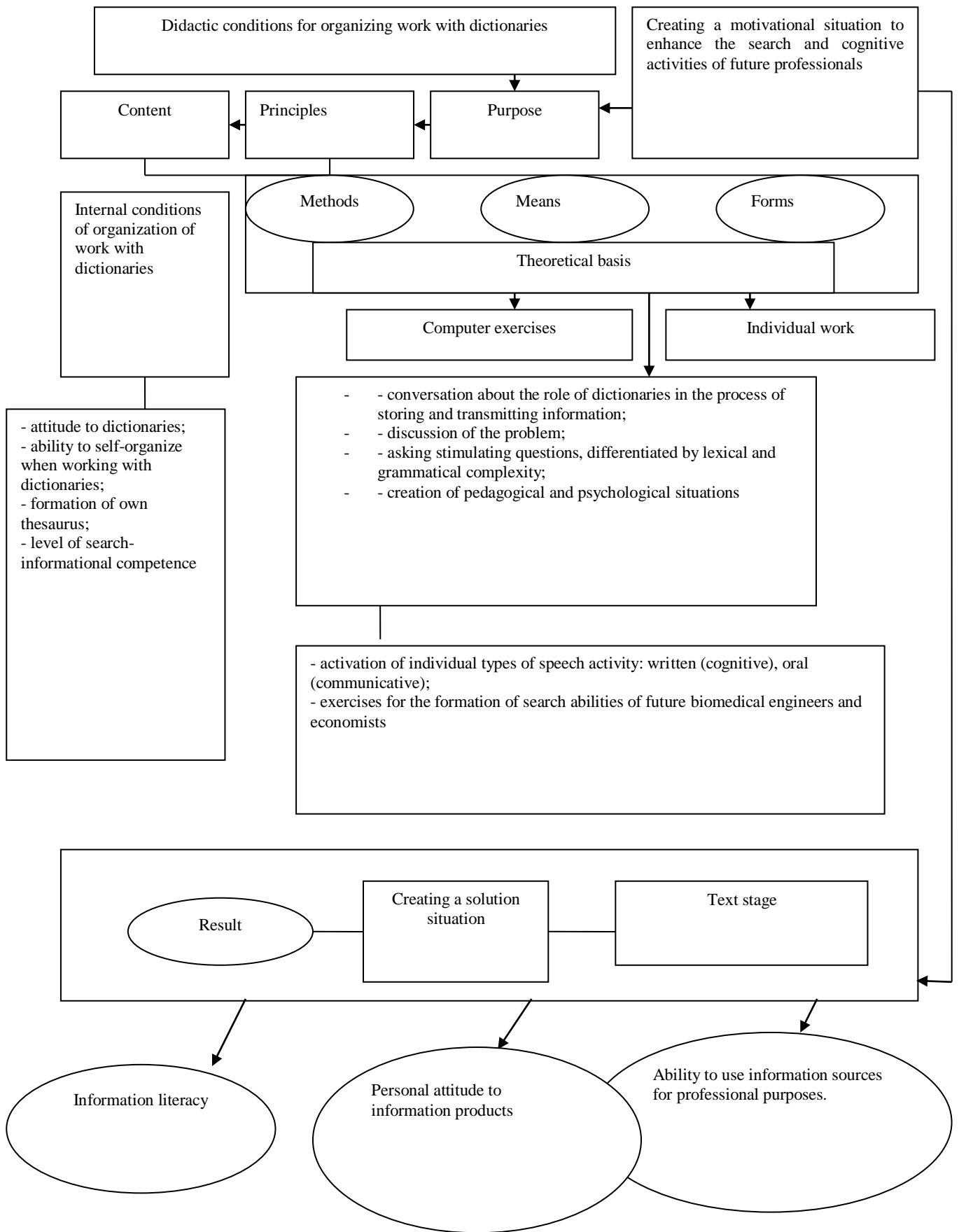


Figure 1. Model of formation of search-informational competence of future biomedical engineers and economists.

The content component of the model should include information on the following issues:

information sources and the specifics of their influence on the formation of personality;

obtaining information – the process of creative activity of future professionals; informational and pedagogical potential of dictionaries.

The operational component of the model should ensure the formation of future specialists the following skills:

navigate among a large number of information sources, both classic printed and electronic;

choose personally relevant information in the shortest time.

Main tasks:

to form practical skills of search and use of information;

to form a positive attitude of working with dictionaries;

to pay attention to the repetition of grammar of a foreign (English) language during the search, which will deepen and strengthen the knowledge of future biomedical engineers and economists;

to form the students ability to improvise, to think logically in specific (critical) situations, which will help in further work greatly.

In accordance with our tasks, special attention was paid to the preparation of exercises for the formation of skills in working with dictionaries of different types (translation, explanatory, synonyms, homonyms, antonyms, phraseological and various branches). During the practical classes, teachers involved students in conducting educational and experimental work, which gave significant results in the formation of search-informational competence of future biomedical engineers and economists when working with dictionaries, focusing on the capabilities of electronic dictionaries. The corresponding changes can be seen in the graph.

The results of the sections are shown below in Figure 2.

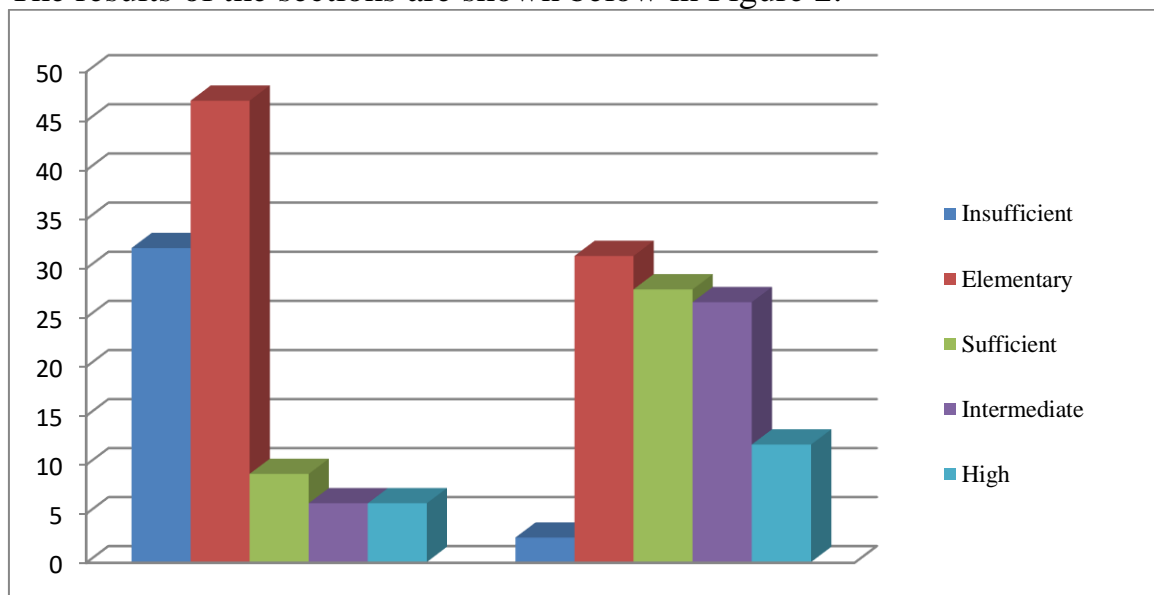


Figure. 2. Comparison of the results of sections before and after the introduction of the method

The analysis of the performed tests revealed an insufficient level of formation of the search-informational competence of future biomedical engineers and economists, as evidenced by low rates.

To identify common errors in the search of foreign words, so that the results were unbiased, students were offered questionnaires-codes, where they encrypted their data personally.

The current, intermediate and final types of control were carried out on the basis of the credit-module system of assessment of students' educational activity, which was introduced in higher educational institutions of Ukraine. In general, the content of the course was focused on achieving optimal search performance of students, taking into account interdisciplinary links.

The results obtained during the work of experimental groups with the developed subsystem of exercises testify to the effectiveness of the proposed model of formation of search-informational competence: the search coefficient after experimental training (in experimental groups (EG) increased by 0.43 in EG 1, by 0.29 in EG 2, by 0.28 in EG 3, by 0.32 in EG 4 (Table 1).

To calculate the coefficient of search skills of future biomedical engineers and economists, we used the formula of V. Bezpalko V.P. $K = Q/N$, where Q is the number of correctly completed tasks, and N is the total number of tasks. The completed task is satisfactory if $K \geq 0.7$ [2].

Group	Coefficient of training		Increase
	Before the forming experiment	After the forming experiment	
EG 1	0,4	0,83	0,43
EG 2	0,2	0,49	0,29
EG 3	0,1	0,38	0,28
EG 4	0,1	0,42	0,32

Table 1. Comparative table of results before and after the forming experiment

After counting the points for the forming experiment, the results confirmed that only 6% of respondents have a high level of search-informational competence among future biomedical engineers and economists, the intermediate level is also only 6%, a sufficient level corresponds to 9%, the elementary level – 47%, and insufficient level was received by 32% of respondents. Thus, we found that the level is requirement to the program of higher education and is acceptable to modern society is only 21% (high, intermediate and sufficient).

After the appropriate training in the group EG 1 no student has insufficient level of information retrieval, elementary – 29%, sufficient –30%, intermediate –24% of respondents, high – 17% of students. Significant changes also took place in EG 2 students: insufficient level of search is 2%, elementary –29% of students, sufficient – 27%, intermediate –30%, high –12% of students. In EG 3 only 2% of students have an insufficient level of formation of search-informational competence of future biomedical engineers and economists, 31% of respondents acquired elementary, 29%

– sufficient, 28% –intermediate, 10% –high level. EG 4 students also underwent significant changes: insufficient level of formation of search-informational competence of future biomedical engineers and economists has 6% of students, elementary –35% of students, sufficient –25%, intermediate – 24%, high –9% of students.

After the forming experiment, it was founded that a high level of search-informational competence of future biomedical engineers and economists was reached by 12% of students, intermediate – 26.5%, sufficient – 27.8%, at the elementary – 31.2% of respondents, at insufficient – 2.5%. The overall figure is: 66.3% – the level that meets the requirements, but 33.7% of respondents still need relevant work.

In accordance with the program requirements for working with the translation dictionary cut tasks were developed, they were based on lexical and grammatical material of the first year of studying: grammatical topics – noun (plural nouns, possessive case); pronoun (personal, possessive, reverse, interrogative, indicative); adjective (degrees of comparison); tense forms: The Present Simple Tense, The Past Simple Tense, The Future Simple Tense; The Present Continuous Tense, The Past Continuous Tense, The Future Continuous Tense; The Present Perfect Tense, The Past Perfect Tense; lexical material on the topics of professional orientation: “Electric current”, “Motors and Generators”, “ Measuring Devices”, “Technical Equipment”, “Software and Hardware” and others.

The ability to operate with known/unknown language material in the new context quickly provides an opportunity to understand the language units of the information source and, thus, the entire information message or fable text. Essential for foreign language reading is the fact that both the author and the reader must know the language approximately equally. After all, if the reader's vocabulary is much poorer than the author's is, then there will be difficulties in understanding the information. In our case, such discrepancies are not uncommon, as students of non-language faculties face difficulties in translating foreign texts much more often, as this type of work is often submitted for self-study and is based on already acquired skills of work in text and dictionary, and search skills are not tested at the lesson, only the final result is important. When performing the relevant tasks, the attitude to the content of the educational dictionary changes. As Kochneva O. and Morkovkin V. noted dictionary is no longer just a book with a large number of unintelligible words, it is considered as “a lexicographic work of any type and volume, specifically designed to assist in language learning as a means of transmitting their own and perception of other people's information states. When creating a training dictionary, its first methodological goals are determined, then procedures are developed to ensure their achievement, and only after and on this basis is a dictionary created” [7]. They were talking about the usual printed translation dictionary. And to paraphrase their words about e-dictionaries with their extraordinary ability to find relevant variants of lexical items and examples of their use, we can say that the e-dictionary is designed to facilitate the achievement of the most complex learning objectives.

A number of methodological requirements for educational dictionaries, both printed and electronic, were pointed out:

- the description of language units should motivate to action;
- language units that serve different types of speech activity have different approaches;
- the description of language units must be multileveled;
- the description of the language material should be consistent with the description of other sources;
- the dictionary should promote learning and provide the possibility of self-control;
- the dictionary with its content, the way of presenting this content should support and even motivate students;
- words of productive and receptive assimilation should be highlighted in the dictionary;
- the dictionary should contain guidelines for working with it.

Today, a large array of specialized electronic teaching aids (dictionaries and translators) has been created. Although the electronic dictionary must meet all the requirements of the printed dictionary, it, unlike its “predecessor”, has a number of advantages. When it comes to professional activities, it is difficult to predict when the need for a dictionary will arise. An electronic dictionary is always at hand, it can be downloaded to a personal phone (smartphone), laptop and with modern capabilities it will not be difficult to use. But its compactness and mobility are not the only advantages. It should also be noted that:

- 1) electronic dictionary has a high speed of search for a lexical unit, compared to the printed dictionary;
- 2) electronic dictionary provides different grammatical forms of words;
- 3) electronic dictionary can find the corresponding lexical unit from the user's voice and give its sound pronunciation;
- 4) electronic dictionary provides almost comprehensive information about the meaning of the word, the features of its combination with other vocabulary, provides contextual meanings.

However, there are disadvantages: the high cost and narrow specialization of the electronic dictionary limit their scope. But as we mentioned above, the advantages of this type of dictionaries, which are designed for use on personal and portable computers (phones), are much more significant. They are more convenient to use compared to printing due to the speed. Speed of search, as well as the possibility of simultaneous use with other programs, such as text editor, e-mail, web browser and others. One of the main conditions for updating the cognitive and communicative needs of future professionals in the learning process is an accessible and understandable use of dictionaries, which contain the most information about the word. A foreign language is the most integrated with other fields of knowledge, and an electronic dictionary is the necessary learning tool that is most flexible to update and disseminate information quickly.

In our work, we took into account a number of factors that may affect the learning of a foreign language by students of non-language specialties and their elimination, in our opinion, will help the ability to use e-dictionary (formation of search-informational competence).

So, we have identified the following:

- low cognitive interest to the subject – involvement into the learning process of modern technologies will change this trend;
- multileveled and overcrowded (more than 15 people) groups (no division of students according to the level of foreign language proficiency) – the introduction of methods using in class and during independent work of electronic dictionaries will increase the level of foreign language proficiency;
- limited number of classroom hours – mastering the methods of working with the e-dictionary will save significant amounts of time to improve language skills;
- insufficient number of textbooks and manuals, their imperfections (often professional errors) – electronic dictionary provides an opportunity for rapid adjustment.

However, it should be noted that there are a number of objective factors that affect the way in which the dictionary will be used in the process of learning a foreign language by future biomedical engineers and economists. The electronic dictionary has a number of advantages over printed dictionaries, which increase mobility during reading and translation the texts, as well as in the process of research work of students. However, the way in which the dictionary will be used in the process of teaching a foreign language to students of different specialties, is determined by individual characteristics of students, degree of motivation, level of foreign language proficiency and regulations governing higher education.

Conclusions. The development and improvement of technical means of teaching, increasing their technical and didactic capabilities, new options for their creation and use to achieve a higher pedagogical effect are appeared. A new solution to the scientific problem is presented – a substantiated and experimentally tested effectiveness of the model of formation of search-informational competence of future biomedical engineers and economists when working with dictionary literature.

The expediency of using electronic information from foreign language sources for the purpose of formation of search-informational competence is proved, as their systematic use creates optimal conditions of professional readiness: increases the level of knowledge (general erudition in various fields of politics, economics, culture, interpersonal relations, technology, etc.), which will directly affect the competitiveness of graduate students in the labor market; develops the ability to analyze, criticize, predict social events, communicate, understand, respect and evaluate various messages; gives the opportunity to improve mental processes (memory, attention, imagination, thinking, feeling and perception) and features (attitudes, values, views); helps to learn the language in the modern version of its use. It allows to expand the range of communication with potential partners, opens access to alternative sources of information; forms search and information competence of future biomedical engineers and economists, acquainting with features of information search in modern foreign language sources; develops the habit of independent search and processing of dictionary articles and increases the frequency of references to dictionaries and reference literature; increases their motivation to study, interest in future professional activities.

The study developed and experimentally tested a model of formation of search-informational competence of future biomedical engineers and economists, which is based on the concept of scientific and innovative technologies of higher education and consists of interrelated components: purposeful, aimed at the formation of search-informational skills; semantic, which determines the disciplines, the teaching of which provides the formation of skills to work with different, including foreign, sources; operational, which characterizes the technology of algorithmizing of information retrieval in the dictionary and reference literature and information-complex search technologies, as well as forms of work with students. The paper emphasizes that the modeling of cognitive processes includes the analysis of linguistic patterns, on the basis of which cognitive strategies are formed that provide search, processing, transmission and storage of information. An important step in building Ukrainian-language intelligent linguistic systems is to create a fairly complete set of computers - Ukrainian-language dictionaries. And this is a necessary step for the further development of the educational sector of Ukraine.

Recommendations. Methodical recommendations according to the authors' model are developed. They should be used in teaching both foreign languages and professional disciplines.

The conceptual idea of the recommendations is to teach students when working with information sources, which are divided by the authors into classical (printed) and electronic media, to implement an algorithm for finding the necessary information: keyword - phrase - text (message).

Scientifically substantiated results of the research allowed expressing recommendations to: departments of foreign languages on the introduction of modern information sources in the content of the educational process and self-preparation of students; strengthening the cooperation of teachers of professional departments and foreign languages in order to ensure interdisciplinary links in teaching a foreign language in a professional direction.

The study does not claim to be a comprehensive solution to the problem of forming search and information competence of future biomedical engineers and economists in the process of working with information sources. Promising is the development of: optimal conditions for combining the use of dictionary and reference literature with interactive forms and methods of teaching in the process of professional training of students; problems of search, perception, analysis and transmission of information, etc.

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