# The Challenges of Translating Computer Terminology: Equivalence and Adaptation Issues

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**Abstract**. *The rapid development of information technology has led to the emergence of numerous specialized terms in English, many of which require precise translation into other languages, including Uzbek. However, achieving equivalence in translation while maintaining the cultural and linguistic integrity of the target language presents significant challenges. This paper explores the difficulties encountered in translating computer terminology from English into Uzbek, examining direct translation and calquing strategies, as well as the impact of globalization on preserving the national identity of technical lexicons. The study highlights the balance between linguistic adaptation and maintaining technical accuracy in translation.*

**Key words**: *Computer terminology, translation challenges, equivalence, adaptation, direct translation, calquing, globalization, linguistic identity, Uzbek language, technical lexicon.*

## Introduction

Language is a dynamic and evolving entity that constantly absorbs new terms, particularly in the field of technology. The dominance of English in computer science and IT-related disciplines has resulted in the widespread adoption of English terms in many languages. However, translating these terms into Uzbek poses multiple challenges, including the lack of direct equivalents, cultural differences, and the need for standardization. This study aims to analyze the primary translation methods used for computer terminology and the difficulties associated with maintaining linguistic coherence while ensuring technical precision.

## Main part

Challenges in Translating Computer Terminology

1. Difficulties Encountered in the Translation Process

**Lack of Established Equivalents.** Many computer-related terms originate in English and have no direct counterparts in Uzbek. This lack of established equivalents forces translators to either create new words, adapt existing ones, or borrow terms directly from English. For example, terms like "firewall" and "cloud computing" do not have direct translations in Uzbek, leading to inconsistent usage. Some translators use transliterations like "fayervol" or "klaub kompyuting", while others attempt to create new equivalents, which may not always gain widespread acceptance.

**Semantic Shifts.** When translating computer terminology, words can undergo semantic shifts, where their meaning changes or is interpreted differently in the target language. For example, the English term "mouse" (as a computer device) could be confusing if directly translated as "sichqon". In Uzbek, the term "sichqoncha" is commonly used, but it initially carried a completely different meaning before

being repurposed for technology. Similarly, "cookie" (used in web browsing) has no intuitive equivalent in Uzbek and can lead to misunderstanding if translated literally.

**Structural Differences.** English and Uzbek have different grammatical and morphological structures, making direct translation difficult. English relies heavily on compounding and noun-noun constructions (e.g., "data processing unit"), whereas Uzbek prefers descriptive phrases or suffix-based word formations. Translating "database management system" into Uzbek as "ma'lumotlar bazasini boshqarish tizimi" results in a much longer phrase, which may not always be practical for usage in technical discourse. Moreover, Uzbek follows an agglutinative structure, where suffixes play a crucial role in meaning, while English often uses prepositions and auxiliary verbs, leading to challenges in achieving natural translations.

These challenges require careful consideration and adaptation strategies to ensure clarity and consistency in computer terminology translation.

2. Direct Translation and Calquing Methods

**Direct Translation.** Direct translation, also known as literal translation, involves translating a term word-for-word from English to Uzbek. This method is effective when the term consists of common words that have direct equivalents in Uzbek. For example, "computer virus" is translated as "kompyuter virusi", where both "computer" and "virus" are well-understood loanwords in Uzbek.

However, direct translation is not always a suitable approach, especially for complex or culturally specific terms. Some English computer terms have metaphorical meanings that do not translate well when taken literally. For example, *"cloud computing"* directly translated as *"bulutli hisoblash"* may not immediately convey the intended meaning to Uzbek speakers unfamiliar with the concept. In such cases, translators often modify the phrase to improve clarity.

**Calquing.** Calquing (or loan translation) involves borrowing elements from the source language while adapting them to the linguistic rules of the target language. Instead of directly adopting an English term, its components are translated separately and then recombined into a meaningful phrase.

For example, the English word *"button"* in a technological context refers to a clickable element in software or hardware. Rather than borrowing the English term, Uzbek translators have adopted *"tugmacha"*, which aligns with Uzbek morphology and conveys the concept clearly. Similarly, *"browser"* has been adapted as *"brauzer"*, maintaining phonetic similarity while conforming to Uzbek spelling conventions.

Calquing helps maintain linguistic identity while allowing for a smoother integration of foreign terminology into Uzbek. However, its success depends on how well the adapted terms are accepted by users and whether they remain intuitive in technical discourse.

3. The Impact of Globalization on Preserving National Identity in Computer Lexicon

**The Increasing Influence of English on Uzbek IT Terminology.** As English continues to dominate the fields of science and technology, many computer-related terms are borrowed directly into Uzbek without modification. Words like "server", "router", "software", and "application" are commonly used in their original form, leading to concerns about the gradual erosion of the Uzbek language's uniqueness in technical fields. Some critics argue that excessive borrowing weakens linguistic purity, making it harder for native speakers to develop and maintain Uzbek-specific IT terminology. The overuse of English loanwords may also create a communication gap between IT professionals and the general public, who may not be familiar with these foreign terms.

**Linguists' Perspectives: Native Equivalents vs. International Terms.** There are two opposing viewpoints on how to handle the influx of English terms in Uzbek IT vocabulary.

➢ **Advocates for Native Uzbek Equivalents** argue that developing unique Uzbek terms helps preserve the national identity of the language. For instance, instead of using *"browser"*, the term *"ko'zatuvchi"* (meaning "viewer") has been suggested. Similarly, *"keyboard"* could be translated as *"tugmalar taxtasi"*. Proponents believe that localized terminology ensures accessibility for all Uzbek speakers and strengthens linguistic independence.

- ➢ **Supporters of International Terms** claim that borrowing universally recognized English words ensures global comprehensibility and makes it easier for Uzbek professionals to engage with international research and technology. They argue that translating every IT term into Uzbek may create artificial or unnatural-sounding phrases that are difficult to adopt in real-world usage. Additionally, since English is the dominant language of coding and software development, excessive localization could hinder communication with the global tech community.

**The Role of Standardization in Terminology Development.** To strike a balance between preserving linguistic identity and maintaining technical clarity, linguists and policymakers work on standardizing computer terminology in Uzbek. Language institutions and governmental bodies decide which terms should be localized and which should be adopted as they are. This process involves:

- ➢ Creating official Uzbek equivalents for commonly used computer terms.

- ➢ Establishing guidelines for when to borrow English words versus when to adapt them.

- ➢ Encouraging the use of Uzbek IT terminology in education, media, and software development.

Successful standardization ensures that Uzbek remains a functional and relevant language in the digital age while maintaining its cultural and linguistic identity.

## Conclusion

The translation of computer terminology from English into Uzbek is a complex process that requires careful consideration of linguistic, cultural, and technical factors. While direct translation and calquing offer viable strategies, achieving a balance between adaptation and accuracy remains a challenge. Future efforts should focus on standardizing translations while ensuring that Uzbek maintains its linguistic integrity in the rapidly evolving field of information technology.

## List of used literature

1. Muzaffarovna B. V. The Terms Postmodernism, Postcoloniality and Postfeminism in the American Literature //International Journal on Integrated Education. – 2022. – Т. 5. – №. 6. – С. 148-151.

2. Muzaffarovna B. V., Usmonovna M. M., Bakoyevna I. M. Types and language functions of metaphor //Journal of Positive School Psychology. – 2022. – С. 9684–9690-9684–9690.

3. Muzaffarovna B. V., Usmonovna M. M. Alienation as a Form of Self-protection; the Painfulness of Growing Up in the Book" the Catcher in the Rye" of JD Salinger //International Journal on Integrated Education. – 2021. – Т. 4. – №. 3. – С. 189-192.

4. Bozorova V. M. A Lexical-Semantic and Linguo-Cultural Study of Computer Terminology in English and Uzbek Languages //American Journal of Language, Literacy and Learning in STEM Education. – 2024. – Т. 2. – №. 4. – С. 223-225.

5. Usmonovna B. V. M. M. M. TEACHING CHEMISTRY TERMINOLOGY IN ESP CLASSES //Multidisciplinary and Multidimensional Journal. – 2024. – Т. 3. – №. 4. – С. 6-9.

6. Muzaffarovna B. V., Usmonovna M. M. The issue of equivalence in English and Uzbek proverbs. Middle European Scientific Bulletin, 5 [Электронный ресурс].

7. Bozorova V. M. THE DESCRIPTION OF SOCIAL ISSUES IN" THOUSAND SPLENDID SUNS" //Theoretical & Applied Science. – 2020. – №. 1. – С. 422-425.

8. Bozorova V. M. The Use of Psychology in Literary Genres //International Journal on Integrated Education. – 2020. – Т. 3. – №. 2. – С. 1-3.

9. Bozorova V. M. Easy to Use Interactive Methods of Distance Learning Foreign Languages //SCOPE ACADEMIC HOUSE B&M PUBLISHING. – 2020. – С. 60.