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THE POSSIBILITIES OF USING DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE TOOLS IN THE TRANSLATION PROCESS

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ABSTRACT

This article scientifically examines the possibilities of using digital technologies and artificial intelligence tools in the translation process. The study highlights the role of machine translation, CAT tools, corpus linguistics, and neural translation systems in modern translation studies. Furthermore, it analyzes the impact of artificial intelligence on translation quality, pragmatic adaptation, and the professional competence of translators.

Keywords: Artificial intelligence, machine translation, CAT tools, neural translation, corpus linguistics, digital technologies, pragmatic adaptation, translation competence.

TARJIMA JARAYONIDA RAQAMLI TEXNOLOGIYALAR VA SUN'IY INTELLEKT VOSITALARIDAN FOYDALANISH IMKONIYATLARI

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ANNOTATSIYA:

Mazkur maqolada tarjima jarayonida raqamli texnologiyalar va sun'iy intellekt vositalaridan foydalanish imkoniyatlari ilmiy jihatdan tahlil qilinadi. Mashina tarjimasi, CAT-tools, korpus lingvistikasi va neyron tarjima tizimlarining zamonaviy tarjimashunoslikdagi o'rni yoritiladi. Shuningdek, sun'iy intellektning tarjima sifati, pragmatik moslik va professional tarjimon kompetensiyasiga ta'siri tahlil qilinadi.

KALIT SO'ZLAR: sun'iy intellekt, mashina tarjimasi, CAT-tools, neyron tarjima, korpus lingvistikasi, raqamli texnologiyalar, pragmatik moslik, tarjima kompetensiyasi

ВОЗМОЖНОСТИ ИСПОЛЬЗОВАНИЯ ЦИФРОВЫХ ТЕХНОЛОГИЙ И СРЕДСТВ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ПРОЦЕССЕ ПЕРЕВОДА

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АННОТАЦИЯ:

В данной статье научно анализируются возможности использования цифровых технологий и средств искусственного интеллекта в процессе перевода. Освещается роль машинного перевода, САТ-инструментов, корпусной лингвистики и нейронных систем перевода в современном переводоведении. Также рассматривается влияние искусственного интеллекта на качество перевода, прагматическую адаптацию и профессиональную компетенцию переводчика.

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КЛЮЧЕВЫЕ СЛОВА: искусственный интеллект, машинный перевод, САТ-инструменты, нейронный перевод, корпусная лингвистика, цифровые технологии, прагматическая адаптация, переводческая компетенция

Introduction

The rapid development of digital technologies and artificial intelligence has significantly transformed the field of translation studies and professional translation practice. In the context of globalization, multilingual communication, and international cooperation, translation activities increasingly depend on technological innovations that enhance speed, accuracy, and accessibility. Contemporary translators no longer rely solely on traditional linguistic skills; instead, they operate within technologically mediated environments where machine translation systems, translation memory tools, terminology databases, and artificial intelligence platforms play a central role.

The integration of artificial intelligence into translation processes has generated new perspectives in linguistics, pragmatics, and discourse analysis. According to Yves Gambier¹, translation technologies are not merely auxiliary instruments but have become “an integral component of the modern translation ecosystem.” This statement highlights the growing interdependence between translation competence and digital literacy in contemporary professional communication. Digital technologies have fundamentally reshaped translation workflows. Among the most influential innovations are Computer-Assisted Translation (CAT) tools, translation memory systems, terminology management software, and corpus-based translation platforms. These technologies enable translators to maintain terminological consistency, reduce repetitive tasks, and improve productivity.

¹ Gambier Y., Doorslaer L. Handbook of Translation Studies. - Amsterdam: John Benjamins Publishing Company, 2010. - 458 p

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CAT tools such as SDL Trados, MemoQ, and Wordfast allow translators to store previously translated segments and reuse them in future projects. This function is especially important in legal, technical, and managerial translation where lexical precision and consistency are required.

Mona Baker argues² that corpus linguistics has revolutionized translation studies by providing translators with authentic contextual data and discourse patterns. Through corpus-based analysis, translators can identify collocations, pragmatic nuances, and stylistic conventions across languages. Consequently, digital corpora contribute to more natural and contextually appropriate translations. Furthermore, cloud-based translation platforms facilitate collaborative translation practices, enabling translators, editors, and project managers to work simultaneously in real-time environments. This collaborative dimension is particularly valuable in international organizations and multilingual institutions.

Artificial intelligence has become one of the most influential factors in the evolution of translation studies. Neural Machine Translation (NMT), powered by deep learning algorithms, has significantly improved the fluency and coherence of automated translations. Systems such as Google Translate, DeepL, and AI-driven language models demonstrate the capacity of neural networks to process semantic relations and contextual information more effectively than earlier rule-based systems.

According to Noam Chomsky³, language is not merely a set of structures but a cognitive system connected to human thought. Modern AI translation systems attempt to imitate aspects of this cognitive process by analyzing patterns within extensive multilingual datasets.

Neural machine translation differs from traditional statistical translation models because it processes entire sentences rather than isolated lexical units. This approach improves syntactic coherence and contextual adequacy. However,

² Baker M. In *Other Words: A Coursebook on Translation*. - London: Routledge, 2018. - 394 p

³ Chomsky N. *Language and Mind*. - Cambridge: Cambridge University Press, 2006. - 190 p

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despite technological advancements, AI-generated translations still encounter challenges related to cultural references, idiomatic expressions, emotional nuance, and pragmatic adaptation. For example, diplomatic or managerial discourse often contains implicit meanings, politeness strategies, and institutional conventions that require human interpretative competence. Therefore, artificial intelligence should be viewed not as a replacement for professional translators but as an advanced assistive technology.

One of the major challenges in AI-assisted translation concerns pragmatics and discourse interpretation. Translation is not limited to lexical substitution; it also involves preserving communicative intention, sociocultural context, and discourse function.

Basil Hatim and Ian Mason⁴ emphasize that translators operate as discourse mediators who reconstruct meaning according to contextual and communicative factors. Artificial intelligence systems may successfully process grammatical structures, but they often struggle with irony, metaphor, persuasion, and institutional discourse. For instance, managerial communication frequently employs indirect expressions and diplomatic language. The English phrase: “We encourage further institutional cooperation” may require different pragmatic adaptations depending on the communicative context. A literal translation may preserve semantic meaning but fail to reproduce the intended diplomatic tone. Human translators therefore remain essential in ensuring pragmatic equivalence and intercultural appropriateness.

Another important issue concerns ethical and confidentiality risks associated with AI translation systems. Sensitive governmental, legal, or corporate documents require secure translation environments, which raises questions regarding data protection and information privacy.

The growing use of AI technologies has transformed the concept of translation competence itself. Modern translators are expected to possess:

⁴ Hatim B., Mason I. *Discourse and the Translator*. - London: Longman, 1990. - 258 p

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- linguistic competence;
- digital literacy;
- technological competence;
- intercultural competence;
- post-editing skills;
- discourse and pragmatic analysis abilities.

Post-editing has become a crucial professional skill in the era of machine translation. Translators increasingly revise and optimize machine-generated texts instead of translating entirely from scratch. This process requires critical linguistic awareness and advanced analytical skills.

According to Anthony Pym⁵, the future translator will function not only as a linguistic specialist but also as an intercultural communication manager capable of interacting with intelligent technologies. Additionally, artificial intelligence contributes to translator education by enabling adaptive learning systems, automated feedback, terminology extraction, and multilingual simulation environments. These innovations improve the efficiency of translator training programs and support individualized learning trajectories.

In conclusion, digital technologies and artificial intelligence tools have become indispensable components of contemporary translation processes. Machine translation, CAT tools, corpus linguistics, and neural networks significantly improve translation speed, consistency, and accessibility. Nevertheless, artificial intelligence cannot fully replace human translators because translation involves not only linguistic transformation but also pragmatic interpretation, cultural adaptation, and discourse reconstruction.

The integration of AI technologies into translation activities should therefore be understood as a collaborative model in which human expertise and intelligent systems complement each other. Future translation studies should focus on developing ethical, pragmatic, and discourse-oriented frameworks that ensure effective interaction between translators and artificial intelligence technologies.

⁵ Pym A. Exploring Translation Theories. - London: Routledge, 2014. - 212 p

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