

Research on English Translation Teaching Model in Colleges and Universities Based on Big Data Platform

Sun Yan

Jilin Finance and Economics University, Jilin, Changchun, 130117, China

Abstract: *The development of science and technology has promoted the integration of big data technology, artificial intelligence technology, and information technology, which are widely applied in the field of education. This integration has driven traditional education towards digitalization, intelligence, and personalization, effectively meeting the teaching needs of both teachers and students, and transforming traditional educational paradigms. The English translation course is a key subject in college English programs. To improve educational quality and enhance students' overall abilities, it is necessary to apply the big data platform to teaching. Teaching based on this platform allows for the exploration of personalized teaching models, meeting student needs, better managing student information, analyzing student behavior, and achieving precise teaching goals. This paper mainly discusses the research on English translation teaching models in colleges and universities based on big data platforms, aiming to integrate teaching data and resources, innovate teaching models, improve teaching quality, and provide guidance for college teaching.*

Keywords: *big data platform; colleges and universities; English translation teaching model*

1. Introduction

The big data platform is a product of the big data era and can provide a material foundation for college English translation teaching, forming a college big data English translation teaching model that effectively addresses issues in traditional teaching, updates concepts, focuses on cultivating students' language practice abilities, and improves the quality of talent cultivation. Currently, big data has become the main method for college teachers' teaching and students' learning. Teachers need to scientifically utilize the big data platform, integrate resources and data information, improve the curriculum system, optimize teaching content, innovate teaching methods, and explore new teaching paths to comprehensively enhance teaching levels and cultivate high-quality, versatile translation talents for society.

2. Overview of Big Data Platform and Its Application in College English Translation Teaching Models

2.1 Overview of Big Data Platform

Big data refers to vast amounts of data, and the big data platform is a comprehensive platform formed with the support of computer, information technology, Internet of Things technology, and big data technology. This platform can gain insights, analyze, and process massive, rapidly growing, and real-time updated information assets through big data processing models, improving decision-making capabilities, optimizing data processing procedures, and enhancing data processing accuracy. Applying this to classroom teaching can fully track, record, and analyze students' online learning activities, deeply analyze the entire learning process, uncover potential data values, and understand students' learning habits, knowledge base, behaviors, learning methods, and strategies ^[1].

2.2 Content of Big Data Platform College English Translation Teaching Model

1) Constructing the Big Data Platform: The big data platform includes multiple independent modules such as data collection, storage, preprocessing, analysis, and visualization operations. Each module has different functions and can collect, analyze, and store data on students' learning achievements, behaviors, and attitudes, providing a basis for teachers to formulate teaching plans and

tutoring strategies. Additionally, the big data platform can automatically record and analyze teaching behavior data, providing a basis for teachers to optimize lesson plans and improve teaching strategies.

2) **Creating Personalized Teaching Models:** Under the big data platform, it is essential to be student-centered and develop personalized plans based on students' needs and specific situations. Robotic learning algorithms can simulate learning processes, enriching students' learning experiences and providing personalized services and guidance. For example, different teaching plans can be formulated based on students' knowledge base, learning habits, and cognitive levels, providing targeted resources and data, such as textbooks, forming learning packages, and allowing students to learn and explore independently, thus improving their self-learning abilities.^[2]

Practice Teaching: The big data platform enables the combination of theoretical knowledge and practice, as well as collective teaching and personalized guidance. For instance, teachers can create virtual laboratories, allowing students to experience, communicate, translate, and interact anytime and anywhere. Through practice, students can grasp knowledge, apply skills, and improve their language abilities. During this process, the platform will automatically record practice data, facilitating teachers to evaluate students' learning situations and improve teaching plans accordingly.

3. Advantages of the Big Data Platform in College English Translation Teaching Models

3.1 Combining Theory and Practice

The big data platform can comprehensively monitor teachers' teaching conditions, students' learning conditions, and teacher-student interactions. It can analyze students' learning behaviors, motivations, and psychological expectations, automatically integrating data to form personalized teaching plans. This guides students in practical exploration, effectively combining theory and practice to enhance students' language practical abilities.

3.2 Improving Teaching Efficiency

The big data platform can fully monitor the teaching process and collect classroom data in real time, enabling teachers to understand problems in teaching, adjust teaching goals promptly, improve teaching plans, and optimize teaching procedures. This improves teaching efficiency. Additionally, the platform can strengthen the management of details by tracking students' classroom participation, question response rates, and student speaking activities. This better manages student information, controls teaching progress, maintains classroom discipline, and improves both student learning outcomes and teaching effectiveness, achieving the expected goals.^[3]

3.3 Enhancing Student Interest

The big data platform can break the traditional constraints of classroom time, place, and resources, facilitating the integration of in-class and out-of-class learning, and the combination of on-campus and off-campus activities. It allows for the integration of various subjects, broadening students' horizons and enriching their insights, enabling them to access information, learn, communicate, and practice anytime, anywhere. Teachers can provide students with diverse learning materials such as audio, video, images, and guided learning plans to enhance their training and dialogue skills, thereby increasing students' interest in learning and encouraging active learning. Teachers can also guide students to apply machine learning algorithms in translation, enhancing their translation abilities while fostering innovative thinking.

3.4 Meeting the Requirements of New Era Talent Cultivation

Using the big data platform for college English translation teaching can optimize the teaching process through information recording and tracking, refine teaching strategies, and innovate teaching models. This encourages students to learn actively, ensuring a solid foundation in language skills, a comprehensive professional knowledge structure, and strong innovative thinking abilities. It equips students with the ability to analyze and solve problems, gradually enhancing their English proficiency to meet the standards of cultivating innovative foreign language talents.

4. Application Strategies of the Big Data Platform in College English Translation Teaching Models

4.1 Innovating Teaching Models Based on the Platform to Improve Students' Comprehensive Quality

The big data platform allows for the reform and innovation of teaching models, creatively constructing teaching frameworks to guide the development of college English translation programs in the right direction, integrating with the times and market trends. As English translation is an evolving process with a constantly improving language system, applying big data technology in English translation teaching can enrich teaching methods, enhance teaching efficiency, and improve students' comprehensive quality. This can be approached in several ways:

1) **Understanding Student Conditions and Teaching Accordingly:** The big data platform can automatically classify and summarize vast amounts of data, understanding students' learning conditions and behaviors, providing data feedback, and forming personalized teaching models and custom teaching reflections based on data characteristics. It automatically records students' learning conditions and classroom teaching situations, analyzing, classifying, summarizing, and storing them to help teachers improve teaching plans and strategies. Teachers can select targeted content based on information characteristics and students' actual conditions, formulating personalized service plans to enhance the specificity and effectiveness of teaching, cultivating students' unique qualities, and achieving the goal of teaching according to students' needs. The platform can also deeply analyze students' learning data, uncovering their learning habits, interests, and issues, helping teachers adjust teaching strategies and guide students' learning, fostering innovative thinking.^[4]

2) **Guiding Teaching and Evaluating Teaching Outcomes:** The teaching mode application effect on the big data platform can record the teaching process, facilitating feedback from students and teachers to understand existing problems in teaching, forming a cyclic and progressive teaching model, and providing a basis for future teaching analysis, research, and evaluation. In English translation teaching, teachers should use big data and information technology to create audiovisual and graphic contexts for students, allowing them to express and communicate freely in rich language environments, thereby strengthening skills and enhancing language abilities. This approach also stimulates student interest, enriches their experiences, and meets their needs, maintaining their enthusiasm and motivation for self-directed learning and deep exploration, fostering good learning habits. Teachers can also use the communication module on the platform to interact with students, understanding their thinking, cognition, and emotions, making students the focus of the classroom and better leveraging their role. Additionally, teachers should update their thinking, adopt new knowledge and technologies, develop an internet mindset, fully recognize the diverse characteristics of English translation, and adjust teaching modes accordingly to achieve innovative development in English translation teaching.

4.2 Improving Curriculum Systems and Multimedia Mechanisms

1) **Enhancing Curriculum Systems:** Colleges need to face the challenges of the big data era, clarify educational concepts and objectives, and optimize and adjust existing English translation curriculum systems based on new curriculum standards and requirements. The curriculum should align with job positions, cultivating students' professional skills and qualities, enabling them to apply systematic theoretical knowledge to practice, and providing practical training based on students' language skills to create a good language environment. Various activities should be conducted to let students experience and practice independently, improving their translation skills. Schools should scientifically compile textbooks, incorporating characteristics of the big data era, and ensure the content is up-to-date, integrating international language knowledge to meet market demands. English translation courses should be offered as elective courses across different majors, fully developing students' translation skills and improving their English proficiency. Teachers can show movies, recommend reading materials, and use audio resources to train students' language skills and enhance their translation abilities. Schools should also integrate resources through online platforms for real-time updates, further enhancing the influence of English translation courses.^[5]

2) **Introducing Multimedia Teaching Mechanisms:** The big data era provides new teaching methods for English translation teaching. Teachers can use multimedia technology to assist teaching by transforming static knowledge in textbooks into dynamic videos, pictures, and audio, helping students better grasp and understand basic knowledge such as words, vocabulary, and language structures, and

apply them flexibly. Teachers can use information technology to organize pre-class preparation, in-class discussion, and post-class training through online platforms, effectively meeting students' needs, enriching their experiences, and making teaching more interesting. Teachers can choose classic movies for language features and style training, allowing students to read aloud and conduct dialogue exercises, enhancing their language perception and understanding of the differences between Chinese and Western languages and cultures. Micro-lectures can be used to address key points and difficulties, such as polysemy and complex sentences, helping students better memorize and understand basic knowledge, improving their comprehension, expression, and application abilities. Teachers can also assign homework, letting students collect information online, understand Western language habits, customs, and festivals, broadening their horizons, and cultivating international awareness to meet diverse learning needs .

4.3 Fully Utilizing Big Data Technology to Restructure Teaching Models

1) Utilizing Network Resources for Teaching Preparation: Before class, teachers can let students use guided learning tasks to independently collect materials, look up vocabulary and grammar, gather typical cases, and read English-Chinese materials. Students can judge and analyze sentence meanings, structures, and expressions independently, gaining an initial understanding of the material, comparing English and Chinese expressions, extracting valuable information, and forming their language repository. These methods can stimulate students' interest in autonomous learning, improve their information-gathering abilities, and enhance their self-learning abilities, allowing them to deeply understand the differences in languages and master more translation skills.

2) Online Discussion and Resource Acquisition: The big data platform can break the constraints of classroom time and space, promoting better communication between students and teachers, bringing students closer to the textbooks, and letting them appreciate the charm and value of English. Teachers can guide students to use search engines and databases on the platform to find learning resources and use translation tools for self-translation. Teachers can also form learning groups through online communication platforms, letting students share learning outcomes and experiences, test each other, and share resources, helping each other to improve. Teachers can guide students to discuss and collaborate on problems through brainstorming and collective intelligence, forming new insights, views, and concepts, enhancing their problem awareness, network thinking, and broadening their thinking paths. Teachers can also guide students to use various online resources, such as digital libraries and resource libraries, for self-directed learning and cooperative exploration, obtaining diverse learning resources to better serve classroom teaching and reduce teacher burden and pressure. Teachers can also access the latest resources, understand international information, and broaden teaching content, achieving open and shared digital classrooms .^[6]

3) Assigning Homework through Network Platforms: To strengthen students' translation skills and improve translation efficiency and quality, teachers can use after-class homework for intensive training, enhancing students' translation levels through extensive practice. Teachers can assign translation tasks such as new phrases, short passages, key sentences, etc., allowing students to use different online tools to look up information, obtain meanings, and attempt translations based on difficulty and type. The goal is to achieve precision in translation and master more translation techniques.

5. Conclusion

The emergence of the big data platform provides material support for the innovation and application of college English translation teaching models. Teachers can use the big data platform to analyze teaching information and students' learning behaviors, strengthen teaching management, and scientifically design teaching models. This enables the optimization of teaching processes, the formulation of personalized teaching plans, and the broadening of teaching paths. It ensures the simultaneous implementation of theoretical instruction and practical training, improving teaching efficiency and achieving educational goals. Additionally, the big data platform enhances students' basic English language skills, improves their comprehensive language application abilities, and raises their foreign language proficiency, facilitating better communication.

References

[1] Wang Yanfeng. *Innovation and Reform of University Education Management Mode in the Context*

of the Big Data Era - Review of "Research and Analysis on University Education Management and Innovation Practice" [J]. Science and Technology Management Research, 2023, 43(21):10003.

[2] Shi Zheng. *Strategies and Development Trends of University Education Management in the Context of "Internet+" - Review of "Research and Analysis on University Education Management and Innovation Practice" [J]. Leadership Science, 2021(20):1.*

[3] Bai Shan. *Exploration of Innovation in University Education Management Supported by Big Data - Review of "Research and Analysis on University Education Management and Innovation Practice" [J]. China Oils and Fats, 2023, 48(6):10045.*

[4] Guo Shan. *Exploring the Innovative Approaches to University Education Management in the Mobile Internet Era - Review of "Research and Practice on the Reform of University Education Management Mode in the Mobile Internet Era" [J]. China Science Papers, 2021, 16(9):1.*

[5] Qu Feiqian. *Innovative Applications of University Teaching Management in the Context of Big Data [J]. Youth Diary: Educational and Teaching Research, 2019(11):2.*

[6] Zhang Changliang, Wang Chenxiao, Li Jingtong. *Comparative Study of Data Literacy Education in Universities between China and the United States in the Big Data Era [J]. Information Theory and Practice, 2019(8):7.*