

THE USE OF CAT TOOLS IN DEVELOPING TECHNOLOGICAL COMPETENCE OF FUTURE TRANSLATORS: CHALLENGES, PROSPECTS, AND EDUCATIONAL INTEGRATION

ВИКОРИСТАННЯ CAT-ІНСТРУМЕНТІВ У ФОРМУВАННІ ТЕХНОЛОГІЧНОЇ КОМПЕТЕНЦІЇ МАЙБУТНІХ ПЕРЕКЛАДАЧІВ: ВИКЛИКИ, ПЕРСПЕКТИВИ ТА ОСВІТНЯ ІНТЕГРАЦІЯ

The article is dedicated to a detailed analysis of the use of CAT tools in developing the technological competence of future translators. It explores the evolution of automated translation systems, their core functionalities, and operational principles, which significantly influence the quality and efficiency of translation activities. The advantages of using CAT tools are highlighted, particularly their ability to automate routine tasks, ensure terminology consistency, and reduce translation time. Special attention is given to the importance of these technologies in the professional training of students striving to meet the high demands of the modern labor market.

The article outlines methodological approaches to integrating CAT systems into educational programs. It examines in detail the potential inclusion of tools such as SDL Trados Studio, MemoQ, and SmartCAT into both practical and theoretical sessions. The analysis emphasizes how these systems contribute to the development of practical skills in working with terminology databases, managing translation memory, and performing software localization tasks. Examples of successful integration of CAT tools into the educational processes of leading universities worldwide are presented, demonstrating the high effectiveness of such initiatives.

A comparative analysis of the most popular CAT systems is conducted, providing a detailed description of their advantages, disadvantages, and potential applications in various contexts. Specifically, the article discusses the functionality of SDL Trados Studio, MemoQ, and SmartCAT, their roles in professional translation activities, and ways to optimize translation processes through these tools.

The article also explores the future prospects of CAT systems, focusing on enhancing their interfaces, expanding their functional capabilities, and integrating innovative technologies such as artificial intelligence and machine learning. It emphasizes that new features, such as process automation and improved translation accuracy, will be pivotal for the further development of the industry. Challenges associated with the use of CAT tools are also discussed, including financial costs, technical limitations, the need for user training, and their limited effectiveness in handling literary texts. The article concludes that a harmonious combination of modern technologies and professional translation skills is essential to ensure high-quality translations.

Key words: CAT tools, automated translation, technological competence, SDL Trados Studio, MemoQ, SmartCAT, artificial intelligence, educational programs, translation activities, translation memory, terminology databases, technology integration.

Стаття присвячена детальному аналізу використання CAT-інструментів у формуванні технологічної компетенції майбутніх

перекладачів. Розглянуто еволюцію автоматизованих систем перекладу, їх основні функціональні можливості та принципи роботи, які істотно впливають на якість і ефективність перекладацької діяльності. Підкреслено переваги використання CAT-інструментів, зокрема їх здатність автоматизувати рутинні завдання, забезпечувати узгодженість термінології та скорочувати час виконання перекладу. Особливу увагу приділено значенню цих технологій у професійній підготовці студентів, які прагнуть відповідати високим вимогам сучасного ринку праці. У статті описано методологічні підходи до інтеграції CAT-систем у навчальні програми. Детально розглянуто можливості включення таких інструментів, як SDL Trados Studio, MemoQ, SmartCAT, у практичні й теоретичні заняття. Аналізовано, як ці системи сприяють розвитку практичних навичок роботи з термінологічними базами, управління пам'яттю перекладів, а також виконання завдань із локалізації програмного забезпечення. Наведено приклади успішної інтеграції CAT-інструментів у навчальний процес провідних університетів світу, які демонструють високу ефективність подібних ініціатив.

Проведено порівняльний аналіз найпопулярніших CAT-систем із детальним описом їхніх переваг, недоліків і можливостей використання у різних контекстах. Зокрема, зазначено особливості функціоналу SDL Trados Studio, MemoQ і SmartCAT, їх роль у професійній діяльності перекладачів, а також способи оптимізації перекладацьких процесів завдяки цим інструментам.

Досліджено перспективи розвитку CAT-систем із фокусом на вдосконалення їхнього інтерфейсу, розширення функціональних можливостей та інтеграцію інноваційних технологій, таких як штучний інтелект і машинне навчання. Підкреслено, що нові функції, такі як автоматизація процесів і підвищення точності перекладу, стануть вирішальними для подальшого розвитку галузі.

У статті також розглянуто виклики, пов'язані з використанням CAT-інструментів, включаючи фінансові витрати, технічні обмеження, потребу в навчанні користувачів та їх обмежену ефективність у роботі з художніми текстами. Стаття завершується висновками про те, що гармонійне поєднання сучасних технологій і професійних навичок перекладача є необхідною умовою для забезпечення високої якості перекладів.

Ключові слова: CAT-інструменти, автоматизований переклад, технологічна компетенція, SDL Trados Studio, MemoQ, SmartCAT, штучний інтелект, навчальні програми, перекладацька діяльність, пам'ять перекладу, термінологічні бази, інтеграція технологій.

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Formulation of the Problem in General Terms.

The development of information technologies and the integration of computer-aided translation (CAT) systems have significantly influenced the professional activities of translators. The use of CAT tools facilitates the automation of routine tasks, ensures terminological consistency, and reduces the time required for translations. However, their implementation in the training process for future translators remains insufficiently systematized, necessitating a detailed study of methodological approaches to integrating CAT tools into professional training programs.

Analysis of Recent Research and Publications.

The use of CAT tools in translation activities has been widely studied, highlighting their importance in ensuring the efficiency and quality of translations. H.I. Dehtyarova notes that automated translation systems reduce the routine workload of translators while ensuring terminological consistency [1, p. 36].

T.A. Nazarenko emphasizes the importance of integrating CAT tools into educational programs, which contributes to the development of students' practical skills [2, p. 30].

O.V. Ponomaryov examines the challenges of using automated systems, including financial and technical limitations accompanying their implementation [3, p. 43].

A.L. Semenov analyzes the role of CAT systems in optimizing translation activities, noting their ability to improve translation consistency [4, p. 20].

Among English-language sources, L. Bowker and D. Fisher in their work explore the functional capabilities of modern CAT tools, emphasizing their importance for translation practice [5, p. 45].

A. Lafeber highlights the significance of translation memory systems in increasing translators' efficiency [6, p. 120].

Practical manuals such as "MemoQ: User's Manual" and "SDL Trados Studio: Comprehensive Guide for Translators" provide detailed instructions on using these tools to ensure translation efficiency [7; 10].

J. Munday examines the role of automation in modern translation practices, emphasizing its impact on the professional development of translators [8, p. 230].

T. Poibeau's research focuses on the potential integration of artificial intelligence into translation systems to improve their functionality [9, p. 180].

Thus, contemporary research confirms the significance of CAT tools in both the professional training of translators and their practical activities.

Identification of Previously Unresolved Aspects of the General Problem. Despite significant scholarly interest in automated translation, current literature lacks a comprehensive approach to integrating CAT systems into translator training

programs. Insufficient attention has been paid to adapting educational materials to students' needs, organizing practical sessions involving modern tools, and developing modular courses tailored to various levels of student proficiency. Furthermore, there is a lack of comprehensive studies on the effectiveness of cloud platforms in the educational process.

Purpose of the Article. The purpose of this article is to explore the role of CAT tools in developing the technological competence of future translators, analyzing their capabilities, limitations, and prospects for development. The objectives include studying methods of integrating CAT systems into educational programs; identifying key approaches to teaching the use of such tools; comparing popular CAT systems based on their functional capabilities and practical efficiency; and examining the challenges and prospects for the development of automated translation systems.

One of the most widespread and popular AI tools in the field of written translation is computer-assisted translation systems, commonly referred to as CAT tools (Computer-Assisted Translation / Computer-Aided Translation) or "CAT systems" and "CAT tools" [5, p. 45; 8, p. 230]. This type of translation is called "automated translation," and although it is often confused with machine translation, these two types of translation are not identical.

First and foremost, it is important to note that machine translation is merely one component of automated translation and constitutes only a fraction of the capabilities offered by CAT tools. The primary function of CAT tools is to reduce the time required to translate a document by leveraging machine translation, inserting pre-translated segments from translation memories, performing automatic translations based on glossaries, conducting automated quality checks, and utilizing other automation tools. CAT tools enable users to perform spell-checks and grammar checks; manage terminology; use specialized dictionaries, text indexers, and terminology databases; merge translations with source texts; manage projects and translation memories; and automate translation workflows [1, c. 36; 6, p. 120].

The development of CAT tools owes much to Makoto Nagao, the head of Japan's national machine translation program, who, in the early 1980s, introduced a new translation concept based on examples (example-based translation). The essence of this innovative idea lies in the fact that in scientific communication, languages are characterized by uniform syntactic structures and highly terminologized lexical content. When changing vocabulary and terminology, the same structures often recur. This observation led to the idea that with a sufficiently large collection of previously translated phrases, there is a high probability that most subsequent texts and their

translations will closely resemble those already manually translated [2, c. 30; 3, c. 43].

Makoto Nagao utilized this principle to develop the first CAT software prototype. CAT tools are capable of "learning," provided that a large dataset of source texts and their corresponding translations is created and uploaded into a high-performance, multi-processor computing system. During the translation of new texts, the system selects analogous fragments from the dataset, which can be used to form the target text [4, c. 20; 7].

To date, numerous systems of automated and machine translation, including CAT tools (Computer-Assisted Translation), have been developed based on the aforementioned principles. The primary goal of CAT tools is to simplify the translation of similar types of documents. Unlike machine translation systems, the translation process using CAT tools necessarily involves a human translator who fully performs their functions. The entire translation process is carried out by the translator, while the computer program merely assists in creating the final text more efficiently or with better quality [1, c. 36]. The key function of a CAT tool is the ability to memorize translated text segments and reuse them in subsequent translations.

This technology is referred to as Translation Memory (TM). Translation Memory is a database that stores previously translated content for potential reuse and quick retrieval of existing entries [2, c. 30]. According to A.L. Semenov, the primary purpose of TM tools is to store sentence pairs in a translation database [4, c. 20]. The functionality of TM tools generally integrates with commonly used office applications like Word. Some TM tools come with their own text editing features, and their interfaces closely resemble those of conventional text editors familiar to modern translators. A contemporary TM tool represents a complex computer system that includes various programs with diverse functionalities [3, c. 43].

Examining the specifics of using CAT tools in the translator's work, we can identify several advantages offered by these AI-driven instruments. First and foremost, the skills and knowledge of using CAT tools have become mandatory for translators participating in large-scale translation projects. Consequently, the labor market increasingly demands that translators possess a sufficient level of proficiency with automated translation tools, as required by agencies, translation bureaus, and direct clients [5, p. 45]. Even for small documents, texts, or projects, translation through CAT tools is often specified as a requirement.

These realities of translation practice stem from the value placed on time in the modern globalized and fast-paced world. When working manually, translators spend a considerable amount of time on translations. Furthermore, translating within the same domain (e.g., medical texts or legal documents) involves

recurring terminology and set phrases that frequently appear in texts. Working manually, translators repeatedly translate these elements, whereas CAT systems, utilizing TM technology, optimize the process, significantly reducing the time required for translation. According to estimates by the company PROMT, the use of CAT technologies can increase overall translation efficiency by up to 80% [7].

The ability of CAT tools to create and continuously update their TM database for future use enhances the value of these AI technologies compared to other existing solutions, including machine translation systems [6, p. 120].

However, it is important to note that while CAT systems are highly effective aids for translating technical texts, they offer limited utility in literary translation. This is due to the specific nature of literary texts, where uniform expressions are almost entirely absent, and translations rely heavily on context, including the author's individual style, sociocultural factors, and the pragmatic aspects of the work. Nonetheless, beyond standard CAT tools, there are specialized programs designed for the localization of software products, websites, video games, and other content. These automated translation tools possess broader capabilities and hold potential for further development, potentially enabling the creation of TM databases that could be utilized even in the field of literary translation [8, p. 230; 9, p. 180].

To date, a variety of CAT programs have been developed, encompassing different tools and functionalities under the broad concept of automated translation. These include:

Spell-checking programs, integrated into text editors or as standalone applications [1, c. 35]. Punctuation-checking programs, also available as integrated features in text editors or as additional software [2, c. 30]. Terminology management programs, enabling translators to maintain their terminology databases in electronic form. These tools can range from simple spreadsheets in text editors to more complex applications like FileMaker Pro. For more extensive tasks, advanced programs such as LogiTerm, SDL MultiTerm, and Termex are commonly used [3, c. 43]. Electronic dictionaries, both monolingual and multilingual [4, c. 20]. Terminology databases, stored electronically or accessible online, such as The Open Terminology Forum or TERMIUM Plus [5, p. 45]. Full-text search programs, which allow users to query previously translated texts or reference documents, including tools like Naturel, ISYS Search Software, and dtSearch [6, p. 120]. Concordancers, which provide examples of words or phrases within extensive contexts in monolingual, bilingual, or multilingual corpora (bi-texts or translation memories) [7]. Bi-texts, created by merging the source text with its translation, which can be analyzed using full-text search or concordance software [8, p. 230]. Project

management software, designed to help linguists or translation project managers structure complex translation projects, assign tasks to team members, and oversee their execution [9, p. 180]. Translation Memory Managers (TMM), comprising databases of text segments in the source language paired with their translations into one or more target languages [5, p. 47]. Partially automated systems, which allow users to make edits to the translated text. These systems combine machine translation with the involvement of a human translator [6, p. 125].

The various CAT program formats feature diverse interfaces, data storage types (cloud-based or local), and optional modules such as spell-checking. They cater to different user needs and requirements [3, c. 43].

Among the most prominent CAT systems, Trados, SmartCAT, and MemoQ stand out due to their widespread use among translators.

Trados is an automated translation system developed by the German company Trados GmbH in 1992. It is a global leader among TM systems. Trados operates entirely on the concept of TM, identifying segments in the translation text that already exist in the program's database, thereby reducing the translator's workload. Untranslated segments are either manually processed by the translator or translated using a machine translation system. Translators can also highlight translated segments and add new pairs of parallel texts in two languages to the database, thereby expanding it [10].

The Trados system is particularly useful for translating software products and electronic resources such as websites and XML documents, which pose challenges under traditional translation approaches due to the need to maintain tag integrity [11].

Another system of automated translation is SmartCAT, a cloud-based platform that differs from Trados, a full-fledged software application that must be installed on a computer. Instead, SmartCAT operates via a browser, significantly simplifying its use by eliminating the need to download and install software while adhering to various technical requirements. SmartCAT can be classified as both an automated translation system and a globalization management system, and even as a freelance marketplace [3, c. 44].

An analysis of the SmartCAT website reveals that this automated translation tool is not only available as a cloud-based platform but can also be installed on a server. One of its valuable features is the ability to collaborate on translations, enabling translation companies and in-house translators to work on the same project together in real time. Translators can communicate directly within SmartCAT to discuss their work without requiring any additional communication tools. Since 2017, SmartCAT has offered freelance services through its "marketplace," functioning as

a job exchange for freelance translators. It also provides access to an app store, which allows users to integrate SmartCAT with third-party tools that facilitate the translation process [11].

SmartCAT supports various input formats, including text documents, presentations, spreadsheets, scanned documents, and images (with a paid service for text recognition from photos and images), HTML pages, resource files, standardized bilingual formats, and more. The system also supports SDL Trados packages, enabling SmartCAT to handle projects initially intended for execution within the Trados environment and to create output packages that can later be uploaded into Trados [10].

Overall, SmartCAT is an automated translation system that includes translation memory, machine translation, and glossary management. It is designed for both companies (including translation agencies) and individual translators [8, p. 124].

Another AI tool in the field of automated translation is MemoQ, which represents a suite of programs for computer-assisted translation. MemoQ integrates translation memory, terminology, machine translation, and reference management within desktop, client/server, and web applications [7].

The key features and functions of MemoQ include the ability to connect multiple TM (Translation Memory) databases, the presence of a terminology dictionary, the creation of a "source file-translation" document corpus, consideration of previous text translations, analysis for matches with new untranslated material, an advanced statistics module for workflow time prediction, integration with existing tools compatible with TMX and TTX, interaction with a network database, connection to various modules for translation process automation, the ability to search individual terms not only in the dictionary but also in translated documents and online term bases and dictionaries, as well as improving the speed and quality of manual translation [7; 6, p. 120].

MemoQ supports dozens of different file types for source documents. The program allows for the translation of localization files, bilingual documents, project files, translation memory files, terminology database files, segmentation rule files, and more [7].

Thus, Trados Studio, SmartCAT, and MemoQ are among the most popular and widely used automated translation systems recommended for translators aspiring to meet the demands of the modern translation services market [5, p. 45; 7].

The integration of CAT systems into the educational process plays a crucial role in developing the technological competence of future translators. Educational institutions must adapt their programs to reflect current trends in the translation industry and the needs of the labor market. The use of computer-assisted translation tools fosters the development of practical skills in modern technologies, better

preparing students for the real challenges of the profession [3, c. 43].

One key direction is the introduction of dedicated courses focused on using CAT tools. These courses may cover popular programs such as SDL Trados Studio, MemoQ, Wordfast, and SmartCAT. Such programs should include both theoretical aspects of working with these tools and practical exercises that simulate real translation tasks. Curricula should encompass mastering the basics of working with terminology databases, managing translation memories, and performing software localization [2, c. 30; 4, c. 20].

Moreover, an effective strategy is the integration of CAT systems into general translation courses. For instance, in courses on written or technical translation, instructors can demonstrate how automated tools facilitate translation tasks by ensuring terminological consistency and stylistic uniformity of texts. This allows students not only to grasp theoretical foundations but also to practice applying them in real-world conditions [1, c. 36; 8, p. 230].

Special attention should be paid to the use of cloud-based platforms for organizing the educational process. Systems such as Memsource and MateCat allow students to work in real-time on collaborative translation projects. This fosters the development of teamwork skills, as students learn to interact effectively while taking on various roles, including translator, editor, or project manager. The use of such platforms enables the simulation of real working conditions, better preparing students for the challenges of modern professional activities [2, c. 30; 3, c. 43].

An important aspect of integrating CAT tools is the organization of certification programs. Some educational institutions already offer students the opportunity to obtain certificates confirming their qualifications in using specific software. For instance, certification in SDL Trados Studio or MemoQ enhances students' job market prospects, as such qualifications serve as an additional advantage for employers [4, c. 20].

It is advisable to involve professionals from the translation industry in the learning process. Conducting workshops, lectures, and webinars allows students to gain insights into real-life cases and understand how modern technologies are applied in professional activities. For example, invited specialists can demonstrate how they use CAT systems to work on large-scale projects, perform localization, or manage terminology [1, c. 36].

One of the most effective approaches to teaching CAT tools is the use of interactive tasks and practical examples. For instance, students may be assigned tasks involving the analysis of source texts, the creation of terminology databases, the configuration of translation memories, and the execution of translations using CAT tools. Such tasks should take

into account the specifics of working with various text genres, as technical, legal, and literary texts require different approaches [6, p. 120].

Examples of successful integration of CAT tools into educational programs already exist. For example, the "CAT for Translators" program taught at the University of Coimbra (Portugal) focuses on training students in the basic and advanced functionalities of CAT systems. Students work on real projects in collaboration with translation agencies, allowing them to gain valuable practical experience [7].

Another example is the "Digital Translation Tools" program offered by the University of London. It is oriented towards the localization of software and multimedia products and involves studying the full cycle of the translation process—from text analysis to post-editing of machine translations [8, p. 230].

To further improve the integration of CAT tools into educational programs, several additional aspects should be considered. First and foremost, an important step is the implementation of a modular approach to learning. For instance, courses can be structured by levels of complexity, ranging from basic familiarity with CAT system functionalities to the development of individual translation projects using multiple tools. Such an approach allows students to gradually acquire the necessary skills, avoid overload, and ensure a deeper understanding of working with technologies [2, c. 30; 4, c. 20].

Additionally, the creation of educational materials that meet modern requirements is essential. Developing interactive textbooks, video tutorials, learning platforms, and simulators for real translation tasks will facilitate more effective learning. For example, students can be offered training cases based on real projects, including tasks involving localization, terminology management, and post-editing of machine translations [3, c. 43].

Another promising direction is the establishment of partnership programs with CAT tool developers and translation agencies. Such collaborations may include providing free or discounted access to software for educational institutions, conducting joint training sessions, certification courses, and internships. For instance, SDL actively collaborates with universities, offering students opportunities to familiarize themselves with the latest developments in automated translation [10].

A crucial element of the learning process is assessing students' proficiency in CAT tools. For this purpose, a competency-based testing system can be developed to evaluate students' knowledge and skills in working with software. Such tests may include performing a translation task using CAT systems, creating a terminology database, or managing a project on a cloud platform [7].

Another important aspect is the integration of an interdisciplinary approach to teaching CAT tools.

During training, students should consider not only the technical aspects of translation but also the cultural, linguistic, and ethical issues associated with using automated tools. For example, students could study how to account for cultural differences when translating marketing texts or how to ensure data confidentiality when working with clients [1, c. 36; 5, p. 210].

It is also worth noting the importance of adapting educational programs to constant changes in the translation industry. Educational institutions should continuously update their courses in line with emerging trends and technologies. For example, curricula could include courses on neural machine translation or game localization, which are gaining increasing popularity [6, p. 120].

Finally, it is essential to emphasize the importance of training educators who teach the use of CAT tools. They should not only have a strong understanding of the technical aspects of working with software but also be aware of current trends in translation practices. To this end, regular training and professional development for educators must be organized.

CAT tools (Computer-Assisted Translation) are significantly transforming translation practices by simplifying and optimizing the translation process. However, despite their obvious advantages, their use is accompanied by several challenges.

- Technical difficulties and equipment requirements: CAT tools require modern equipment, including powerful computers, licensed software, and stable internet access. These requirements create technical barriers for many translators [1, c. 36; 3, c. 43].

- Need for training: Working with CAT programs requires specialized knowledge and skills. Even modern systems with intuitive interfaces demand time for mastering [4, c. 20; 5, p. 45].

- Financial costs: The high cost of licensed software can be a significant obstacle for individual translators and educational institutions [2, c. 30].

- Limitations in working with literary texts: While CAT systems work exceptionally well with technical and formal texts, they encounter significant challenges in translating literary works, which require a nuanced linguistic sense, contextual understanding, and awareness of cultural nuances [6, p. 120].

- Issues with contextual translation: Translation Memory (TM) and machine translation systems do not always adequately consider context, necessitating post-editing by the translator [7].

- Logistical limitations: The storage of translation databases on servers or local devices ties translators to specific workplaces, which can be inconvenient [8, p. 210].

- Inapplicability to oral translation: The use of CAT systems in simultaneous or consecutive interpretation

remains limited, as these systems are better suited for written texts [9, p. 180].

Despite the aforementioned challenges, CAT systems are indispensable tools for written translation. They significantly enhance productivity, ensure terminological standardization, and reduce the labor intensity of translation work. However, their use requires a high level of competency, technical proficiency, and creativity from translators. The human factor and the translator's expertise remain critical in achieving high-quality results [10].

The development of CAT systems that leverage artificial intelligence (AI) and innovative technologies promises further advancements aimed at enhancing efficiency. Thanks to neural networks, translation memories, and terminological glossaries, modern CAT systems achieve a high level of accuracy. Future improvements are expected to integrate more advanced text analysis algorithms, enabling higher translation quality even for texts with ambiguous and contextually complex elements. AI increasingly assumes project management functions, such as selecting appropriate resources, task allocation among translators, formatting checks, and automation of financial operations. This allows translators to focus on creative and complex aspects of their work [1, c. 36; 5, p. 45].

It is anticipated that future versions of CAT systems will become more user-friendly with intuitive interfaces. Simplified program structures will make them more accessible to beginners and students. Upcoming CAT systems will integrate various translation tools, including translation memories, terminology databases, and machine translation, ensuring an automated process at all stages of a project. This will also include real-time collaboration with clients and colleagues. Furthermore, these systems will evolve to support localization of software, web resources, and the translation of technical and scientific texts, enabling efficient handling of specialized materials with extended glossaries and terminological databases [3, c. 42; 6, p. 120].

The development of CAT systems is gradually reshaping the translator's role. AI handles routine tasks, freeing time for analytical work, creative interpretation, and post-editing. This also reduces reliance on printed resources, as most work is conducted in electronic formats [4, c. 20].

Despite these significant prospects, the development of CAT systems faces certain challenges. One key limitation is the difficulty in processing literary texts, which require deep understanding of cultural and stylistic nuances. There is a continuous need to update databases and adapt to new fields of activity. Another critical task is maintaining a balance between automation and human intervention to avoid a decline in translation quality [7].

In the future, the development of CAT systems will become a pivotal element in translation practices.

These tools not only optimize the translator's workflow but also improve translation quality through the integration of innovative technologies. At the same time, translators remain indispensable in contextual text analysis, particularly in areas where automation cannot ensure adequate quality. Harmonious interaction between humans and technology will form the foundation for further advancements in the translation industry [9, p. 180; 10].

Conclusions. Integrating CAT tools into the educational process is a key element in developing the technological competence of future translators. Using programs such as SDL Trados Studio, MemoQ, and SmartCAT ensures the automation of translation processes, enhances efficiency, and helps students adapt to the modern challenges of the profession.

CAT systems play a vital role in translator training, contributing to the development of practical skills in working with terminological databases, translation memories, and localization tools. Their application provides a better understanding of the specifics of technical and official documentation translation, as well as ensuring high-quality task execution.

Among the main advantages of CAT tools are the automation of routine tasks, ensuring terminological consistency, accelerating translation workflows, and facilitating teamwork on large-scale translation projects.

An analysis of the shortcomings of CAT systems reveals certain challenges, including the high cost of licensed software, difficulties in learning how to use the tools, technical barriers, and the need for modern equipment. Additionally, limitations in handling literary texts due to a lack of intuitive context comprehension remain a pressing issue.

The future development of CAT systems involves the integration of artificial intelligence, improved user interfaces, project management automation, and the creation of more user-friendly programs. These advancements will help adapt CAT tools to the demands of the labor market.

Educational programs that incorporate CAT tools demonstrate high effectiveness in preparing students. Practical tasks simulating real translation projects, along with collaboration with industry professionals, significantly improve the quality of the educational process.

The implementation of CAT systems in education faces technical and financial challenges and also requires ensuring that instructors are well-prepared to

work with new technologies. For this reason, ongoing training for educators and the continuous update of curricula are essential.

To achieve high translation quality, it is crucial to combine the use of CAT tools with the professional skills of translators, such as the ability to analyze texts, consider context, and adapt translations to cultural specifics. Ultimately, CAT tools have become an integral part of modern translation practice. Their integration into the educational process supports the training of specialists who are well-equipped to meet the requirements of the current labor market. At the same time, continued optimization of methods for incorporating CAT systems into professional education is necessary to build the technological competence of future translators.

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