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**PRESENTATION OF WORDS IN ELECTRONIC DICTIONARIES
AND PRINCIPLES OF EXPLANATION**

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Field of science: Philology

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of the dissertation for the degree of doctor of
philosophy in philology

ABSTRACT

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The dissertation work was performed at the Department of Computer linguistics of the Institute of Linguistics named after Nasimi of the Azerbaijan National Academy of Sciences.

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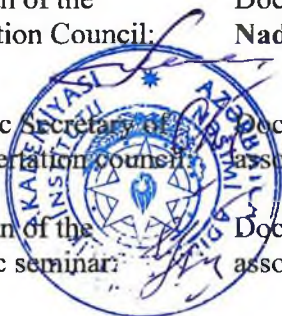
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INTRODUCTION

Relevance and development of the topic. Modern linguistics is devoted to the study of the advantages of electronic dictionaries and further development of this field in the future. Recently linguists have applied to electronic dictionaries due to the emergence of a large number of electronic dictionaries on the Internet. The World Wide Web is constantly developing, information is stored electronically, but some work is still being done on the issues of complex linguistic description of electronic dictionaries. Many new words have entered our language related to the rapid development of science and technology, the increase of interstate socio-political and economic relations, the development of interlinguistic and intercultural relations.

Language is constantly developing and this development is reflected in dictionaries. It is known that words included in dictionaries can be active and passive according to their formation in the speech. The active part of dictionaries includes words and terms that are widely used. Although the words related to the specialty are not used by everyone, people working in the specialty field actively use them. The passive part of the dictionary refers to the group of words that have lost their activity. No matter how literate a person is, cannot use all the words included in the dictionary. For this, it is necessary to refer to appropriate dictionaries in the necessary directions.

The Internet is the leading mass information technology of the modern era and is widely used in performing various tasks. Just as the role of the Internet is important in all fields, its role in the modernization of dictionaries is also very important. The creation and development of information technologies is one of the most important needs of the current era. The development of different languages and cultures, the expansion of technical possibilities and the special needs of society led to the transition of lexicographic theory and practice to a new stage. In the development of interstate relations, dictionaries play the role of a bridge in communication. Unlike traditional dictionaries, the main work in electronic dictionaries is not only the arrangement of words in alphabetical order, but also the presentation of words in dictionaries and the development of principles of their explanation from a new perspective. Words should be presented to the

user with examples in electronic dictionaries, extensive dictionary articles, and multimedia elements. Words, phrases, expressions, etc. should be systematized and then arranged in alphabetical order. The sequence is not based on the first letter of the vocabulary unit, but on all the letters that make up the word. That is, in parallel with the theoretical side of the work, the technical aspects should be performed professionally. Of course, this is a tedious activity and takes a lot of time. Sometimes we have to go back to the completed sequence and make additions, edition, corrections. Thanks to the development of ICT, the use of computers in lexicography has led to a breakthrough in the field of lexicography.

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The integration of the global Internet into lexicography, the development of computer, communication and multimedia technologies led to the creation of lexicographic resources for new generations. One of

the main aspects that make the topic of the dissertation relevant is the analysis of modern aspects of Internet resources related to the increase in demand for electronic dictionaries. The presentation of words in modern electronic dictionaries and the principles of their explanation were explained in the dissertation. Theoretical literature on lexicography and electronic lexicographic resources were used as sources in the dissertation.

Theoretical and practical studies on electronic dictionaries attract attention with their different approaches.

The research the methods of Azerbaijani linguists M.A. Mahmudov, K.A.Valiyeva, V.Y.Pines, R.A.Fatullayev as well as O.Y. Balalayeva, I.I.Zavarueva, Y.N. Karaulov, Y.N. Mandrikova, Y.N. Marchuk V.V.Morkovkin, L.V.Sherba, L.L. Nelyubin, O.S.Rubleva, V.I.Selegey, N.A.Sivakova, S.A.Stroikov, V.T.Titov, G.R.Cumarinan, F.R.Abatein, B.S. Atkin, F.Austermühl, H.Bergenholtz, L.Bouker, S.Castagnolin, G.Corpusan were used during the research.

The object and subject of the research. The object of the research is electronic dictionaries available on the Internet. The subject of the research is the principles of presentation and explanation of words in electronic dictionaries.

Research goals and objectives. The main goal of the research is to analyze and investigate the principles of presentation and explanation of words in electronic dictionaries. This goal includes the following tasks:

- Classification of electronic dictionaries;
- To determine the principles of electronic dictionaries compilation;
- To determine the rules of presentation of words in electronic dictionaries;
- To show the functions of electronic dictionaries;
- To analyze electronic lexicographic resources and their characteristics, to provide information about electronic resources in Azerbaijani, English and Russian languages;
- To explain the problems and perspectives facing computer lexicography;
- Research the functions of machine translation in computer dictionary systems;

Research method. Descriptive, comparative and statistical methods were used in the research.

The main provisions of the defense: The tasks facing the research work are as follows:

- The influence of the global Internet on the science of lexicography has caused a great change in the science of lexicography. The transformation of computers into an auxiliary tool in dictionary compilation, the historical development of machine dictionaries and the transition of dictionaries to a new format should be widely studied, the advantages and disadvantages of electronic dictionaries should be investigated;

- Methods of presentation of words in electronic dictionaries with multimedia elements (pictures, voice pronunciation, video reel, slide) should be compared with traditional dictionaries. The positive and negative aspects created by information technologies in the learning process should be analyzed and explained;

- The principles of explaining words in electronic dictionaries should be studied in a comparative way with traditional dictionaries. The breadth of dictionary articles, the lexical meaning of words and word combinations should be clarified with rich examples and correct equivalents;

- Modern electronic encyclopedias and wikipedia, the analysis of the features of the electronic encyclopedia allows the application of innovations in the virtual world. The disadvantages and advantages of electronic resources should be analyzed and investigated;

- In the era of globalization, computer technologies determine the relevance of modern electronic dictionaries. Working with dictionaries becomes easier and faster with the help of functions applied to electronic dictionaries. The lack of these qualities in traditional dictionaries increases the number of electronic dictionary users. This makes it necessary to create many electronic dictionaries on the Internet. However, electronic dictionaries need improvement. In addition to all this, the current technical capabilities of electronic dictionaries should be investigated;

- The correct application of electronic dictionaries is one of the main requirements of the modern era. Electronic dictionaries are especially important for learning foreign languages. The technical possibilities of

electronic dictionaries and ways of using them in teaching should be analyzed, and specific recommendations should be prepared.

Scientific novelty of the research. In the dissertation, the presentation and explanation of words in electronic dictionaries was systematically investigated for the first time. Several electronic dictionaries selected for their activity on the Internet were involved in the research work. Here, their separate functions, different and superior aspects, their importance in teaching and at the same time their shortcomings are shown. In the dissertation, it was studied how the words are presented in electronic dictionaries and the richness of the lexical base of the dictionaries, the breadth of the dictionary articles and the principles of the explanation of the words. In the research work, based on the electronic dictionaries that are currently available, suggestions were made about what the new generation of electronic dictionaries will look like in the future.

Theoretical and practical significance of research. The results of the dissertation can be used as a theoretical direction in the process of compiling electronic dictionaries. The results obtained in the dissertation can be useful for the creation and formation of the theory of electronic dictionaries. The results can also be applied during the teaching of foreign languages in higher education institutions. The research materials in the dissertation are very useful for teaching the features of electronic dictionaries to students and doctoral students.

Approbation of research. The dissertation was completed at the Department of Computer Linguistics of the Institute of Linguistics named after Nasimi of the Azerbaijan National Academy of Sciences. The main content of the research is reflected in the articles published in various scientific collections. The results of the research were reported at scientific conferences and seminars. The published articles fully cover the content of the dissertation. 15 articles on the topic (including 7 abroad), 22 theses (including 5 abroad) were published.

Name of the organization where the dissertation work is performed. The dissertation work was completed at the Department of Computer Linguistics of the Institute of Linguistics named after Nasimi of the Azerbaijan National Academy of Sciences.

The volume of the structural sections of dissertation separately and general volume with sign. The dissertation consists of an introduction, three chapters, a conclusion and a list of references.

Introduction – 5 pages, Chapter I - 45 pages, Chapter II - 48 pages, Chapter III - 26 pages, Conclusion -2 pages, list of used literature - 17 pages, appendix - 4 pages, Total volume 149 pages – 235715 characters.

DISSERTATION CONTENT

In the "**Introduction**" of the dissertation, the relevance of the topic is justified, the goals and tasks, object and subject of the research are defined, information is given about scientific innovation, research methods, theoretical and practical significance, approval, and structure. Chapter I of the dissertation is named "**A new stage in the development of lexicography - Electronic dictionaries**" and consists of five paragraphs.

Paragraphs 1.1. of the Chapter I is named "**General issues related to lexicography**". It deals with the general issues related to lexicography and explains the reasons for the transition of lexicography problems to a new stage. Development between languages and cultures, expansion of technical capabilities, integration of the global Internet are studies as the main reasons for the transition of lexicographic theory to a new stage in this work. A number of important problems surrounding language under the name of new terms engineering linguistics, computational linguistics, computer linguistics, electronic linguistics, which appeared based on the connection of linguistics with technical sciences, have found relevance in this chapter.

Dictionaries posted on the Internet and their classification are discussed in detail in this part of the chapter. Computer dictionaries, electronic dictionaries and automatic dictionaries are analysed separately. On the Internet, we come across many dictionaries which are available on the Internet just like a book, but using them is like using ordinary book dictionaries. They are read-only, no information can be obtained from them on request. Such dictionaries are called computer dictionaries. Electronic dictionaries are dictionaries that respond to requests. It has its own built-in functions (with graphics, voice pronunciation and other multi-elements) and is constantly updated. Automatic dictionaries are designed for specific purposes, some for human users and others for automatic word processing

programs. Automatic dictionaries designed for the user are very different from automatic dictionaries designed for machine translation, automatic summarization, information retrieval systems in terms of interface and structure of dictionary articles.

Predictions are made about the future development of electronic dictionaries, taking advantage of M.A.Mahmudov's¹ "Computer Linguistics", "National corpus of Turkish language"², and "Automatic syntactic analysis and synthesis of text"³ by K.A.Valiyeva and other scientific works in this chapter.

The national language corpus is created by linguists for language study and scientific research. These corpora show a given language at a given stage in different genres, styles, regional relevance and social variants. The idea of creating national corpora for specific languages is not new. Several years ago, it was called machine fund.

Paragraph 1.2 of the Chapter I is named "**Basic types of dictionaries and characterization parameters, dictionary typologies**". It contains the main types and characterization parameters of dictionaries, dictionary typologies. Different opinions of different linguists about the main types of dictionaries are reflected in this chapter. For example, B. Khalilov's division of dictionaries according to their content and character (encyclopedic and linguistic dictionaries)⁴, F.Y. Veysali's division⁵ of dictionaries according to their character (explanatory, bilingual, field, encyclopedic, universal, biographical dictionaries), A.Hajiyeva's according to the general characteristics of dictionaries⁶ (encyclopedic and philological dictionaries),

¹ Mahmudov, M. Ə. Kompüter dilçiliyi / M.Ə.Mahmudov. Bakı: Elm və təhsil, – 2013, – 352 s.

² Mahmudov, M.Ə. Türk dillərinin milli korpusları. // - Bakı, "Elm və təhsil", -2018, -392 s.

³ Vəliyeva, K.A. Mətnin avtomatik sintaktik təhlili və sintezi K.A.Vəliyeva. / – Bakı, Örnək, – 1996, – 158 s.

⁴ Xəlilov, B. Ə. Müasir Azərbaycan dilinin leksikologiyası / B.Xəlilov. Bakı: Çarşıoğlu, – 2008, – 400 s.

⁵ Veysəlli, F.Y. Dilçiliyin əsasları / F.Y.Veysəlli. – Bakı, Mütərcim, – 2013, – 420 s.

⁶ Hajiyeva, A.H. English lexicology (textbook) / A.H.Hajiyeva. Bakı: "Elm və təhsil", – 2011. – 248 p.

in addition, V.M.Shirokin's issues of dictionary types⁷ and characterization features were touched upon. In addition, quotations from the opinions of local and foreign linguists about dictionaries were given. For example, based on L.V.Sherban's opinion, we can get such a result that each word is capable of expressing such dialectical and new nuances of meaning in the general text that it takes great skill to be able to express an idea honestly and correctly without deriving the wrong meaning from each spoken word⁸. In H.Hasanov's book *Theoretical foundations of Azerbaijani lexicography*⁹, this chapter provides detailed information about the theoretical and practical importance of lexicography, principles of compilation of dictionaries, typological classification, types and dictionary article.

Paragraph III of Chapter I is named **"Problems and perspectives facing computer lexicography"**. It deals with the problems and perspectives facing computer lexicography. From the history of electronic lexicography, the emergence of terms such as machine dictionaries, computer dictionaries and electronic dictionaries, as computers play a favorable role in the field of lexicography, is investigated here.

Paragraph IV of Chapter I is named **"Machine translation in computer dictionary systems"**. It deals with the machine translation in computer dictionary systems. Machine translation is a branch of computational linguistics, the process of translating text from one language to another using computer software. This chapter talks about the process of presenting the official document forms of many organizations that use machine translation in different foreign languages through machine translation.

Additionally, the historical stages of machine translation are explored. For example, the history of machine translation can be found in B.Hatim and J.Munday's work on translation entitled "Translation and Advanced Resource" in 2004. He considers the real development time of

⁷ Shirokikh, V.M, Koudrevatykh, L.P. The study of Modern English Lexicology / V.M. Shirokikh, L.P.Koudrevatykh – Qlazov: Publication, – 2004, – 106 p.

⁸ Щерба, Л.В. Опыт общей теории лексикографии. Языковая система и речевая деятельность // Москва: Наука, – 1974, – с.265–304.
<http://www.ruthenia.ru/apr/textes/sherba/sherba9.htm>

⁹ Həsənov, H.Ə. Azərbaycan lüğətçiliyinin nəzəri əsasları / H.Ə.Həsənov. – Bakı: Bakı Universiteti Nəşriyyatı, – 1999, – 336 s.

machine translation to be after the Second World War, when Alan Turing discovered the first computers in the United Kingdom. In 1940, on the eve of the Cold War, the US government created a Russian-English automatic translation system for the military.¹⁰

Paragraph V of Chapter I is called “**Characteristic features of electronic dictionaries**”. In this section of the chapter, which is one of the important parts of the dissertation, the differences between electronic and traditional dictionaries, the main characteristic features given by different lexicographers were discussed, and the opinions of modern dictionary developers were compared. For example,

According to P. Newmark, work on electronic dictionaries should be further improved so that the development provides a direct result to the user, i.e. "quick information translation and publication translation" together. Rapid information translation (this can be a draft text, different from the product of a human brain), publication translation (this can be a product of a human brain).¹¹

In addition, P. Newmark noted: *"If the translator does not have computer knowledge, then it is not recommended for him/her to resort to this nonsense (machine translation, computer translation programs, automatic translation), because he/she loses time here, this work is a new technique, this is development, this is the future."*

Taking into account the analyzes conducted during the research process, electronic dictionaries are broadly classified in this chapter. Many advantages and disadvantages of their use have been mentioned. The main advantages of electronic dictionaries during use are their memory functions, which allow the user to access the electronic dictionary easily and quickly, and the user can obtain various information. The fact that electronic dictionaries consist of multimedia elements (audio, picture illustration, short video clips, etc.) makes the work more interesting. The biggest advantage of these dictionaries is the diversity of their capabilities. Searching for words in electronic dictionaries is faster than in book dictionaries. The expansion of technical capabilities is formed on the basis of this request. Hyperlinks in

¹⁰ Hatim, B, J.Munday. Translation an advanced resource book / B.Hatim, J.Munday - Heriot: Publication Taylor & Francis, – 2004, – 394 p.

¹¹ Newmark, P. A Textbook of translation / P.A.Newmark. – New York: Prentice Hall, British Library Cataloguing in Publication Data, – 1987, 287 p.

electronic dictionaries provide links to other electronic dictionaries. In some dictionaries, it is not possible to print the word with an explanation, it is only possible to copy it and transfer it to another document. Electronic dictionaries take up little space in libraries, are not heavy and do not deteriorate over time. The main disadvantages of electronic dictionaries in use are that the interface of the dictionary is extremely different and each dictionary requires some time to learn the user manual. During access to the electronic dictionary, windows are opened on top of each other, in which case the user's dictionary is large cannot see, the dictionary article is opened in the form of a fragment, and therefore the user often gets out of windows. This completely distracts the user from the goal.

During the search, a user with little knowledge of internet technology may lose a lot of time here, may encounter difficulties in obtaining the appropriate result. It is possible that the answer to the query will be answered only by the electronic dictionary that we entered, that is, there will be no hyperlinks. Of course, there are also electronic dictionaries with poor technical capabilities. Electronic dictionaries require computer equipment and are more expensive than paper versions. Taking all these into account, we consider the following to further improve the new generation of electronic dictionaries:

1. Next-generation dictionaries will automatically do things that traditional dictionaries cannot include. Introduction to morphemes, maximal expressions, meanings, examples, expressions, etc. At present, the creators of the analyzed electronic dictionaries do not make the CD disk size of the dictionaries more than 200 Mb, but the memory size of the next generation electronic dictionaries may be larger.

2. Next-generation dictionaries can offer flexibility depending on the level of users (translators, experts, users).

3. Dictionary developers can increase the level of use of electronic dictionaries. By doing multiple entries on one hand, they can directly access the close meaning corresponding to the text by just tapping on the word. On the other hand, users should choose a function that shows several options on the screen at the same time to compare the meanings.

4. Electronic dictionaries can integrate with text analysis software. On the one hand, they do not require the user to refer to the dictionary in addition, and allow the article to be viewed directly. On the other hand, not

only at the level of spelling, but also at the level of style and grammar, a spell checker can be included in the text.

5. Developers should design the interface of electronic dictionaries in such a way that there is no need to change its working method.

Electronic dictionaries should be designed in such a way that these dictionaries are important for both foreign language learners and other responsible persons (tourists, engineers, doctors).

Chapter II of the dissertation is named "**Methods of presentation of words in electronic dictionaries**" and consists of six paragraphs. Paragraph I of Chapter II is named "**General issues of presentation of words in electronic dictionaries.**"

In electronic dictionaries, the form of word presentation does not end with a single alphabetical order, the principles of word presentation are different in each dictionary. The Internet is constantly developing, and there are frequent changes in the presentation form of dictionaries. If we look at the principles of the dictionary, explanation of the words presentation in electronic dictionaries can be as follows:

- Dictionary article - statement of the meaning of the word, definition
- Thesaurus - a tool used to find synonyms and antonyms of words
- Pronunciation - pronunciation of the word
- Translation - The process of converting words from one language to another
- Spell checker - A tool used to check the spelling of words
- Search function - a tool used to find specific words or phrases in the electronic dictionary (wild card, droplist functions)
- Word of the day - A function that shows a new word and its explanation every day
- User interface - Visual design and functionality of the electronic dictionary
- Voice recognition - A function that allows users to pronounce a word and provide its explanation in the dictionary
- Offline use - the ability to use the electronic dictionary without an Internet connection.

This chapter provides information on more than 30 electronic dictionaries selected for their activity on the Internet, analyzes the way words are presented in each dictionary, and contrasts them with traditional

dictionaries. For example, the Oxford Advanced Learner's Dictionary, which is historically very old, was published in Oxford in 1948. Coinciding with the golden age of American vocabulary, this dictionary has not lost its activity until today. For example, furniture - BrE / 'fɜːnɪtʃə(r) / AmE/ 'fɜːnɪtʃər /- Noun: uncountable noun; movable objects, ie tables, chairs, beds, etc. shows. By using these things, you can create suitable conditions for working and living. We need to buy some furniture. We need to buy some new furniture. A piece of furniture (see: door furniture-support, door glasses, etc., street furniture-road signs, lamps, etc.). The word is an old French word, which entered the English language in the 16th century.

As you can see, the word has been widely explained both morphologically and semantically. Vocabulary examples consist of small articles. In addition, the dictionary articles contain an introduction, pronunciation, notes area, translation and examples.

Google translation - Google translation system founder Franz Josef Och was awarded in 2003 for this fast system. This fast translation machine is capable of translating in 103 languages. It has more than 150-200 million users. This multilingual statistical machine translation has more interesting functions of its own. The dictionary has voice pronunciation, orthographic writing and translation capabilities. The mobile version of the Google Translate program was created in 2011 with voice and picture translation in 37 languages. However, that program does not translate sentences correctly from a grammatical point of view.

Several useful dictionaries are included in this chapter, which are explored both theoretically and practically.

Paragraph II of Chapter II is named “**Electronic resources in Azerbaijani language**”. When typing "electronic dictionary" in the Google search engine on the Azerbaijani internet, information about the first Polyglot¹², Dilmanj and Azleks¹³ dictionaries is presented, and the electronic address of the Azerbaijani Wikipedia is displayed. Wikipedia is a virtual, open encyclopedia enriched by volunteers through the public Internet in various languages, including Azerbaijani. Azerbaijani Wikipedia has been operating since 2004. The number of articles is 112,807, and the number of users is 123,726 thousand. The largest indicator in article growth falls on the

¹² <https://windows-az.com/2849-polyglot.html>

¹³ <https://www.azleks.az/az/online-dictionary/dilmanc>

share of 2014. Azerbaijani wikipedia, like other wikipedias, belongs to the Wikimedia Foundation.

Paragraph III of Chapter II is named **“Electronic resources in English”**. "Dictionary.com"¹⁴ and "Onelook dictionaries"¹⁵ electronic dictionaries can be mentioned among the catalogs of electronic dictionaries of the English language. Those dictionaries include more than 200 general and special dictionaries, monolingual (English, German, French, etc.) and bilingual (English-Spanish, Chinese-English, etc.). After "Online Dictionaries", the biggest catalog is "Your dictionary", which offers dictionaries in 240 languages.

Paragraph IV of Chapter II is named **“Electronic resources in Russian”**. "Yandex" encyclopedic resource system is very popular in Russia. From here "Great Soviet Encyclopedia", "Small Soviet Encyclopedia", "Brockhaus and Efrona small encyclopedic dictionary", "Literary encyclopedia (11 volumes)", "Dictionary of Russian synonyms and similar expressions", "Motherland from ancient times to the present day" history", "explanatory dictionary of V.I. Dal, etc... can be included in dictionaries.

Krugosvet¹⁶ is one of the most popular Internet portal of the Russian language and it's a product of the company "Rasiya Online", which provides users a wide range of dictionary articles related to the fields with linguistics, psychology, sociology, economics, history, etc. The second leading electronic resource of the "Kirill and Methodia" mega company "Megabook"¹⁷ contains more than 240,000 encyclopedias, more than 70,000 dictionary articles, and more than 110,000 multimedia elements , 80,000 images and illustrations, 1,000 video clips, 900 audio clips, and more than 800 maps.

In addition, through www.gramota.ru, i-u.ru, announcement.ru, vseslova.ru, km.ru and other internet portals, you can get acquainted with a wide range of dictionary articles.

Paragraph V of Chapter II deals with **“Electronic encyclopedias”**, one of the most widespread types of dictionaries available on the Internet.

¹⁴ <https://www.dictionary.com/browse/dictionary>

¹⁵ <https://www.onelook.com/thesaurus/?s=thesauruses>

¹⁶ <https://www.krugosvet.ru>

¹⁷ <https://megabook.ru/encyclopedia/book>

These are encyclopedias that users can quickly refer to and get answers to the questions they are interested in. Electronic encyclopedias are considered one of the most important components in the network of computer dictionaries.

Examples include Encyclopedia Americana Online, Encarta, Encyclopedia Mythica, Encyclopedia of Canadian, Thistle on the www, Encyclopedia of Polyglossum, Class Encyclopedia, Free Internet Encyclopedia, etc.

Paragraph VI of Chapter II is named **“Features of the Wikipedia electronic encyclopedia”**. Among the electronic encyclopedias, the universal, free and open encyclopedia called Wikipedia should be especially mentioned. This encyclopedia is created by many people around the world. Its articles can be written by anyone with access to the network.

Wiki technology allows the Internet user to change the page, structure and edit information without leaving the Internet.¹ The concept of "wiki" was first introduced on March 25, 1995 by Ward Kenningham, who lives in Oregon, USA. Developed from, designed for web page management, re-editing directly from the web browser. "Wiki" means "faster" in Hawaiian, meaning "fast information technology". Wiki technology is sometimes called "living documents" technology.

In addition to all this, we would like to create a new generation of dictionary forms of ancient manuscripts, sagas, toponyms, ancient carpets and mughams in order to preserve the national moral values of the Azerbaijani people, to keep alive and promote our history.

Chapter III of the dissertation is named **"The expressive possibilities of words in electronic dictionaries"** and consists of three subchapters. Paragraph I of Chapter III is named **“Explanation of words in electronic dictionaries”**. Here the examples of electronic dictionaries involved in the dissertation are presented, and their comparative analysis with printed dictionaries is carried out. Obviously, when translating any text, we refer to dictionaries appropriate to the field of that text. In this case, we find different meanings of the same word in dictionaries. The first explanation is the morphological approach to the word. Then, examples are presented in phraseological combinations, idioms and figurative meanings, synonyms and antonyms of the word are given. The principles of explaining

words are different in different dictionaries, and the approach of each dictionary editor is also different.

Context and situation, definition, homonym, synonym and antonym can be used to reveal the meaning. The meaning of the word is revealed with synonyms, the processing is shown in the examples. For example, let's look up the word (-fly) in several of the most popular online dictionaries.

GOOGLE (www.translate.com) - fly - verb: to fly (fly, soar, slide, tumble, fly up); to fly (fly, pull down, force fly, set free, let out); fly; noun: fly, housefly; flight (flight, fly, take-off, flying, upward);

LINGOES (www.wordnet.princeton.edu) - fly [flaɪ] - noun. 1. two-winged insects characterized by active flight 2. flap consisting of a piece of canvas that can be drawn back to provide entrance to a tent 3. an opening in a garment that is closed by a zipper or by buttons concealed under a fold of cloth 4. (baseball) a hit that flies up in the air 5. fisherman's lure consisting of a fishhook decorated to look like an insect v. 1. travel through the air; be airborne 2. move quickly or suddenly 3. fly a plane 4. transport by airplane 5. cause to fly or float 6. change quickly from one emotional state to another 7. pass away rapidly 8. travel in an airplane 9. display in the air or cause to float 10. run away quickly 11. travel over (an area of land or sea) in an aircraft 12. decrease rapidly and disappear. adjective (British informal) not to be deceived or hoodwinked - fly [flaɪ] noun: 1. two-winged, fast-flying insect; 2. net (to protect against flies); badminton ball; verb: 1. to fly on a plane, to travel; 2. air transport; 3. passing from one impression to another; 4. cross the road with wind speed; 5. cause to disappear; 6. run away immediately; 7. sea and land travel; 8. Disappear; adjective: indecisive, fickle-minded (British):

LINGOES multilingual electronic dictionary has the ability to translate into 80 languages. In addition to the possibility of word search of that dictionary, text translation, immediate printing of text, playback, CD copying, etc. there are also opportunities. This system of dictionaries belonging to Princeton University also has a place for synonym-antonym dictionaries. The dictionary provides the explanation of the word with simple word combinations. Examples and statements are not enough.

GOOGLE – concrete, explains the first meaning of the word in one or two words. The explanation is very simple. The most interesting

explanation about this word was provided by the explanatory electronic dictionary of the Azerbaijani language.

We looked at various explanations of the word -fly in two electronic dictionaries, but in none of them we found expressions such as synonyms (to fly, flapping wings, floating in the air) or antonyms in the form of a combination (flying high, flying low). Usually, dictionary developers consider synonyms and antonyms to be an essential condition in the dictionary (www.worldweb.com). As it can be seen, different explanations of the word fly have been presented in all three dictionaries. Dictionary articles include conventional pronunciation symbols, grammatical meaning, figurative and idiomatic explanations, technical meaning, additional combinations and examples. It can be said that here the principle of approach of lexicographers is the same. A distinctive feature is the breadth of examples and vocabulary articles.

Paragraph II of Chapter III is named **“Technical capabilities of electronic dictionaries”**. If the speed is normal, if the explanation of the words is more accurate, and if specific search functions are combined in each criterion, electronic dictionaries can be modernized very easily. Electronic dictionaries with the ability to work as a computer function, especially with automatic search, are not only suitable for modern standards, but also very convenient. When presenting electronic dictionaries, first of all, more attention is paid to the presentation of information in different colors than to the interface of the dictionary itself.

Shriver, in his 2003 article "Lexicographers' Dreams", states that the number of complex search functions in the design of electronic dictionaries should be increased¹⁸. F.R.Abate (1985) suggests the use of images and graphics in natural language search.¹⁹

J.Poirer in 1989, with the help of Boolean (Boolean) operators, turned towards making all the texts of the dictionaries relevant to the search. The Boolean operator is most often installed in libraries. Through this operator, it is possible to get more targeted and productive results during the

¹⁸ Schryver, G. M. Lexicographers' Dreams in the Electronic–Dictionary Age // – Oxford: Oxford University Press, International Journal of Lexicography, – 2003, 16 No 2, – p.143–198. <https://tshwanedje.com/publications/dreams.pdf>

¹⁹ Abate, F.R. Dictionaries fast and future. // Issues and Prospects. Dictionaries 7. 1985, 270 p. <https://muse.jhu.edu/article/456704>

search. This search means searching by combining simple words such as keywords and conjunctions (and, or, not). This saves time and eliminates inconsistency. The Boolean operator is a targeted search. For example, "orange not color" (which does not express the meaning of color). There are words in English that are pronounced and spelled the same, but have different meanings. The homonymous word "orange" means "orange and orange color" in English. This operator is also used to see in which expressions and examples two closely related words are used separately. In electronic dictionaries, through the Boolean operator, the user directly finds the exact meaning of the expression, which he may need .

In e-dictionaries, five basic technical functions that the user can first refer to are identified, which are notes, query, copy-paste, export and print. The stages of development of electronic dictionaries can be found in the work of Oxford practical lexicography by B. Atkin and M. Rundell.²⁰ Electronic dictionaries in the past: The first electronic dictionaries consisted of original printed texts provided by a search engine. Some of these search engines were rudimentary, but using them was still faster than searching in a book. Today Electronic Dictionaries: Electronic editions of modern dictionaries offer much more than what traditional dictionaries offer. The search functions have been strengthened, it is possible that the dictionary remains in the same style, but with additional information (parts of speech marked, grammatical code, abbreviated forms, voice pronunciation) that can be used more easily. Most importantly, they include more additional information than print dictionaries.

Newly designed electronic dictionaries will be as rare as printed dictionaries in the world, and will present information in new ways. The leading features of such dictionaries will be according to the user's requirements. In this model, a dictionary is essentially a collection of lexical resources (perhaps multilingual) that users can select from and organize according to their needs.

Paragraph III of Chapter III is named "**Electronic dictionaries in teaching process**". The role of electronic lexicography is great in the language learning process. Thus, the search of words in dictionaries is carried out with new technology. Information technologies are of great

²⁰ Atkin, B.S.T. M, Rundell. The Oxford guide to practical lexicography. / B.S.T. Atkin, Rundell M. – New York: Oxford University Press, – 2008, – 423–445 p.

importance in the intensive study of languages and have a positive effect on the study of different languages.

In F.Austermühl's book "Electronic tool for translators",²¹ it is said that the information provided by electronic information resources and online services is understood by users. He also explains that all of the electronic tools and resources listed are self-explanatory step-by-step, they are the most important tools that provide the reader with instructions for use.

Speaking about the importance of electronic tools for translators, J. Zetshi notes in his scientific article "Translator's Toolbox": *"A professional specialist should have his/her tools, we live in the computer age. There are already quality programmed electronic resources such as electronic libraries, dictionaries, electronic translation, Wikipedia blocks, pdf books, etc. Translators and researchers use these tools more because they save time and earn a lot of money."*

Questions about the advantages of electronic dictionaries in the process of learning a foreign language, especially in the correct pronunciation of words, can be found in the works of V.Sobkowiak.²² He notes that it is easier to learn the correct pronunciation of words through electronic dictionaries than through printed dictionaries.

Conclusion. At the end of the research, the following conclusion were obtained:

1. The global Internet influenced the science of lexicography and created favorable conditions for the process of digitization of dictionaries. Thus, computers accelerated the work of dictionary compilation and made work with dictionaries easier.

2. As a result of the influence of the Internet, dictionaries have completely changed their form. It started operating under the name Computer dictionaries, computer dictionaries (pdf) and electronic dictionaries. The difference between computer dictionaries and electronic dictionaries is huge. So, the work in computer dictionaries is the same as in traditional dictionaries. The search function is limited, does not respond to a

²¹ Austermühl, F. Electronic tools for translators. // Manchester: Publication St Jerome, – 2001, – 192p.

²² Sobkowiak, V. E-dictionaries and Phonolexico-graphic Needs of EFL Users // – Africa: Lexikos, volume 17, – 2007, p.134–151.

query, does not create a connection with the user and does not have any technical functions.

3. Electronic dictionaries mainly benefit from traditional dictionaries, but here the work is easier than printed dictionaries. Searching in electronic dictionaries is not limited, words are arranged in alphabetical order and has the ability to immediately respond to the user's query. The emergence of electronic dictionaries changed both the form and content of traditional dictionaries. The number of electronic dictionaries on the Internet has increased. Today large volumed vocabularies can be transferred to additional memory devices and become portable easily

4. Unlike traditional dictionaries, the main task in electronic dictionaries is not only the arrangement of words in alphabetical order, but also the different presentation of words and phrases in electronic dictionaries, their explanation with examples, extensive dictionary articles, and the latest multimedia. is to present with media elements. That is, the presentation of words in electronic dictionaries can be colored, pictorial, graphic, with voice pronunciation and video.

5. Explanations of words in electronic dictionaries should be given in accordance with language norms. Context and situation, homonyms, synonyms and antonyms, phraseological combinations, and idioms can be used to reveal the meaning of a word in the dictionary. Dictionary articles are extensive. It is possible to translate words in different languages.

6. In electronic dictionaries, the meaning of the word is shown broadly, with examples. By the time large vocabularies are developed, some words may become obsolete. In this case, electronic dictionaries can be constantly updated, unlike traditional dictionaries. After a certain period of time, it is possible to edit it.

7. Quick search belongs only to electronic dictionaries. You can search by typing the first few letters of the word. Accurate search is possible in electronic dictionaries.

8. Electronic and printed dictionaries have many different features, but the only thing they have in common is that they both carry information. Their different features are their search system, technical functions and technical aspects. In traditional dictionaries, words are arranged by a linear function, while in electronic dictionaries, this is in the form of a fragment.

9. There are links to various hyperlinks in electronic dictionaries. This is the joint action of those dictionaries so that the user can get the meaning of the word more quickly and conveniently. The use of electronic dictionaries is convenient in teaching and in the language learning process.

10. Several operators can perform different operations in electronic dictionaries. However, it should be designed in such a way that it does not distract the user from the goal. Opening windows on top of each other can distract the user. Despite all these technical guidelines and advantages, electronic dictionaries need improvement.

The main content of the dissertation is reflected in the following theses and articles:

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