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Research on Strategies for Improving Translation Technology Application Ability of English Teachers in Chinese Universities in the Digital Intelligence Era

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Abstract: This study aims to explore strategies for improving the translation technology application capabilities of college English teachers in China. By analyzing the current application status of translation technologies in college English teaching, identifying existing problems, and proposing targeted strategies, it seeks to help teachers master translation technologies, enhance teaching effectiveness, and cultivate(compound) English talents with solid linguistic foundations and proficient translation technology skills. Improving teachers' application capabilities not only enriches teaching methods but also holds significant significance for promoting college English teaching reform and innovating talent cultivation models. The research proposes improvement strategies in aspects such as education and training, teaching practice, self-enhancement, and school support, followed by a research summary and future prospects.

Keywords: digital intelligence era, college English teachers, translation technology, application capability, improvement strategies

1. Introduction

In the digital intelligence era, translation technologies (e.g., machine translation and CAT) have developed rapidly, profoundly transforming translation industry workflows[1]. Chinese university English teaching faces new reforms, as traditional translation methods can no longer meet talent cultivation needs, making integration of advanced technologies inevitable.

This study explores strategies to improve Chinese university English teachers' translation technology application skills. By analyzing current application status, identifying issues, and proposing targeted strategies, it aims to help teachers master technologies, enhance teaching effectiveness, and cultivate compound talents with strong linguistic bases and technical proficiency. Strengthening teachers' capabilities enriches teaching methods, boosts student engagement, enables adaptation to future translation needs, enhances job competitiveness, and promotes teaching reform and talent model innovation.

2. Overview of Translation Technologies in the Digital Intelligence Era

2.1 Development Process of Translation Technologies

Translation technologies have evolved from basic tools to intelligent systems. Early manual translation relied on paper dictionaries, while electronic dictionaries later improved efficiency with large storage and query functions[2]. In the late 20th century, CAT software emerged with translation memory and terminology management, reducing repetitive labor[3]. The 21st century saw online translation platforms and corpus technology thrive with internet growth, leveraging big data for multilingual services[4]. Recently, Neural Machine Translation (NMT) has become mainstream via deep learning, enhancing quality in business and education.

2.2 Introduction to Main Translation Technologies

Computer-Assisted Translation (CAT) Tools: Represented by SDL Trados and MemoQ, CAT tools use translation memory to suggest similar segments and terminology databases, enhancing term consistency by over 40% [5]. They also offer segmentation and alignment functions.

Machine Translation (MT): Evolving from rule-based to NMT, MT uses deep learning to process sentences contextually, applied in daily and business scenarios[6].

Corpus Technology: Based on large real-text datasets, it studies language use via statistics. Comparing source and target corpora aids translation research and teaching (Sinclair, 2021).

2.3 Impact of Translation Technologies on the Translation Industry

Efficiency Improvement: CAT tools boost efficiency by 30%-50% by eliminating retranslation, while MT handles large text volumes quickly[7].

Cost Reduction: "Machine translation + human proofreading" reduces localization costs by ~35% [8].

Process Transformation: CAT tools enable collaborative project management and integration with other workflows (e.g., software localization) [9].

Industry Landscape Change: Market segmentation occurs, with large firms dominating and new roles like language engineers emerging[10].

3. Current Status of Translation Technology Application Ability of English Teachers in Chinese Universities

In the digital intelligence era, the application of translation technologies in college English teaching has gained attention, with some teachers introducing CAT tools to facilitate student exercises and using machine translation for material preparation, enriching teaching through comparisons of machine and human translations[11].

However, Chinese university English teachers face multiple challenges:

Technological Awareness Gap: Many lack understanding of NMT and AI tools, with 62% lacking systematic NMT knowledge[12] , hindering integration into teaching.

Limited Practical Skills: Teachers often master basic CAT functions but not advanced features like translation memory management, underutilizing tool potential.

Unsystematic Teaching Methods: Integration lacks strategic adjustment to content or evaluation, with mechanical tool introduction failing to link techniques to practical cases.

Underutilized Resources: Reliance on traditional materials ignores online courses and corpora, limiting student autonomy and learning scope.

4.Significance of Improving Translation Technology Application Ability of English Teachers in Chinese Universities

4.1 Meeting the Needs of Era Development

In the digital intelligence era, the translation industry has shifted from traditional manual models to CAT and machine translation, prioritizing efficiency and intelligence[13]. Globalization demands translation talents with both linguistic proficiency and technical skills. Universities must equip English teachers to integrate the latest technologies into teaching, ensuring graduates adapt to industry needs and contribute to China's foreign exchanges.

4.2 Enhancing Teaching Quality

Translation technologies enrich teaching through corpus-based real-language examples and diversified activities, such as comparative translation analysis[3]. CAT tools enable project-based learning, simulating real-world translation scenarios to foster teamwork and problem-solving[2]. Interactive tools and practical operations help students bridge theory and practice, while machine-human translation comparisons deepen understanding of translation principles.

4.3 Promoting Teachers' Professional Development

Mastering translation technologies expands teachers' career paths, enabling industry engagement as translators or trainers, which enhances practical experience and professional literacy [9]. Industry challenges fuel academic research on technology integration and quality optimization, boosting teachers' academic influence[14]. Continuous technological advancements drive teachers to update knowledge, expanding research horizons and supporting professional growth.

5. Improvement Strategies

5.1 Education and Training Strategies

Schools and educational departments should integrate translation technology training into teachers' continuing education, organizing professional courses and workshops on mainstream tools (e.g.,CAT advanced functions, MT engine optimization, corpus construction). Industry experts should be invited to share practical cases, while online platforms offering video lectures and simulated operations should be established to meet fragmented learning needs[5,10]. A "theory+practice" assessment linking results to professional titles should require teachers to complete translation projects.

5.2 Teaching Practice Strategies

Teachers should incorporate real-project cases (e.g., medical contracts, news translations) to demonstrate CAT tool applications and MT optimization[4,6]. Promoting project-based teaching, students work in groups on full-process translations using CAT tools, with internships and competitions via cooperation to enhance practical skills—such models improve technical ability by >50%[2].

5.3 Self-Improvement Strategies

Teachers must adopt lifelong learning, formulating hierarchical plans to master tool principles through forums and communities[14]. Participating in seminars and publishing research on technology-pedagogy integration enhances professional influence[9]. Regular reflection on integration challenges fosters model optimization[1].

5.4 School Support Strategies

Schools should invest in hardware (e.g., high-performance computers), software (CAT tools), and translation labs—universities with labs show tripled technology application[10]. Labs should host training and salons for teacher-student exchange[5]. Incentives like research funds, title evaluation preferences, and material rewards[8], along with learning communities and expert lectures, foster collaboration[11].

6. Conclusions and Prospects

6.1 Research Summary

This study examines Chinese university English teachers' translation technology application ability in the digital intelligence era, outlining technology development, types, and industry impacts. While some teachers have adopted technologies, issues persist—including insufficient tech understanding, limited application skills, and inadequate resource utilization—aligning with multi-university survey findings[12]. Strategies covering education, practice, self-improvement, and school support are proposed to enhance capabilities, vital for meeting era needs, improving teaching quality, and promoting professional development[3,7,9,13].

6.2 Future Prospects

Advancing digital intelligence technologies will expand opportunities and challenges for teachers. Future tools will grow more intelligent, personalized, and integrated, with NMT improving accuracy and integrating with AI, big data, and cloud computing[4]. Teachers must adapt by mastering new technologies and exploring integration methods, such as using VR/AR for immersive learning and AI for personalized guidance[2].

Future research should focus on:

Deep technology-teaching integration for optimized effects;

Developing evaluation systems for teachers' technical abilities;

Assessing technologies' impact on students' translation thinking and cross-cultural skills[6,15].

Collaborative efforts from universities, educational departments, and institutions are essential—including increased investment, policy support, and academic exchanges—to foster teachers' capabilities, advance teaching reform, and cultivate era-compatible translation talents[10,14].

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