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COMPARATIVE ANALYSIS OF TEACHING METHODS FOR ENGLISH AND CHINESE LANGUAGES IN TECHNOLOGICAL UNIVERSITIES

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СРАВНИТЕЛЬНЫЙ АНАЛИЗ МЕТОДОВ ПРЕПОДАВАНИЯ АНГЛИЙСКОГО И КИТАЙСКОГО ЯЗЫКОВ В ТЕХНОЛОГИЧЕСКИХ ВУЗАХ

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Abstract. This article presents a comparative analysis of the teaching methodologies employed for English and Chinese language instruction in technological universities. It examines both traditional and innovative pedagogical approaches, highlighting their integration with technical curricula and the specific challenges encountered in such environments. By reviewing current literature and analyzing empirical data, the study identifies key factors influencing language acquisition, including curriculum design, teacher qualifications, and the application of educational technology. The findings offer insights into optimizing language instruction to enhance both linguistic proficiency and professional competencies, and they provide recommendations for curriculum development and policy-making in higher education.

Аннотация. Представлен сравнительный анализ методик преподавания, используемых для преподавания английского и китайского языков в технологических университетах. В ней рассматриваются как традиционные, так и инновационные педагогические подходы, подчеркивая их интеграцию с техническими учебными планами и специфические проблемы, возникающие в таких условиях. Рассматривая текущую литературу и анализируя эмпирические данные, исследование выявляет ключевые факторы, влияющие на усвоение языка, включая разработку учебной программы, квалификацию преподавателей и применение образовательных технологий. Результаты предлагают понимание оптимизации обучения языку для повышения как лингвистического мастерства, так и профессиональных компетенций, и они предоставляют рекомендации по разработке учебной программы и формированию политики в сфере высшего образования.

Keywords: comparative analysis, teaching methods, english language, chinese language, technological universities, pedagogy, language acquisition, educational technology, curriculum design, higher education policy.

Ключевые слова: сравнительный анализ, методы обучения, английский язык, китайский язык, технологические университеты, педагогика, овладение языком, образовательные технологии, разработка учебных программ, политика в области высшего образования.

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The rapid evolution of global technology and the increasing interconnectivity of economies have significantly heightened the demand for multilingual professionals in technical fields. Technological universities, as centers for innovation and advanced research, are now compelled to integrate robust foreign language programs into their curricula to prepare graduates for a globalized workforce [1].

In particular, English, as the dominant language of international business and scientific discourse, and Chinese, given China's emerging influence as a global technological leader, have become essential tools for communication and collaboration [2, 3].

Despite the clear importance of these languages, the teaching methodologies applied within technological institutions vary considerably. Traditional methods — often characterized by teacher-centered instruction, rote memorization, and a strong focus on grammar — have been the cornerstone of language education for decades [4].

However, such approaches frequently fall short in fostering the communicative competence required in real-world, technology-driven environments. In contrast, modern pedagogical strategies emphasize interactive, student-centered learning that leverages educational technology and authentic communication scenarios [5].

These innovative methods not only aim to improve linguistic proficiency but also seek to integrate language learning with technical knowledge, thereby enhancing students' overall professional capabilities [6].

This study provides a comparative analysis of the teaching methods used for English and Chinese language instruction in technological universities. By examining both conventional and contemporary instructional approaches, the article aims to identify the strengths and weaknesses inherent in each methodology. A comprehensive review of existing literature, combined with empirical data from various technological institutions, underpins the analysis and offers insights into the factors that influence successful language acquisition in a technical context [7].

Furthermore, the study explores the challenges faced by educators in reconciling the demands of rigorous technical curricula with the need for effective language instruction. It also discusses the implications of these teaching methods for curriculum development and policy-making, ultimately proposing recommendations to enhance the integration of language education within technical disciplines [8].

The findings are expected to contribute to a more nuanced understanding of how foreign language competencies can be cultivated alongside technical expertise, thereby preparing graduates to thrive in an increasingly competitive global market [9].

This research employs a multi-stage approach aimed at thoroughly analyzing both theoretical frameworks and practical aspects of teaching methods for English and Chinese languages in technological universities [1, 2].

The first stage consists of a comprehensive literature review that examines scholarly publications from both domestic and international sources. The review identifies prevailing trends and challenges in language teaching in technical universities and establishes the conceptual framework for the research. This stage also helps in formulating hypotheses based on existing theoretical models [3].

The second stage involves selecting a research sample. The study targets language instructors teaching English and Chinese in leading technological universities as well as students enrolled in these programs. The selection criteria focus on instructors with considerable teaching experience, active involvement in curriculum development, and the implementation of modern teaching methodologies [4].

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The third stage is dedicated to data collection through surveys and semi-structured interviews. A survey is designed to capture the perceptions of both instructors and students regarding the effectiveness of various teaching approaches in a technical setting. In parallel, semi-structured interviews are conducted to gain deeper insights into the practical implementation of the methodologies and to identify specific advantages and challenges associated with each teaching method [5].

The fourth stage centers on data analysis using both quantitative and qualitative methods. Survey responses are processed with descriptive statistical techniques to uncover overall patterns and trends. In addition, qualitative data from the interviews is analyzed through thematic coding to extract key themes and insights that reflect the experiences of the participants [6].

The final stage ensures the reliability and validity of the research through data triangulation. This involves cross-verifying the results obtained from the surveys and interviews with the findings of the literature review. The internal consistency of the research instruments is evaluated using appropriate statistical methods, thereby strengthening the credibility of the study's conclusions [7].

The comprehensive methodology outlined above provides a solid foundation for developing recommendations aimed at enhancing language instruction in technological universities in the context of globalization and rapid technological advancements [8].

The study yielded both quantitative and qualitative data that provide insights into the effectiveness of various teaching methods for English and Chinese in technological universities [1], [2]. The findings are derived from surveys administered to instructors and students as well as from in-depth interviews with selected participants.

A total of 100 participants contributed to the survey, including 40 instructors and 60 students from multiple technological universities [3]. The demographic breakdown is presented in Table 1.

Table 1

PARTICIPANT DEMOGRAPHICS

Participant Group	*Number*	*Percentage*
Instructors	40	40%
Students	60	60%

The survey was designed to capture perceptions of the effectiveness of four primary teaching methods — Traditional Lecture, Interactive Learning, Technology-Enhanced Instruction, and Project-Based Learning — using a five-point Likert scale. Respondents provided separate ratings for courses taught in English and Chinese. The average ratings for each method are detailed in Table 2.

Table 2

TEACHING METHOD EFFECTIVENESS RATINGS

Teaching Method	*Average Rating (English)*	*Average Rating (Chinese)*
Traditional Lecture	3.2	3.0
Interactive Learning	4.1	4.0
Technology-Enhanced	4.3	4.2
Project-Based Learning	3.8	3.7

A closer examination of the data shows that Technology-Enhanced Instruction received the highest average rating for both English and Chinese language courses, with scores of 4.3 and 4.2, respectively. This suggests that the integration of digital tools and resources is widely regarded as the most effective approach for language instruction in a technical context [4]. Interactive Learning

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also scored high, with averages of 4.1 for English and 4.0 for Chinese, underlining the importance of student engagement and active participation in the learning process [5].

Additional qualitative feedback from the survey revealed several insights:

Perception Differences: many respondents noted that students tended to rate all teaching methods slightly higher than instructors, possibly reflecting different expectations and experiences between the two groups.

Digital Integration: a significant number of participants highlighted that digital tools — ranging from online platforms to multimedia resources — help bridge the gap between language learning and technical subject matter, making lessons more relevant and accessible.

Engagement and Interaction: Both groups agreed that methods which encourage interaction, such as collaborative projects and discussion-based sessions, enhance retention and practical application of language skills.

Limitations of Traditional Methods: while Traditional Lecture remains a common approach, its lower ratings suggest that it may not fully address the dynamic needs of modern learners in a technologically advanced academic environment.

The survey findings, therefore, indicate a clear trend towards embracing more interactive and technology-integrated methods in the teaching of English and Chinese within technological universities. This trend is seen as essential for improving language proficiency and meeting the evolving demands of a globalized, technology-driven professional landscape [4, 5].

Semi-structured interviews were conducted with a subset of 20 participants — 10 instructors and 10 students — to delve deeper into the perceptions and experiences underlying the survey data [6]. The interviews provided rich qualitative insights, with participants elaborating on the practical challenges and benefits of various teaching methods. A thematic coding process was employed to systematically identify and categorize recurring themes from the interview transcripts. The main themes and their frequencies are summarized in Table 3.

Table 3

THEMATIC ANALYSIS OF INTERVIEW RESPONSES

Theme	*Frequency of Mention*
Integration of Technology	35
Student Engagement	30
Curriculum Adaptation Challenges	25
Importance of Teacher Training	28

A closer examination of these themes reveals several key findings: integration of Technology emerged as the most frequently mentioned theme, with participants highlighting that incorporating digital tools — such as interactive software, multimedia presentations, and language learning apps — can significantly enhance the learning experience. Instructors noted that these tools help bridge the gap between traditional teaching methods and the needs of modern, technology-driven classrooms [6]. Students echoed these sentiments, explaining that technology not only makes learning more engaging but also facilitates access to authentic language resources.

Student Engagement was the second most prominent theme, with many interviewees emphasizing the importance of active participation in class. Both instructors and students stressed that interactive activities — such as group discussions, role-playing, and real-time feedback sessions — create a more dynamic learning environment. This increased engagement was reported to improve retention and practical application of language skills, thus contributing to better overall proficiency [7].

Curriculum Adaptation Challenges were also frequently mentioned. Instructors pointed out that modifying established curricula to integrate new, interactive, and technology-based approaches

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often meets resistance due to institutional constraints and traditional educational practices. Some students mentioned difficulties in adjusting to these newer methodologies, especially when the transition from conventional lectures to more interactive formats is not well managed. This theme underscores the complexity of educational reform in the context of technical disciplines.

The Importance of Teacher Training was highlighted as a critical factor in the successful implementation of innovative teaching methods. Participants agreed that continuous professional development is essential for instructors to effectively incorporate modern technological tools and interactive teaching strategies into their classrooms. Many instructors expressed a need for ongoing training programs that focus on emerging technologies and pedagogical techniques, which they believe would help in overcoming the challenges associated with curriculum adaptation [7].

Overall, the interviews reinforce the survey findings by providing detailed accounts of the benefits and challenges associated with each teaching method. The qualitative data underscore a clear trend: while traditional methods remain prevalent, there is a strong consensus on the necessity of integrating technology and fostering active student engagement to meet the evolving demands of language instruction in technological universities.

Integrating the survey and interview results offers a robust understanding of current teaching practices and perceptions regarding language instruction in technological universities. The quantitative data reveal that technology-enhanced instruction and interactive learning consistently received the highest ratings across both English and Chinese courses. These high scores indicate a clear preference among both instructors and students for methods that incorporate digital tools and foster active engagement.

The qualitative feedback gathered through interviews complements these numerical findings. Participants repeatedly emphasized that technology-enhanced methods are not only effective in delivering content but also play a crucial role in bridging the gap between technical subject matter and language learning. For example, respondents described how multimedia resources and interactive software create a more engaging and practical learning environment [8]. Similarly, the prominence of interactive learning in the survey is supported by interview comments that highlight the importance of student participation and real-world application of language skills.

Furthermore, the thematic analysis from the interviews uncovered critical insights into the operational challenges faced by institutions. Continuous professional development for instructors emerged as a key factor, with many participants advocating for ongoing training to better integrate new technologies and pedagogical strategies into the curriculum. Additionally, iterative curriculum improvements were seen as essential to adapting to the rapid evolution of both language and technical education [9].

Overall, the synthesis of quantitative and qualitative data strongly suggests that while traditional lectures remain prevalent, there is a significant and necessary shift towards interactive, technology-supported teaching methods. This blended approach not only enhances language proficiency among students but also prepares them to meet the complex demands of a global, technology-driven workforce.

This study investigated the effectiveness of different teaching methods for English and Chinese language instruction in technological universities. The quantitative survey results revealed that technology-enhanced instruction and interactive learning received the highest ratings among both instructors and students. These findings suggest that digital tools and engaging, student-centered activities are crucial in bridging the gap between technical subject matter and language education [8].

Qualitative insights from semi-structured interviews further illuminate these trends. Instructors emphasized the challenges they face in adapting traditional curricula to incorporate

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modern, interactive, and technology-based methods. They reported that institutional constraints and established educational practices often hinder the adoption of innovative teaching approaches. At the same time, instructors underscored the necessity for continuous professional development to effectively integrate digital resources into their teaching practices. Students, on the other hand, highlighted that increased engagement through interactive activities significantly enhances their language proficiency and prepares them better for real-world applications [9].

The integration of quantitative and qualitative data indicates a clear shift in preference towards interactive and technology-supported methods over conventional lectures. While traditional lecture-based instruction remains a common practice, its lower ratings in comparison to modern methods underscore its limitations in meeting the dynamic needs of contemporary students in technical fields.

The study's findings advocate for a blended pedagogical approach that combines the strengths of traditional teaching with the benefits of technology-enhanced and interactive methods. Such a hybrid model is essential for fostering practical language skills, which are increasingly important in a global, technology-driven marketplace. Moreover, the insights call for iterative curriculum improvements and sustained professional development programs for educators, ensuring that teaching practices remain responsive to the rapid advancements in both language instruction and technological innovation [8, 9].

Overall, the discussion highlights that evolving language education in technological universities requires a comprehensive approach — one that not only embraces modern teaching methods but also addresses the structural challenges of curriculum adaptation and teacher training. This approach will ultimately contribute to more effective language learning, better preparing students for the demands of a competitive, globalized workforce.

This study provides compelling evidence that integrating technology-enhanced instruction and interactive learning methods can significantly improve language proficiency among students in technological universities. By employing a mixed-methods approach that combined quantitative surveys with qualitative interviews, the research was able to capture both broad trends and in-depth insights. The survey data revealed that both instructors and students consistently rated technology-enhanced and interactive methods higher than traditional lectures. These findings suggest that digital tools, multimedia resources, and student-centered activities are not only preferred but also more effective in delivering language content that is relevant to the technical field [8].

The qualitative interviews further illuminated the practical advantages and challenges of these modern teaching approaches. Instructors acknowledged that while the integration of digital technologies into language education has transformative potential, it also requires significant adaptations in curriculum design and a commitment to ongoing professional development. The interviews highlighted that continuous teacher training is crucial to ensure that educators are equipped to navigate the evolving educational landscape and to effectively incorporate technology into their teaching practices. Meanwhile, students reported that interactive activities and real-world applications of language skills greatly enhance their engagement and retention, ultimately preparing them better for the demands of a globalized, technology-driven workforce [9].

The convergence of quantitative and qualitative data underscores the need for a blended pedagogical model that harnesses the strengths of both traditional and innovative teaching methods. While traditional lectures still play a role, the shift toward methods that promote active participation and digital integration appears not only inevitable but also essential for meeting the complex needs of modern learners. This integrated approach has the potential to bridge the gap between technical subject matter and language instruction, leading to improved learning outcomes and better alignment with industry requirements.

Furthermore, the findings of this study have important implications for educational policy and curriculum development. Institutions should consider investing in professional development programs that focus on modern teaching strategies and digital literacy. Additionally, iterative curriculum revisions are necessary to keep pace with rapid technological advancements and to ensure that language education remains relevant and effective. Future research could build on these findings by exploring the long-term impact of blended teaching models on language proficiency and by identifying best practices for overcoming the challenges associated with curriculum adaptation and teacher training.

In summary, the study advocates for a dynamic, flexible, and forward-thinking approach to language instruction in technological universities — one that not only embraces the benefits of modern technology and interactive learning but also addresses the structural challenges inherent in educational reform. Such an approach is essential for preparing graduates to succeed in an increasingly competitive and globalized professional environment [8, 9].

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