

Scientific Description of Computer Terminology in General Linguistics

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ABSTRACT

The rapid advancement of science, technology, and globalization has led to significant linguistic interactions, enriching the vocabulary of world languages. This study explores Karakalpak computer terminology in comparison with its English equivalents, highlighting the necessity of understanding technical terms due to the increasing role of digital technology in global communication. The research delves into the theoretical foundations of terminology, examining the principles of term formation and adaptation. By analyzing scientific perspectives on terminology, including those of Karakalpak scholars, the study identifies key challenges such as ambiguity, loanword adaptation, and the need for standardized translations. The findings contribute to the broader field of linguistics, emphasizing the importance of structured and systematic approaches to terminology development in the digital age.

Keywords: The Karakalpak language, the English language, computer terminology, terminology theory, linguistic adaptation, digitalization, language globalization, technical lexicon, term formation, linguistic borrowing.

INTRODUCTION

The rapid advancement of science, technology, and production, along with ongoing globalization and integration processes worldwide, has led to intense interactions among global

languages, fostering the continuous enrichment of their vocabulary. Therefore, studying Karakalpak computer terminology in comparison with its English equivalents is essential.

The necessity of studying computer terminology arises from the significant role of the global network in the social life of various nations and its practical implications. Before defining the theoretical foundations of computer terms and analyzing their specific formation principles, it is advisable to examine the scientific research conducted in the fields of general terminology theory and linguistic term studies.

LITERATURE REVIEW

The evolution of any given process is primarily reflected in its terminology or emerges as a result of transformational changes in terms. As V.P. Danilenko states, “The reflection of any process occurring in society is primarily seen in terminology or results from transformational changes in terms” [1; 9].

Before analyzing computer terms in English and Karakalpak, it is essential to establish their theoretical foundations. Therefore, it is necessary to first briefly discuss the concepts of terminology and terms.

In the *Explanatory Dictionary of the Karakalpak Language*, the concept of "terminology" is defined as follows:

1. In science and technology, terminology refers to the collection and system of terms used in a specific professional field (scientific terminology).
2. It is also a branch of linguistics that studies and systematizes terms (*Explanatory Dictionary of the Karakalpak Language*, Volume 7, p. 154).

The term “terminology” originates from Latin (*terminus* – boundary) and Greek (*logos* – science) [2; 154]

H. Felber distinguishes three key meanings of the term “terminology”:

1. As an interdisciplinary science, it studies concepts, specialized terms, and symbols.
2. It refers to a structured collection of terms that represent concepts within specific fields.
3. It denotes the specialized concepts within a field, as expressed through terms. [3;1]

Terminology, firstly, represents a "complex of special words related to science, art, author, or social object," and secondly, serves as a means of communication within a special language [4].

In a narrow sense, terminology represents a collection of terms related to a specific field of science or technology, production, or manufacturing. The terms related to technology in each science are combined and called terminology [5; 25].

Terminology, in a broad sense, represents a distinct layer of vocabulary and a field of study that spans various spheres of life. It encompasses a set of terms used in technology and other specialized domains. In A. K. Kdyrbaev's article 'On Karakalpak Scientific and Technical Terminology,' the author seeks to address language terminology issues in line with puristic principles. He argues that "when scientific-technical and socio-economic terms are translated into the Karakalpak language, it is advisable to use Arabic and Persian words" [6; 82-86]. The author "sought to solve language terminology issues in accordance with puristic ideas [...] when scientific-technical and socio-economic terms are translated into the Karakalpak language, it is proposed to use Arabic and Persian words." In this context, we consider it appropriate to prioritize the use of literary terms in translation. However, scientific-technical and socio-economic terms, in accordance with modern linguistic trends, are increasingly borrowed from English. Their translations, even when originally derived from Arabic, often retain their English form in contemporary usage.

From the definitions of terminology, the following conclusion can be drawn: the concept of "terminology" defines the complex of terms of specific scientific and technical fields,

and is also used as a science of terms, that is, it is considered as a science of terms.

The process of forming new terms in terminology occurs based on their linguistic and extra linguistic sources. "Terminological word formation has always been a conscious process" [7; 90].

A term performs such functions as distinguishing and differentiating specific concepts in the field of science, technology, and art, preserving its terminological specificity only within a single terminological system.

In the explanatory dictionary of the Karakalpak language, the term is defined as follows. In science, technology, art, and the professional sphere, a word or phrase denoting a single concept, having a specific concept, term, or terminological word [2; 152].

In A. Hojiev's "Linguistic Terms" explanatory dictionary, the term is defined as "a word or phrase related to science, technology, or another field that clearly defines the concept of an object or thing, the boundaries of which are limited to that field." Terms differ from commonly used words in such characteristics as unambiguity, lack of expressiveness, and emotionality [8; 56].

Regarding the principles of the terminology of the Karakalpak language, A. K. Kdyrbaev, in the conclusion of his scientific article 'On the Scientific and Technical Terminology of the Karakalpak Language' [6; 82-86], expresses the following opinion:

1. Full use of the vocabulary of the modern Karakalpak language, collection of suitable terms.
2. To make extensive use of Russian vocabulary as needed, extracting from it terms suitable for translation into our language.
3. International scientific and technical terms used equally by all peoples can be borrowed in Russian without translation into the Karakalpak language.
4. It is necessary to collect the terms of each science and assign only a certain concept to each of them.

Of course, these principles are important. However, regardless of the stage, its specifically developed criteria have not been defined.

We are putting forward our proposals on their criteria based on the opinion presented in the scientific work of R. Yesemuratova "On terms that have entered the vocabulary of the Karakalpak language through the Russian language" [9; 82-88]. It was noted that at the first stage, it is necessary to focus on the criteria for the full use of the vocabulary of the modern Karakalpak language, the selection of appropriate terms, and paying attention to the fact that these terms give individual meanings outside the context.

The vocabulary of the literary language, encompassing to one degree or another the terminological lexicon expressing specific concepts, is a phenomenon specifically noted in linguistics. English and Karakalpak terminology also belongs to this category.

Unlike commonly used words, terms denoting special concepts and serving to express concepts have evolved and developed based on the formation and development of literary language.

"Many words used in general usage, but not being terms (nouns), have a terminological function and meaning in the specialist's speech" [10; 264, 436]. P. Nishonov, fully agreeing with this opinion, notes the following: "Any term possesses all the formal and semantic characteristics of words and phrases in the general literary language" [11; 17]. In the scientific work of A. Bekbergenov and K. Pirniyazov "Some issues of unification of linguistic terms of the Karakalpak language," opinions confirming the principles of A. Kdyrbayev were identified.

DISCUSSION

For example, the main problem of Karakalpak terminology is the ambiguity of terms. At the same time, the use of multiple terms to denote a single concept, the large number of duplicate terms, and errors in the calquing of borrowed terms are shortcomings. These shortcomings remain relevant today, and although the

authors speak about linguistic terms, these issues also coincide with the problems associated with IT terminology.

The meaning attributed to the concept of "term" is based on the following characteristics that are sufficient to distinguish terms from commonly used words:

1. A term as a type of general literary language performing a special function, a linguistic unit related to the language of science and technology, a word or phrase;
2. Terms are special names for specific objects, things, and abstract concepts.
3. For a term, a clear specific definition is necessary, with the help of which it is possible to more accurately convey the corresponding concept, its meaning, to clearly define a specific concept, allowing one concept to be distinguished from another [12; 19].

Generalizing the definitions of a term, we give the following definition: A term is a precise and concise lexical unit that expresses a concept related to a particular field.

Most authors note that the relationship between a term and a common word is the most discussed problem in research on terminology.

In linguistics, the scientific definition of computer terms is the study of linguistic units related to computer science and digital technologies. This process involves studying the vocabulary, its origins, use in the language, and its impact on the overall structure and dynamics of the language. The main aspects of such analysis are the assimilation of lexical borrowings through adaptation, neologisms, semantic shifts, intersectoral connection and polysemy, social features, as well as grammatical and syntactic adaptation.

In the era of digitalization, the scientific classification of computer terms is of great importance for understanding linguistic dynamics. The following tasks will help in this:

1. The role of technology in the formation of modern language
2. Predicting subsequent changes in the language system.
3. Development of standard translations and terminology.

These issues of linguistics are studied in the modern fields of applied linguistics, cognitive semantics, and sociolinguistics.

Thus, the common feature that unites general lexical words and terms is their origin in natural language. This shared characteristic serves as a unifying factor between these two linguistic categories. However, the key distinguishing feature of terms is the presence of a precise definition that conveys a specific concept. In contrast, general vocabulary does not necessarily require such definitions, as words in common usage are not always tied to clearly defined concepts.

CONCLUSION

In conclusion, the study of computer terminology is not merely an exploration of specialized vocabulary but also an investigation into how language evolves in response to technological advancements. Terms serve as essential tools for communicating complex concepts within specialized fields such as computer science and digital technology. Through careful analysis of terminology, we gain insight into how language adapts to new concepts and the challenges of translating and standardizing these terms across languages like Karakalpak and English. The distinction between terms and general vocabulary lies in the precision and clarity with which terms convey specific concepts. As digital technologies continue to shape our world, developing standardized and accurate terminology will remain a key task in preserving linguistic integrity and facilitating effective communication in an increasingly globalized and interconnected society.

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