

Systematic Review of Bilingual Teaching Research: Based on the Analysis of CNKI Database Literature

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Abstract: This paper provides an overview of bilingual teaching within the context of bilingual education, examining its implementation across various dimensions. Utilizing the China National Knowledge Infrastructure (CNKI) Chinese Journal Full-text Database from 2014 to 2023, the distribution of research literature is analyzed, highlighting the active engagement and diverse themes within the field. Theoretical foundations, including second language acquisition theory and constructivist learning theory, offer a comprehensive framework for bilingual education. The current status of bilingual teaching is explored, covering its positioning, essential elements, models, and methods. Identified issues include a tendency towards practical investigations at the expense of theoretical research and a reliance on singular analysis methods. To address these challenges, future directions are proposed, emphasizing the need for strengthened foundational theoretical research and the integration of practical experiences into theoretical frameworks. This paper contributes to the understanding of bilingual teaching, laying the groundwork for further advancements in the field.

Keywords: Bilingual Teaching; Literature Review; CNKI Database; Bilingual Teaching Theories; Challenges; Future Directions.

1. Overview of Bilingual Teaching

Bilingual teaching refers to an instructional approach within bilingual education, employing multiple languages across educators, students, curriculum design, language of instruction, and teaching methodologies to impart diverse subjects.

Compared to traditional teaching models, bilingual teaching often utilizes foreign language original textbooks, with English or another second language as the primary instructional language. This approach seamlessly integrates language instruction with the acquisition of professional knowledge, aiming to align educational practices in China with international standards.

2. Distribution of Bilingual Teaching Research Literature

In the CNKI (China National Knowledge Infrastructure) Chinese Journal Full-text Database, the author conducted a search using the keyword "Bilingual Teaching" to retrieve literature from the years 2014 to 2023. A total of 20,221 articles related to bilingual education were identified. These academic papers address various facets of bilingual teaching research. The specific details are as follows:

2.1. Distribution of Academic Types

The author, through a systematic classification and analysis of these literature resources, observed that academic journals dominate in terms of quantity, totalling 7698 articles. Following closely are specialized journals, with a total of 1641 articles. Theses and dissertations contribute a combined total of 581, while conference papers amount to 215. Other types of academic contributions are represented by 86 articles. The specific data can be referred to in Figure 1.

This distribution vividly highlights the active engagement in in-depth research on the topic of bilingual teaching across

various academic platforms, particularly emphasizing the significant attention garnered by studies disseminated through traditional academic journals.

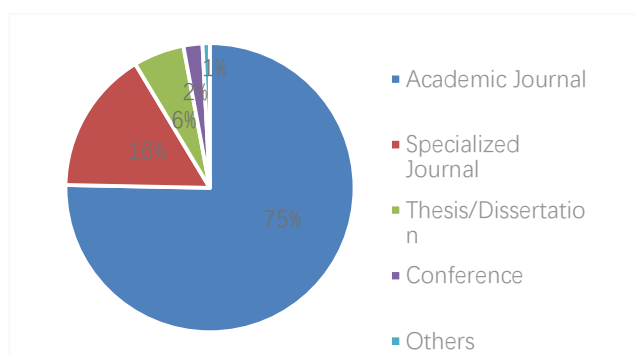


Figure 1. Distribution of Academic Types

2.2. Distribution of Annual Publications

According to the data compiled by the author, a systematic analysis reveals a year-on-year fluctuation in the volume of publications related to bilingual teaching. For specific details, please refer to Figure 2. Over the decade spanning from 2014 to 2023, the publication count gradually decreased from 1727 articles to 266 articles. In particular, the peak was observed in 2014 and 2015 with 1727 and 1608 articles, respectively, followed by a gradual decline each subsequent year, reaching 266 articles in 2023.

This suggests that research activities in this academic domain exhibit fluctuations and trends over time, likely influenced by various factors.

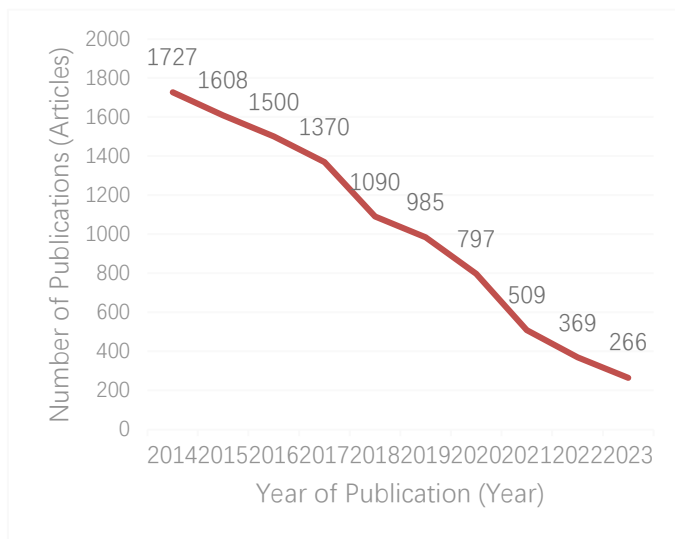


Figure 2. Distribution of Annual Publications

2.3. Distribution of Main Themes

The statistical data reveals a broad spectrum of themes in bilingual teaching research, with "Bilingual Teaching" being the most prevalent, totalling 4128 publications. Following closely are "Bilingual Curriculum" and "Bilingual Teaching Mode" with 487 and 441 publications, respectively. The research encompasses various aspects such as "Teaching Reform," "Teaching Model," and "Dual-Language Education." For specific details, please refer to Figure 3. This reflects scholars' diverse interests and focuses in the field of bilingual teaching.

In summary, these data highlight in-depth research across different facets of bilingual teaching, contributing rich content to the academic development of the field.

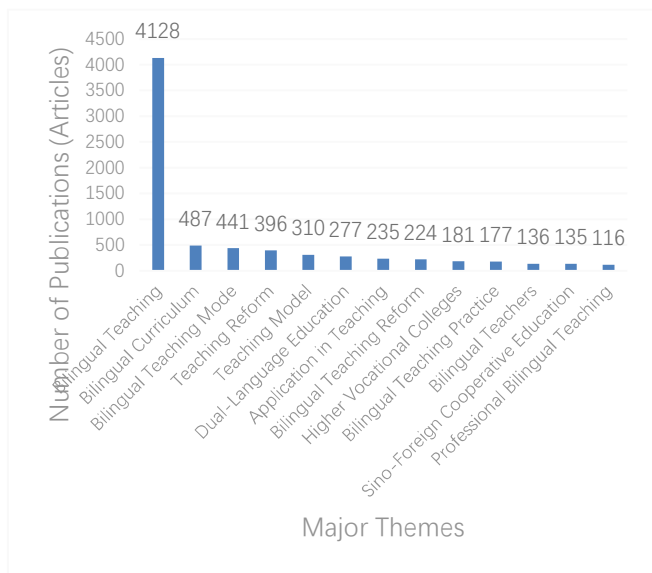


Figure 3. Distribution of Main Themes

2.4. Distribution of Secondary Themes

The statistics of "Secondary Themes" reveal the publication count across various subtopics in the field of bilingual teaching research. For specific details, please refer to Figure 4. Among them, "Bilingual Teaching" stands out with the highest count of 1460 publications, followed by "Bilingual Teaching Mode" and "Bilingual Curriculum" with 487 and 434 publications, respectively. Other secondary themes such as "Teaching Reform," "Teaching Methods," and

"Dual-Language Education" also garner substantial attention. This illustrates the diversity of scholarly investigations within the domain of bilingual teaching. Overall, these data provide a comprehensive perspective, highlighting the academic dynamism across different themes in bilingual teaching research.

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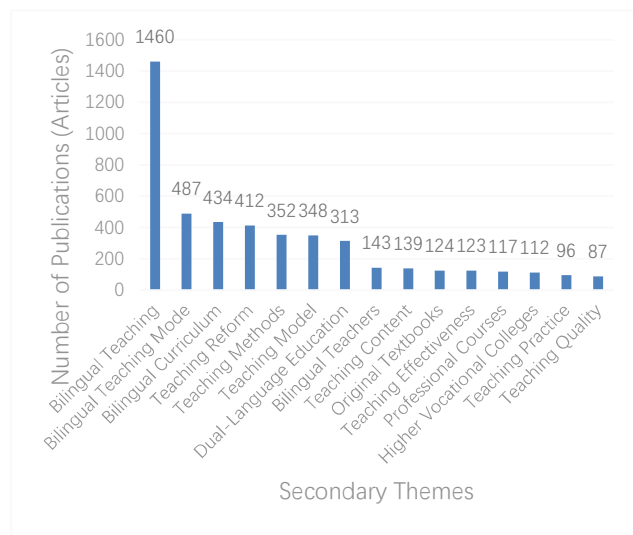


Figure 4. Distribution of Secondary Themes.

3. Bilingual Teaching Theories

Contemporary bilingual education has evolved globally, with experts exploring theories like the input hypothesis and constructivist learning theory, providing a robust framework for its development and reform.

3.1. Second Language Acquisition Theory

Krashen's influential second language acquisition theory emphasizes the significance of comprehensible input, distinguishing between language acquisition and learning, and highlighting the role of emotional factors in the language absorption process (Ding, 2023; Di, 2023; Li, 2021; Song, 2020; Liao, 2018; He, 2019).

Second language acquisition theory posits that language acquisition is primarily achieved through comprehensible input, distinct from conscious learning, while emotional factors act as a filter influencing the absorption of language input.

3.2. Constructivist Learning Theory

Piaget's constructivist learning theory, influential since the 1960s, shapes modern bilingual education by emphasizing active knowledge construction from personal experiences, promoting a student-centered approach, and advocating for conducive learning environments (Liu, 2023; Ma, 2022; Yang, 2022; Shao, 2023; Xu, 2022; Li, 2022).

In fact, constructivist learning theory provides a reference for the implementation and development of bilingual education and related theoretical research from the perspective of psychology.

4. Current Status of Bilingual Teaching

4.1. Positioning of Bilingual Teaching

In non-linguistic disciplines, scholars like Li (2020) and Geng, Jiang & Guo (2020) asserted that bilingualism served as a carrier for professional knowledge and cultural exchange, necessitating a diverse functional positioning. Shi & Lei (2023), Li (2021), and Xie, Fu & Wang (2021) proposed that bilingual teaching in higher education should be positioned within the domain of ESP (English for Specific Purposes), aiming to enhance students' vocational or professional abilities by strictly analyzing student needs.

4.2. Elements of Bilingual Teaching

Zhao (2023) identified three essential elements of bilingual courses: curriculum materials, content delivery, and interactive learning. Min (2020) emphasized key factors influencing the effectiveness of bilingual teaching, including teacher qualifications, teaching content, methods and tools, teaching resources, teaching outcomes, and policy support. Wen (2021) underscored the significant role of emotional factors in bilingual teaching, advocating measures to overcome negative emotions and foster students' positive emotions.

4.3. Bilingual Teaching Models and Methods

Various bilingual teaching models and methods emerged, with immersion, transition, and maintenance being the primary models (Lu, 2022; Wei, 2021). These emphasized a strong foreign language environment, gradual language transition, and the partial use of the second language in disciplines, respectively. Additionally, approaches like language code switching, CLIL (Content and Language Integrated Learning), PBL (Problem-Based Learning), and flipped classroom offered innovative teaching methods, providing flexible options to meet diverse subject and student needs (Xia, 2019; He & Lei, 2020; Chen, Yue & Dong, 2023; Luo, Li & Mo, 2023).

4.4. Implementation of Bilingual Teaching

Research on the implementation of bilingual teaching provided multidimensional insights both globally and domestically. Internationally, Zhou & Wen (2021), Gou (2020), Li (2018), and Lin (2017) extensively studied bilingual teaching in Singapore, analyzed the situation in higher education in India, and explored bilingual practices in the UK. Domestically, Fan (2019), Li, Jiang, Chen & Yuan (2019) investigated the current status of bilingual teaching in Chinese mainland universities, revealing the widespread use of original materials and bilingual instruction in non-linguistic disciplines. Bai (2019) conducted a systematic survey of bilingual teaching at higher normal colleges, identifying key misconceptions and proposing corresponding strategies. Surveys by Lit (2019) in local universities revealed issues such as unclear teaching objectives, significant disparities in students' English proficiency, insufficient teaching resources, and challenges in textbook selection, leading to proposed strategies for improvement.

4.5. Strategies for Improving Specialized Courses

Recent research shifted focus towards specific teaching specialties and courses within bilingual education. Scholars explored diverse bilingual teaching resources and methods

applicable to various disciplines, including finance, economics, management, medicine, and engineering (Wei, 2021; Chen, 2019; Wei, Wu, Yang & Sun, 2020). While these studies offered practical insights, they often had narrow scopes, and their proposed strategies may have had limited applicability. Despite the abundance of literature in this area, the trend indicated a growing interest among scholars in improving bilingual teaching strategies in specific fields, aiming to enhance teaching quality and effectiveness.

5. Existing Issues and Future Directions in Bilingual Teaching Research

5.1. Existing Issues

In the research on bilingual education in China, several issues are identified. Firstly, there is a tendency to prioritize practical investigations, resulting in a weaker foundation in theoretical research. A review of relevant literature indicates a prevalence of analyses on the current status of bilingual teaching implementation in China, strategies for specific courses, with limited foundational theoretical works, often characterized by shallow exploration. Secondly, the methods employed for analyzing teaching practices are relatively singular and the content tends to be superficial. Literature analyzing bilingual teaching practices often relies on simplistic methods such as questionnaire surveys, with insufficient depth in data analysis and the proposed experiences and strategies being relatively straightforward.

5.2. Future Directions

To address these challenges, certain directions for development are proposed. Firstly, there is a need to strengthen foundational theoretical research. This involves in-depth exploration of fundamental theoretical issues such as bilingual teaching faculty development, curriculum construction, language application ratios in teaching, instructional process control, and assessment mechanisms. Secondly, there is a call to elevate from teaching practices to theoretical levels. While there exists rich practical experience in bilingual teaching, there is a shortage of bilingual teaching theories applicable to various professional courses derived from these practices. Hence, an emphasis on bridging this gap between practical experience and theoretical frameworks is crucial to advancing the field.

Acknowledgments

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