CHALLENGES OF LINGUISTIC SUPPORT IN DICTIONARY DEVELOPMENT WITHIN UZBEK DIGITAL LEXICOGRAPHY

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Annotation. *This article analyzes the current state of Uzbek digital lexicography and examines the challenges related to linguistic support in the process of developing and improving electronic dictionaries. In particular, it discusses issues such as the formation of dictionary databases, the semantic, morphological, and syntactic description of lexical units, the use of corpus data, the standardization of terminological units, and the expansion of the functional capabilities of digital dictionaries. Furthermore, the study highlights the importance of creating high-quality linguistic resources for digital dictionaries while taking into account the national and linguistic characteristics of the Uzbek language. The research findings contribute to the advancement of Uzbek digital lexicography and support the development of efficient dictionary systems based on modern information technologies.*

Key words: *Uzbek lexicography, digital lexicography, electronic dictionary, linguistic support, dictionary database, language corpus, semantic description, morphological analysis, terminology, linguistic resources, artificial intelligence, lemma, comparative analysis.*

The digitization of existing dictionaries and the development of online and offline dictionaries that operate on various electronic devices have led to the emergence of a new branch of lexicography known as cyberlexicography, which is also referred to by terms such as *computer lexicography*, *electronic lexicography*, and *Internet lexicography*. Today, users have a wide range of choices even within specific categories of Internet-based dictionaries. The reason is that this type of dictionary can provide comprehensive information about a headword (vocabulary item), including its phonetic-phonemic, graphic, orthographic, orthoepic, etymological, and grammatical features. Moreover, it is not difficult for such dictionaries to offer detailed semanticization, including historical-etymological and genetic explanations, as well as complete information on the paradigmatic and syntagmatic relationships associated with the lexical unit.

It is well known that in learner's explanatory dictionaries, the lexicographic interpretation of each word is developed in accordance with the principles of modern anthropocentric lexicography [2;78]. While outlining the main criteria of anthropocentric lexicography, P. N. Denisov emphasizes three important aspects: "(1) orientation toward the dictionary user, i.e., the addressee; (2) the effectiveness of describing the lexical unit—the headword—in the dictionary entry; and (3) the conciseness and simplicity of the dictionary entry heading, namely the headword itself" [5:62]. Therefore, in the case of a learner's dictionary, particular importance is

attached to its target audience (especially the age of the user), the form of the dictionary entry heading (headword), and the quality of its lexicographic definition. These factors play a crucial role in ensuring the dictionary's effectiveness and usability.

Discussing the nature of dictionary entries in learner's dictionaries, V. I. Karasik emphasizes the importance of recognizing their close connection with the educational process: *"A learner's dictionary is an essential educational tool and an important component of textbooks and teaching materials. Therefore, each dictionary entry should be regarded as an educational text related to a particular topic, presenting the necessary information about the headword in a concise manner and serving as a core minimum of knowledge" [10:78].* Thus, according to Karasik, every definition provided in a dictionary should be viewed as a fragment of a textbook corresponding to the educational level of its intended users.

Similarly, G. Z. Mamulina, who conducted studies on the semanticization of lexical units in bilingual explanatory dictionaries compiled for Turkmen schools, notes that *"the definition and interpretation provided in the translation-explanation (semanticization) section of a dictionary entry must be clear and consistent. It should serve as an exact equivalent of the meaning of the headword, particularly a borrowed word, in the second language"* [9:90]. This highlights the necessity of precision and consistency in lexicographic interpretation, especially in bilingual educational dictionaries.

Discussing the dictionary entry as a text type, A. Soy draws attention to the fact that it simultaneously performs both information-providing and information-receiving functions: *"While writing a dictionary entry, the lexicographer acts as a provider of linguistic information based on his/her own competence and expertise. The dictionary user, in turn, receives this information and assimilates it according to their own level of knowledge and competence. As a result, a certain opposition of competencies arises. Therefore, when preparing a learner's dictionary entry, the lexicographer must take into account the user's age and level of knowledge."* Thus, Soy emphasizes that the effectiveness of a learner-oriented dictionary largely depends on the extent to which it is adapted to the cognitive and linguistic capabilities of its intended users.

Today, in the Uzbek language environment, there are various digital dictionary resources such as Ziyonet dictionary platform Ziyonet, Glosbe Glosbe, and Wiktionary Wiktionary, as well as mobile application-based dictionaries such as the *English–Uzbek Dictionary* English–Uzbek Dictionary. In the Wiktionary electronic

dictionary, we will examine the components of a dictionary entry for the word “dictionary”.

Vikipediya, erkin ensiklopediya

Lug‘at – muayyan tilda, uning hududiy yoki ijtimoiy lahjasida mavjud bo‘lgan, u yoki bu yozuvchi asarlarida uchraydigan so‘zlar yig‘indisi, leksika; so‘zlar (yoki morfemalar, so‘z birikmalari, iboralar va boshqalar) muayyan tartibda (alifboli, uyali, mavzuli) joylashtirilgan, tavsiflanuvchi birliklar, ularning kelib chiqishi, ma’nolari, yozilishi, talaffuzi, uslubiy mansubligi, boshqa tillarga tarjimasi haqida ma’lumotlar jamlangan kitob.



Lug‘at

Lug‘atlar ma’naviy madaniy sohada muhim o‘rin egallaydi, ularda jamiyatning ma’lum davrda erishgan bilimlari aks etadi. Lug‘at bir qator ijtimoiy vazifalarni bajaradi: o‘quvchiga muayyan hodisa haqida ma’lumot beradi; uni o‘z va o‘zga tillardagi so‘zlar bilan tanishtiradi; tilni, uning lug‘at tarkibini takomillashtirish va tartibga solishga yordam beradi. Lug‘atlar juda qadim davrlarda paydo bo‘lgan (qarang Leksikografiya); hozirgi davrda ma’lumot-axborot to‘plash va uni o‘quvchiga yetkazishda muayyan ahamiyatga ega.

At the end of a dictionary entry, references to the sources used are provided.

Lug‘at turlari yuqoridagilar bilan chegaralanmaydi. Yuqorida, asosan, o‘zbek lug‘atchiligida mavjud bo‘lgan va amalda foydalanib kelinayotgan Lug‘at turlarigina ko‘rsatildi. Bu narsa Lug‘atlarning vazifa doirasi naqadar kengligini va ularning o‘ta muhim ahamiyatga ega ekanligini ko‘rsatadi[1].

Adabiyot [tahrir | manbasini tahrirlash]

- Hozirgi o‘zbek adabiy tili, T., 1980;
- O‘zbek tili leksikologiyasi, T., 1981;
- Axmanova O. S, Slovar lingvisticheskix terminov, M., 1969;
- Lingvisticheskiy ensiklopedicheskiy slovar, M., 1990.
- Shodiya Vaxobovna

Manbalar [tahrir | manbasini tahrirlash]

1. ↑ Abduvahob Madvaliyev. O‘zME. Birinchi jild. Toshkent, 2000-yil

As an example, the entry of the word in the online free encyclopedia Wikipedia contains explanations in 162 languages. The English section of the entry is structured into the following components:

I. Headword (lemma) definition

It includes hyperlinks to other pages where additional information about the term can be accessed: *For other uses, see Dictionary (disambiguation).*

For Wikipedia's guideline, see Wikipedia:What Wikipedia is not § Wikipedia is not a dictionary, and Wikipedia:Wikipedia is not a dictionary.

The explanatory text provides a general encyclopedic definition of the concept.

II. Historical information (History)

1. Information about English dictionaries compiled in Britain (English dictionaries in Britain)
2. Dictionaries compiled in America (American English dictionaries)

III. Types (Types)

1. Specialized dictionaries
2. Defining dictionaries
3. Prescriptive vs. descriptive dictionaries
4. Historical dictionaries
5. Dictionaries for natural language processing
6. Other types (with hyperlinks to related pages)

IV. Pronunciation

Information on pronunciation and transcription in English and other languages (Pronunciation respelling for English)

V. Examples (Examples)

Major English dictionaries, as well as representative dictionaries in Arabic, Chinese, Persian-Tajik, French, German, Japanese, and other languages, along with hyperlinks to their entries.

VI. Online dictionaries (Online dictionaries)

VII. See also (See also)

Hyperlinks to related additional resources

VIII. Notes (Notes)

IX. References (References)

Hyperlinks to cited sources

X. Further reading (Further reading)

XI. External links (External links)

As can be seen from these examples, there are significant differences between the interpretations of a single lexical unit (lemma) across different types of online dictionaries. The reason for conducting a comparative analysis based on an online encyclopedia is that, in the Uzbek language context, other types of electronic dictionaries are either not yet fully developed or do not meet sufficient standards.

These analyses reveal several key challenges facing modern Uzbek digital lexicography, including:

the need for a comprehensive linguistic database and support system for enriching electronic dictionary content;

the balance between human readability and machine interpretability of the provided information;

the necessity of aligning the structure and layout of dictionary entries with international standards;

the transformation of lexicographic practice from a static process into a dynamic, continuously evolving system, including updating, editing, expansion, and integration of new words and meanings;

encoding semantic, syntactic, and pragmatic relations of lemmas, as well as systematic representation of synonymy, antonymy, homonymy, gradation, and other relational networks;

issues of orthographic standardization, domain-specific vocabulary, terminology databases, terminological consistency, and compatibility with standardized annotation systems in digital lexicography;

the inclusion of multimodal information in dictionary texts, such as verbal and non-verbal elements, audio and video links, and other digital resources.

The solution to these challenges requires innovative approaches in digital lexicography research, including the integration of artificial intelligence with lexicographic practice, automatic translation and continuous dictionary updating, the development of multimodal dictionary entries, and the incorporation of audio, video, and visual elements. It also involves the creation of infographics, interactive and fast-search-based examples, and dictionaries designed for mobile devices and online platforms.

At present, examination of widely used online encyclopedias and dictionary platforms such as Rubricon, Wikipedia, “Encyclopedia World,” “Dictionaries and Online Encyclopedias,” Microsoft Encarta, and Yandex Encyclopedia shows that one of the most important tasks in enriching the microstructure of Uzbek digital

dictionaries is improving lexicographic interpretation. This, in turn, first and foremost requires the enhancement and optimization of linguistic support for dictionaries.

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