

**MODERN VECTORS OF SCIENCE  
AND EDUCATION DEVELOPMENT  
IN CHINA AND UKRAINE**

中国与乌克兰科学及教育前沿研究

Harbin Engineering University

State institution "South Ukrainian National Pedagogical University named after K. D. Ushynsky"

Educational and Cultural Center "Confucius Institute"

Odesa, Ukraine

Harbin, the People's Republic of China

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The ninth issue of the materials represented by the Ukrainian and Chinese scholars are dedicated to the relevant issues of General and Contrastive Linguistics within the Chinese, English, Ukrainian, Turkish and Korean languages; linguodidactic problems of teaching native and foreign languages within polycultural educational space; peculiarities of cross-cultural communication in geopolitical space alongside education-related aspects regarding profession-oriented training of future specialists under conditions of multicultural environment and military actions in Ukraine; post-COVID-19 pandemic challenges.

The given articles may be of use to researchers, graduates, postgraduates and practising teachers who are interested in various aspects of Sinology, Cross-cultural Communication, Linguistics, Pedagogy and Psychology.

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## **THE CONSTRUCTION OF THE TECHNICAL COMPETENCE OF TRANSLATORS IN THE ERA OF ARTIFICIAL INTELLIGENCE**

**Abstract:** *The booming development of artificial intelligence technology has ushered humanity into a new era of big data. The massive amount of data in the era of big data has led to significant changes in the translation industry, and the significance of translators is facing the possibility of being dissolved. Therefore, it is necessary to adapt to the times and enhance one's technical capabilities to cope with this challenge. The technical application ability of translators refers to their understanding and application ability of translation technology and tools in translation practice. The era of artificial intelligence (AI) has put forward new requirements for the technical application ability of translators. Starting from the demand of the language service industry for translators, this paper analyzes the requirements of the artificial intelligence era for the technical application ability of translators, points out that translators in the artificial intelligence era should have the abilities of computer application, information retrieval, terminology management, post translation editing, project management, and provides a development path for the technical application ability of translators, in order to provide reference for translators to calmly cope with*

*the impact of artificial intelligence and achieve sustainable development.*

**Keywords:** *artificial intelligence; technical competence; language services*

备注:本文是哈尔滨工程大学区域国别研究共建专项阶段性成果（项目名称：沙特军事动态研究）

## 1.Introduction

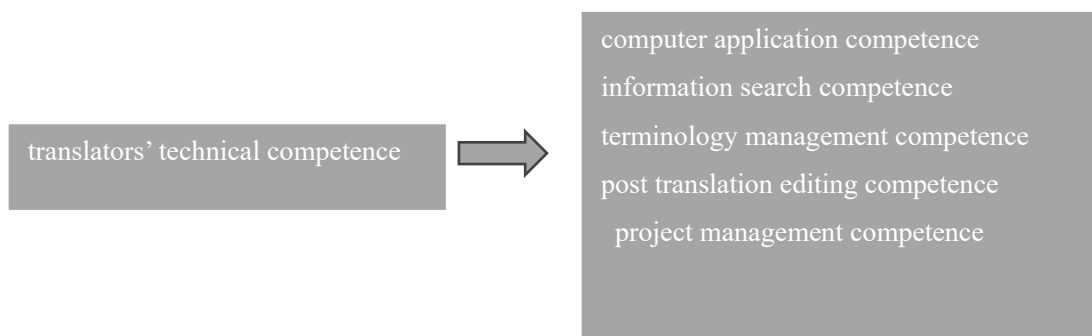
Artificial intelligence and big data have triggered an information storm. <sup>[1]</sup> “The translation industry has been the first field to be changed in this information storm. Translation has achieved a transformation from “individual” to “crowdsourcing” and from “human translation” to “deep human-machine translation”. In the era of artificial intelligence and big data, the translation industry has changed the traditional mode of pure manual translation and started a comprehensive information transformation of the industry. Specifically, the application of technologies and tools such as machine translation, computer-aided translation software, and cloud-based translation memory has gradually taken a dominant position in the translation industry. Translators no longer rely solely on dictionaries or simple computer software technology to assist translation, but use large corpora and massive cloud-based translation memory to translate. In the era of big data, the information transformation in the field of translation can be described as comprehensive, with significant changes taking place in translation business platforms, the use of translation tools, and translation processes.

Driven by artificial intelligence, big data, and cloud computing technology, translation technology and tools for the language service industry have rapidly developed and been widely applied. Technology-driven practice has become a significant form of the language service industry. According to the survey data released by the China Translation Association in the 2019 China Language Service Industry Development Report, machine translation is widely used in the language service industry. 41% of language service providers surveyed frequently use machine translation, while 45% of language service practitioners surveyed indicate occasional use of machine translation. In the 2018 China Language Service Industry Development Report released by the China Translation Association, only 9.7% of language service

users do not use translation technology, and nearly 90% of language service users choose different types of translation technology tools. Currently, language service providers require applicants to be proficient in using one or more computer-aided translation tools when recruiting translators and translation project managers. If applicants do not possess this skill, they will not be able to survive in the language service market. Translation tools have become the weapon on which translators rely for survival, and technical competence has become the basic skill on which translators rely for survival.

## 2. The requirements for translators' technical abilities in the era of artificial intelligence

With the widespread application of machine translation, more and more translators are beginning to view tool or technical skills as an organic component of translation competence. The position of technical competence and technical thinking in the evaluation of translator's competence in the new era is becoming increasingly prominent. The technical competence of a translator cannot be simply equated with translation competence. By analyzing job or project recruitment notices that require translators' technical competence, it can be found that translators in the new era should possess the following technical competence:



▲ Chart 1. translators' technical competence  
(Gao Bei, Zhou Wei)

In recent years, translation technology has become a cutting-edge topic in the field of translation research domestically and internationally. "In the context of the big data era, there has been significant innovation in the landscape of translation practice, and the degree of technicalization is increasingly deepening."<sup>[2]</sup> "Translation technology is



a highly interdisciplinary field.”<sup>[3]</sup>, “Translation technology has become an inevitable fate for translation practitioners.”<sup>[4]</sup> Therefore, broad and proficient translation competence is one of the essential abilities for translators in the era of big data.

### 2.1 Computer application competence

Computer application competence refers to the translator’s competence to use commonly used computer functions and software, mainly including the operation of various computer software, various text processing, and text format conversion. The translator needs to master the basic use methods of the computer operating system, such as text editing optimization, spreadsheet statistics, electronic presentations, multimedia, Internet and other basic knowledge as well as information security knowledge, including the installation and use of common software under the Windows operating system, switching between different input methods, network security software and word processing and other operations. Translators should also master the format conversion of complex texts, such as using Abby Fine Reader optical recognition tools to scan documents, convert scanned files or images into word files, or convert PDF format files into word files.

### 2.2 Information search competence

In the era of big data, data is growing exponentially. The characteristics of these massive amounts of data are complexity, diversity, irregularity, lack of standards, or inconsistent standards. However, it is not difficult to find that the biggest advantage of these big data compared to sample data is that they have a huge space for data selection, allowing for multidimensional and multi angle data analysis. In such a vast amount of data, translators naturally cannot rely on their brains or a few notebooks to record, store, and distinguish. In the face of vast amounts of data, how to quickly and effectively find target information requires translators to have high information search competence, that is, “search intelligence”<sup>[6]</sup>. Making good use of search technology has evolved into an important competence that translators should possess in the Internet age. Some even consider search intelligence to be equally important as intelligence and emotional intelligence.

### 2.3 Terminology management competence

With the increasing globalization of the world economy, international exchanges are becoming more frequent, social division of labor is becoming more refined, disciplinary and professional divisions are becoming more detailed. Tons of terms have emerged in various industries of society. These terms, because they belong to different industries and are used by different groups, pose great difficulties for translators, especially when facing translation projects with large tasks, strong professionalism, and tight time constraints. Therefore, terminology management has emerged, and it has become an essential part of language services and plays an increasingly important role in translation practice in every aspect of translation practice. The importance of terminology management determines that translators must master terminology management techniques, including collecting, describing, processing, storing, editing, presenting, searching, maintaining, and sharing terminology. Only when translators have the competence to manage terminology, can they achieve accurate and consistent terminology in translation projects, and truly ensure the quality of translation.

#### 2.4 Post translation editing competence

With the continuous progress of science and technology and Internet technology, artificial intelligence is becoming mature, computer-assisted translation software and cloud translation memory are innovating, iterative progress is increasingly frequent, and performance is increasingly improved. Translators can use the network, artificial intelligence, computer-assisted translation software and cloud translation memory to achieve rapid translation of texts, but the translation versions cannot reach the level of manual translation by professional translators. In order to achieve a balance between translation quality and efficiency, and to exploit the advantages of human-computer interaction to the full, post editing has emerged, which has become an actively adopted translation implementation method in the translation service industry. In the face of the transformation of translation project implementation methods, translators have to master the principles, strategies, methods, tools, and processes of post editing. Only with high post editing abilities, can they meet the high standards and strict requirements of massive data translation in the era of artificial intelligence.

#### 2.5 Project management competence

Project management competence refers to the competence of a translator (project manager) to not only manage the pre–translation, mid–translation, and post–translation stages of a translation project, but also to properly coordinate relationships with clients, team members, and other stakeholders, achieving high-quality task completion. Translators should fully demonstrate their professional competence and customer awareness in the process of communicating with clients, be familiar with the translation market, industry needs, and bargaining trends, possess marketing strategies, seek target customers, clarify customer needs and expected goals, be familiar with the post editing process, interpret post editing reports, determine budgets and quotations, and other abilities. This competence requires translators (project managers) to possess managerial thinking, to be familiar with core knowledge in the field of translation project management (such as project integration, project progress, project resource management, etc.), to have the competence to integrate individual translation tasks, accurately evaluate project risks from multiple perspectives, and develop corresponding risk response measures.

### 3. Development path of translator’s technical competence

The cultivation of translator’s technical competence has become an important issue in the cultivation of translation talents, and requires the joint efforts of relevant parties to cultivate the professional talents that the language service industry truly needs. In the following part, we will explore the development path of translator’s technical competence from four aspects.

#### 3.1 Updating Traditional Translation Cognitive Concepts

The competent department of translation education and talent training units should keep up with the times, social development and scientific and technological progress. It also needs to update their understanding of traditional translation, pay attention to the development needs of the industry and the new requirements of national language strategy for translators. It is necessary to actively expand the integration and application scenarios of intelligent technology in translation teaching practice, and guide students to correctly use translation technology tools. High-level composite translators who understand language, culture, technology, and profession should be

effectively cultivated.

### 3.2 Emphasize the construction of post translation editing courses

Currently, the teaching of post translation editing in academia is usually integrated into the curriculum of translation technology courses as a specific section, and few universities offer related courses as independent courses. Higher education institutions should clarify the gap between the personal qualities of current students and the actual needs of the industry, and work together with enterprises to establish an integrated “industry academia research” mechanism for the cultivation and research of post translation editing talents, jointly creating high-quality courses for post translation editing. Establishing a market-oriented translation teaching model is necessary to cultivate high-level, application-oriented, and professional translation talents in order to meet the needs of economic and social development. The project research is based on the CAT (computer-aided translation) translation teaching platform, relying on translation teams and translation projects. This research can design and implement a task-driven training platform to enhance students’ translation competence. students should be divided by role and complete translation tasks according to the practical process of commercial translation projects. Through translation practice, students can quickly master relevant professional skills, become familiar with commercial translation processes, and improve their competitiveness in providing translation services.

### 3.3 Strengthening the digital technology literacy of teachers and students

As the main body of translation teaching and practice, translation teachers and students should adapt to the digital living environment and be familiar with the application of intelligent technology in translation practice. Teachers should not only cultivate students’ language competence, but also focus on developing their abilities in tools, strategies, services, and management. Students should actively utilize the teaching resources and online resources of the school, and strive to improve their skills in tool operation, corpus application, and complex document analysis required for post translation editing practice. Translators in the AI era need to have good translation technology application skills, actively learn and apply translation techniques and tools,

understand and familiarize themselves with translation management techniques, improve translation efficiency, and enhance translation quality.

### 3.4 Emphasize the construction of ethical standards for translation technology

At the national level, efforts should be made to accelerate the construction of a technology ethics system and provide macro policy guidance. Industry associations should assist in regulating the technical and ethical norms of diverse actors, monitoring and evaluating data and technical risks and hidden dangers. Enterprises should establish internal ethical rules and regulations to enhance employees' awareness of technical ethics. Universities should actively guide teachers and students to establish a correct understanding of the technical capabilities of translators, correctly understand the advantages and disadvantages of machine translation and translation tools, pay attention to responsibility attribution and intellectual property protection, and enhance risk assessment and risk response capabilities.

## 4. Conclusion

In the era of artificial intelligence, technologies such as big data, cloud computing, and deep learning have had a profound impact on the language service industry. On the one hand, the increasing intelligence of translation technology has brought opportunities for the improvement of the quality and efficiency of human translators. On the other hand, technologies such as machine translation and speech recognition may replace certain tasks of translators and pose challenges to their survival and development. At the same time, the language service industry has increasingly high requirements for the technical competence of translators. In terms of the problems in the recognition, use, and learning of translation skills, how to further popularize translation technology and enable translators to better master translation technology has become a problem that the translation industry and academia must face. In the translation ecosystem, enterprises, universities, associations, clients, and translators should all pay attention to the cutting-edge development of translation technology, deepen the promotion and popularization of translation technology, talent cultivation, and research and development work, and jointly promote the innovative development of translation education and research in the era of artificial intelligence.

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## 人工智能时代译者技术能力构建研究

**摘要：**人工智能技术蓬勃发展将人类带入一个全新的大数据时代。大数据时代的海量数据引发翻译行业巨变，译者存在的意义正面临被消融的可能，因此需要顺应时代提升自身技术能力以应对这一挑战。译者技术应用能力是译者在翻译实践中对翻译技术和工具的理解和应用能力，人工智能（AI）时代对译者技术应用能力提出了新要求。本文从语言服务行业对译者的需求出发，分析人工智能时代对译者技术应用能力的要求，指出人工智能时代译者应具备计算机应用能力、信息检索能力、术语管理能力、译后编辑能力、项目管理能力等，并给出了译者技术应用能力发展路径，以期为译者从容应对人工智能冲击，获得可持续发展提供参考。

**关键词：**人工智能；技术能力；语言服务