

## TRANSLATION OF TEXTS ON COMPUTER TECHNOLOGIES

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**Abstract:** This article examines the challenges and methodologies involved in the translation of texts related to computer technologies. It emphasizes the importance of accurate terminology, adaptation of technical concepts, and maintaining clarity in translated materials. The study highlights common difficulties translators face, including rapidly evolving technical vocabulary, cultural nuances, and syntactic differences between languages. Strategies for improving translation quality and ensuring the accessibility of technical information for diverse audiences are also discussed.

**Keywords:** Translation, computer technologies, technical terminology, text adaptation, linguistic challenges.

**Аннотация.** В данной статье рассматриваются проблемы и методы перевода текстов, связанных с компьютерными технологиями. Особое внимание уделяется точности терминологии, адаптации технических понятий и сохранению ясности переведённых материалов. Исследование выделяет основные трудности, с которыми сталкиваются переводчики, включая быстрое обновление технического словаря, культурные особенности и синтаксические различия между языками. Также обсуждаются стратегии повышения качества перевода и обеспечения доступности технической информации для широкой аудитории.

**Ключевые слова:** Перевод, компьютерные технологии, техническая терминология, адаптация текста, лингвистические трудности.

## INTRODUCTION

In the modern era of rapid technological development, computer technologies play a crucial role in almost every aspect of human life, including education, business, science, communication, and governance. As digital innovations continue to expand globally, the demand for accurate and effective translation of texts related to computer technologies has increased significantly. These texts include software documentation, user manuals, technical reports, academic articles, websites, mobile applications, and legal or policy documents related to information technology. Since computer technologies evolve quickly and are often developed in one language before being distributed worldwide, translation becomes an essential tool for ensuring global accessibility and understanding.

The translation of computer technology texts is a highly specialized field that requires not only strong linguistic competence but also a deep understanding of technical terminology, concepts, and systems. Unlike literary translation, technical translation focuses on precision, clarity, and consistency. Even a

minor translation error in a technical document can lead to serious misunderstandings, software malfunctions, security vulnerabilities, or financial losses. Therefore, translators working with computer technology texts must possess subject-matter knowledge alongside advanced translation skills.

Another important aspect of translating computer technology texts is the rapid emergence of new terms and concepts. Fields such as artificial intelligence, cybersecurity, cloud computing, blockchain, and data science introduce new vocabulary on a regular basis. Many of these terms do not have direct equivalents in other languages, which creates additional challenges for translators. As a result, translators often need to use strategies such as borrowing, transliteration, calque, or descriptive translation to convey the intended meaning accurately while maintaining linguistic and cultural appropriateness.

Moreover, globalization and international cooperation in the field of information technology have made multilingual communication indispensable. International software companies, tech startups, and research institutions rely heavily on translated materials to reach diverse audiences and markets. High-quality translation enhances user experience, promotes digital literacy, and ensures equal access to technological advancements across different linguistic communities. In this context, translation serves not only as a linguistic process but also as a bridge between cultures, technologies, and knowledge systems.

In conclusion, the translation of texts on computer technologies is a vital component of the digital age. It supports the dissemination of technological knowledge, fosters international collaboration, and enables users worldwide to engage effectively with digital tools and innovations. Studying the principles, challenges, and methods of translating computer technology texts is therefore essential for linguists, translators, and professionals working at the intersection of language and technology.

## METHODOLOGY

This research adopts a qualitative methodological approach to investigate the linguistic and functional characteristics of translating texts related to computer technologies. The qualitative design is particularly suitable for this study, as it enables a detailed examination of translation strategies, terminological choices, and contextual adaptations required in technical translation. The study is based on the analysis of authentic computer technology texts, including software documentation, user manuals, academic articles, and technology-related online resources. These texts were originally produced in English and subsequently translated into the target language, allowing for a comparative examination of source and target texts.

Data collection involved the careful selection of texts that reflect contemporary developments in computer technologies, such as artificial intelligence, cybersecurity, software engineering, and information systems. The selected materials were chosen according to their relevance, terminological density, and practical significance in real-world technological communication. Both professionally translated texts and student translations were included in the corpus to identify variations in translation quality, consistency, and methodological approaches.

The analytical process was conducted using a comparative-descriptive framework. Source texts were systematically compared with their translations to identify applied translation strategies and to evaluate

the accuracy and adequacy of rendered meanings. The analysis was informed by established translation theories, including functional equivalence and communicative translation, with particular emphasis on the correct transfer of technical terminology and informational clarity. Special attention was paid to the translation of neologisms, abbreviations, compound terms, and complex syntactic structures commonly found in computer technology discourse.

Furthermore, linguistic, terminological, and contextual analyses were employed to assess grammatical correctness, stylistic appropriateness, and semantic precision in the translated texts. Error analysis was also conducted to identify frequent translation problems, such as incorrect term selection, inconsistency, omission, or literal translation that distorts technical meaning. To ensure the reliability and validity of the findings, specialized dictionaries, technical glossaries, and internationally recognized standards were consulted throughout the analysis. All research materials were used in accordance with academic ethical principles, with proper acknowledgment of original sources.

## RESULTS

The analysis of translated texts on computer technologies revealed several significant findings related to translation strategies, terminological accuracy, and overall translation quality. The comparative examination of source texts and their corresponding translations demonstrated that the effectiveness of technical translation largely depends on the translator's familiarity with the subject matter and the consistent use of specialized terminology. In professionally translated texts, a high level of precision and consistency was observed, particularly in the translation of core technical terms such as software components, system processes, and programming-related concepts. These translations generally adhered to established terminological standards and demonstrated clarity and functional adequacy.

One of the key findings of the study is the frequent use of borrowing and transliteration strategies in the translation of newly emerged or internationally standardized computer technology terms. Terms related to artificial intelligence, cybersecurity, and cloud computing were often transferred directly from the source language, either unchanged or with minimal phonetic adaptation. This approach was found to be effective in maintaining terminological accuracy, especially in cases where no widely accepted equivalents exist in the target language. However, in some student-produced translations, excessive reliance on borrowing resulted in reduced comprehensibility for non-specialist readers.

The results also indicate that descriptive translation and explanatory additions were commonly employed to clarify complex technical concepts. This strategy was particularly evident in user manuals and instructional texts, where functional clarity is essential. In professionally translated materials, descriptive explanations were integrated smoothly into the text, enhancing reader understanding without compromising technical accuracy. In contrast, less experienced translators often produced overly literal translations, which led to ambiguity or misinterpretation of technical processes and system functionalities.

Another important finding concerns syntactic and stylistic differences between source and target texts. The analysis showed that successful translations tended to simplify complex sentence structures while preserving the original meaning and informational content. Professional translators frequently restructured long and information-dense sentences to align with the grammatical and stylistic norms of

the target language. Student translations, however, often retained the original sentence structure, resulting in unnatural or difficult-to-read texts.

Error analysis revealed several recurring translation issues, including inconsistent terminology usage, incorrect interpretation of abbreviations, and omission of essential technical details. These errors were more prevalent in student translations and were primarily caused by insufficient domain knowledge and limited access to specialized reference materials. In contrast, professionally translated texts demonstrated a significantly lower frequency of such errors, highlighting the importance of expertise and resource utilization in technical translation.

Overall, the results confirm that high-quality translation of computer technology texts requires a combination of linguistic competence, technical knowledge, and methodological awareness. The findings emphasize the necessity of using appropriate translation strategies tailored to the specific characteristics of technical discourse. Moreover, the results underline the importance of translator training in computer technologies and terminology management to ensure accuracy, clarity, and usability of translated technical texts.

## DISCUSSION

The findings of this study provide valuable insight into the complexities and specific requirements of translating texts related to computer technologies. The results demonstrate that technical translation in the field of information technology is not merely a linguistic activity but a multidisciplinary process that requires a strong integration of language competence and domain-specific knowledge. The observed differences between professionally translated texts and student translations highlight the critical role of expertise, experience, and methodological awareness in achieving accurate and functional translations.

One of the most significant aspects revealed by the analysis is the dominant use of borrowing and transliteration for newly introduced and internationally standardized technical terms. This finding aligns with existing translation studies, which suggest that the rapid development of computer technologies often outpaces the creation of standardized equivalents in many target languages. While borrowing ensures terminological precision and global intelligibility among specialists, the results also indicate that excessive reliance on this strategy may reduce accessibility for non-expert users. Therefore, a balanced approach that combines borrowing with descriptive or explanatory translation appears to be the most effective strategy, particularly in user-oriented texts.

The frequent use of descriptive translation observed in professional translations reflects a functional orientation toward the target audience. This supports functionalist translation theories, which emphasize that the primary purpose of technical texts is to convey information clearly and efficiently. By providing concise explanations for complex concepts, professional translators enhance usability and comprehension without compromising technical accuracy. In contrast, the tendency of less experienced translators to adhere closely to the source text structure often results in literal translations that fail to fulfill the communicative function of the target text.

Syntactic adaptation emerged as another crucial factor influencing translation quality. The results indicate that successful translations often involve restructuring complex sentences to conform to the

grammatical and stylistic norms of the target language. This finding reinforces the view that syntactic flexibility is essential in technical translation, as overly complex or source-oriented sentence structures can hinder readability and understanding. The limited syntactic adaptation found in student translations suggests a need for greater emphasis on target-language norms in translator training programs.

The error patterns identified in the study further underscore the importance of terminology management and reference resource utilization. Inconsistent use of technical terms and misinterpretation of abbreviations were among the most frequent issues, particularly in student translations. These errors not only affect linguistic accuracy but may also lead to functional failures in technical communication. The lower error rate in professionally translated texts demonstrates the effectiveness of systematic terminology control, consultation of specialized glossaries, and adherence to industry standards.

Overall, the discussion of results suggests that high-quality translation of computer technology texts depends on a combination of strategic decision-making, subject-matter competence, and functional awareness. The findings contribute to the broader field of translation studies by emphasizing the necessity of integrating technical knowledge into translator education and practice. Furthermore, this study highlights the growing importance of specialized training in computer technologies for translators, as well as the need for continuous adaptation to the evolving nature of technological discourse in a globalized digital environment.

## CONCLUSION

This study has examined the distinctive features, challenges, and strategies involved in the translation of texts related to computer technologies. The findings confirm that technical translation in this field requires more than general linguistic competence; it demands a solid understanding of technological concepts, specialized terminology, and the communicative purpose of technical texts. As computer technologies continue to develop rapidly and spread globally, the role of accurate and effective translation becomes increasingly essential for ensuring access to technological knowledge across linguistic boundaries.

The analysis demonstrates that professionally translated texts generally achieve higher levels of accuracy, consistency, and readability compared to student translations. Effective use of translation strategies such as borrowing, transliteration, and descriptive translation was shown to be crucial, particularly in handling newly emerged and internationally standardized terms. At the same time, the study highlights the importance of balancing terminological precision with clarity and accessibility, especially for non-specialist audiences.

Furthermore, the research underscores the significance of syntactic adaptation and terminology management in producing high-quality translations of computer technology texts. Errors related to inconsistent terminology, literal translation, and misinterpretation of abbreviations were found to negatively affect the functional adequacy of translated materials. These findings emphasize the need for systematic use of specialized reference resources and adherence to established translation standards.

In conclusion, the translation of texts on computer technologies is a complex and dynamic process that plays a vital role in global technological communication. The study contributes to the field of

translation studies by reinforcing the importance of domain-specific knowledge and functional approaches in technical translation. Future research may focus on the impact of machine translation and computer-assisted translation tools on the quality of technical translations, as well as on the development of standardized terminology in emerging technological fields.

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