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THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGY TERMINOLOGY

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ABSTRACT

The article examines the theoretical and methodological foundations of the formation and development of information and communication technology (ICT) terminology. It explores the role of terms as key elements of scientific and technical discourse and analyzes ways of adapting and standardizing terms in the context of globalization and the digitalization of society. Special attention is paid to the processes of lexical transformation during the transition of terms from English into Russian and Uzbek language contexts, as well as to the influence of national language policy on the formation of ICT terminology. Based on an analysis of contemporary linguistic and sociocultural approaches, the role of terminology in the development of professional communication and in the integration of national languages into the global scientific space is determined.

KEYWORDS: Terminology, information and communication technologies, adaptation, standardization, linguistics, globalization, translation, national language.

INTRODUCTION

In the modern world, information and communication technologies (ICT) play a key role in all spheres of human activity. That is why the development of terminology in this field acquires particular importance. ICT terms not only reflect technological innovations but also serve as an indicator of scientific and technical progress, a culture of thinking, and the level of development of professional language. Terminology acts as a link between science and society, ensuring the accuracy of communication and the uniformity of scientific understanding.

Terminology as a scientific discipline studies the system of terms used in various branches of knowledge. In the context of ICT, terminology represents a dynamic subsystem of language that is actively developing under the influence of innovative processes and globalization trends. One of the key factors in the formation of terms is the interaction between national and international scientific communities. English, which has become the universal language of science and technology, influences the processes of borrowing and adapting terms in many languages, including Russian and Uzbek.

The process of term formation in the field of ICT can be conventionally divided into three main directions: transformation, adaptation, and localization. Transformation presupposes borrowing a term with minimal changes (for example, “computer,” “server”); adaptation includes morphological and phonetic adjustment (“fayl”/“file” from the English file), and localization means creating a national equivalent (“smartfon” → “smart phone,” “smart device,” etc.). Each of these processes reflects the balance between global trends and national linguistic identity.

Particular attention should be paid to the issue of standardization and unification of terms. International organizations such as ISO and IEEE develop recommendations and norms to ensure the consistent use of terms in scientific and technical documentation. In Russia and Uzbekistan, similar functions are performed by terminological commissions, which regulate the use of new words and expressions in accordance with national language norms. This process ensures not only linguistic accuracy, but also the development of a national scientific tradition. An important area of modern terminological analysis is the study of the semantic changes occurring with ICT terms. For example, the words “platform,” “network,” and “cloud” have acquired new meanings under the influence of digital technologies. Such phenomena demonstrate how language adapts to technological changes, expanding the semantic boundaries of terms and forming new conceptual connections.

The linguistic aspect of ICT terminology formation is inseparably linked with the pragmatic one. Terms not only nominate concepts but also perform a communicative function—they serve as a tool for scientific interaction, teaching, and the dissemination of knowledge. In this context, terminology becomes an element of the information culture of society.

Digitalization strengthens the interconnection between languages. Machine translation, artificial intelligence, and neural network technologies contribute to the automatic adaptation of terms, accelerating their integration into various language systems. However, despite technological progress, the role of the human—linguist and terminologist—remains decisive, since it is they who ensure the precision and cultural adequacy of translation.

Thus, the terminology of information and communication technologies represents a complex and dynamic system that reflects the processes of globalization, technological development, and linguistic adaptation. The study of ICT terminology makes it possible not only to understand the patterns of scientific language formation, but also to trace the interaction between culture, science, and society. In the context of rapid digitalization, the development of a national terminological base becomes a crucial task for preserving linguistic identity and ensuring effective communication in the scientific and technical sphere.

References

1. Вюстер Э. Основы общей терминологии. М.: Прогресс, 1984.
2. Лотте Д. С. Основы построения научно-технической терминологии. М., 1961.
3. Реформатский А. А. Термин как языковое явление. М.: Наука, 1967.
4. Кабре М. Т. Теория терминологии: подходы и проблемы. Барселона, 1999.
5. Сагер Дж. С. Введение в терминологию. Амстердам: John Benjamins, 1990.
6. Темирова С. Современные тенденции развития узбекской терминологии. Ташкент, 2020.
7. ISO 704: Terminology work — Principles and methods. Geneva, 2009.