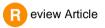# The Evolution and Innovation of Informational Business English Education in China: A Systematic Review between 2019 to 2024

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Review Article

Abstract:

The combination of information technology and business English training has emerged as a crucial field of study in the context of globalization and technological advancement. Additionally, research has emerged on the informatization of business English instruction in China. This study examines the growth and innovation of business English informatization education in China between 2019 and 2024 by reviewing 17 articles on the subject that were published in Chinese Core Journals between 2019 and 2024. Even though there has been a lot of progress, more study is still needed to fully comprehend the effects of informatization education, particularly regarding teaching methods and the growth of students' digital literacy. This review, which employs a content analysis methodology, finds important themes, and trends and emphasizes the need for more empirical study on the effects of informative teaching strategies. The results underscore the benefits of computer-based learning in raising student engagement and stress the need for continuous professional development for educators in technology-assisted instruction. This paper's distinctive contribution is to provide ways for future research to close the current research gap and to support a more nuanced understanding of the function of informative teaching in business English education.

Keywords: Information instruction; Talent development; Business English; Learning effect; Challenges

1. INTRODUCTION

Under the background of the globalization and digital area, Business English education has been one of the important parts of cultivating international communication, while the innovation of pedagogical approaches is rebuilding business English education. In the last decade, with the advancement of information education, the traditional business English teaching way is developing to a more adaptable and diverse educational model based on information technology. It provides a broader array of instructional resources and instruments for educators and offering students more personalized and attracting learning environment at the same time. During this period, quite a number of scholars, such as Selwyn (1), Thorne & May (2), Chingakham (3) and so on from all over the world have conducted variety research on multiple aspects of English language instruction facilitated by information technology. Selwyn emphasized that there is great potential for educational technology to enhance student engagement and cultivate their ability for self-learning. Thorne research technology-mediated settings with the application of sociocultural theories for second language acquisition. Chingakham pointed out that the flipped classroom model could improve English major students' learning proficiency and self-learning ability. Sun *et al.* (4) evidenced that online peer assessment has been shown to bolster L2 writing skills, while Zhou's (5) meta-analytic study confirmed the effectiveness of mobile-assisted language learning. Significant advancements have been made in the practice and research of IT-supported English language instruction and learning; however, persistent challenges and complexities remain within the domain of IT-enhanced corporate English language education, alongside a dearth of comprehensive research. Key issues warranting attention in contemporary research encompass the effective integration of information technology with curricular content, the enhancement of assessment mechanisms, and ensuring that IT-based instructional modalities are sufficient to cultivate business English expertise within the globalized landscape. To discern the developmental trajectory of instructional methodologies, evaluate the efficacy of IT-based pedagogy, and investigate the challenges and solutions encountered in practical applications, this review systematically examines and synthesizes the literature on IT-based business English instruction published in Chinese Core Journals from 2019 to 2024.This manuscript provides business English educators and researchers with a comprehensive perspective and strategic recommendations for future research endeavors aimed at fostering the advancement and innovation of business English pedagogy, based on an in-depth analysis of exemplary studies.

With the integration of advancing technology and different styles of educational resource, information teaching experience a rapid development over the past decade, bringing a more flexible and personalized learning experience for students (6). With the utilization of the online resource and interaction technique, this teaching approach focuses on

students' learning personality and encourages them to develop their independent study capacity and critical thought (7). Besides that, Lin *et al.* (8) suggest that information teaching can effectively make up differentiated instruction and meet the diverse needs of students. In information technology era, instructors are increasingly playing the role as a guide of the class and becoming knowledge transmitters (9). The online teaching management systems such as Moodle or Blackboard are frequently used by Instructors help to upload course materials, make plan discussions, and assess learning proficiency (10). During this era, digital teaching strategies enable instructors to monitor students' development and understanding, to provide prompt feedback and support (11). One of a crucial element of information education is the promotion of collaborative learning that enable students to collaborate on projects, share resources, and engage in real interaction by online platforms such as Trello and Google Docs, and finally improving their communication and collaborative skills (12). However, there are also some challenges facing by using information technology, including the digital divide, students' information literacy, and instructors' technical proficiency (13). To overcome these challenges, educators must keep up with the pace of technological advancements, while educational institutions must provide the requisite resources and training for them (14).

Research (15, 16) has shown that the application of information technology (IT) in business English teaching can significantly improve learning outcomes and strengthen students' engagement in learning. Additional studies have shown that by learning through online platforms and multimedia tools, students have access to a wider range of learning resources, enjoy a personalized learning experience, and promote interaction with teachers and peers (17). Furthermore, the implementation of personalized learning paths and real-time feedback systems for students can enhance student learning (18). What's more, some researchers have proved that the application of m-learning can significantly increase students' satisfaction and motivation to learn (19). In terms of current research trends, current research on business English education focuses on improving intercultural communicative competence and developing learner-centered instructional design. Baneres *et al.* (20) argued that learning through technology-enhanced learning (TEL) facilitates the development of efficient e-learning modes that empower learners to acquire information and skills, while Zhou's (5) meta-analysis assessed the effectiveness of informational learning in second language learning. Secondly, Philipsen's (21) study explored the evolution of teaching methods and teacher roles considering online learning. There are also various research methods on informative teaching of business English, such as quantitative methods, including questionnaires and experimental designs, which are usually used to assess the effectiveness of teaching and learning. For example, Chen & Yao (22) used a questionnaire to assess students' learning satisfaction in a blended learning environment; Al-Emran *et al.* (23) reviewed the system through a questionnaire to analyze the application of technology acceptance models in mobile learning environments. Whilst qualitative studies such as case studies, interviews and observations provide a deeper understanding of students' and teachers' experiences. Employing qualitative research techniques, O'Dell & Gage (24) conducted a study on the use of Twitter in a substantial undergraduate program. The integration of these methodologies provides a comprehensive assessment and understanding of the IT-driven teaching and learning processes in business English. As a result, the research questions guiding this paper are as follows:

Research Question 1: What instructional approaches and talent development way have been utilized in informational Business English pedagogy from 2019 to 2024?

Research Question 2: What are the effects of information technology influencing the learning and teaching of business English and what are the evidence?

Research Question 3: What challenges have been associated with the integration of information technology in Business English training, and what are the possible solving methods?

2. METHODOLOGY

The purpose of this systematic review is to synthesize the research literature on business English teaching methodologies employing information technology, published in China Core Journals between 2019 and 2024. It seeks to clarify the evolution of teaching methodologies, modifications to talent development frameworks, the efficacy of educational strategies, and the challenges faced along with their potential solutions. The subsequent methodological phases illustrated in Figure 1 were implemented to ensure the originality and rigor of the study.

Formulating Research Questions → Identifiying Relevant Work → Evaluating the Quality of Study → Summarizing the Evidence → Analyzing the Results

Figure 1. Five phases of systematic literature review proposed by Khan *et al.* (25).

2.1 Phase 1: Formulating Research Questions

Three specific research questions were formulated to guide the literature collection and assessment process. These questions pertain to: (a) the development of business English teaching models employing information technology and talent nurturing between 2019 and 2024; (b) the improvement of learning outcomes and student engagement through technology-enhanced teaching in business English education, evidenced by scholarly research; and (c) the identification and resolution of encountered practical challenges.

2.2 Phase 2: Identifying Relevant Work

Using the China's National Knowledge Infrastructure (CNKI), same as WOS, which is the most authorities paper database in China, an initial collection of relevant literature was compiled based on the primary themes of the systematic review. The literature was then screened according to predetermined inclusion and exclusion criteria. To ensure the academic quality and reliability of the sources, the literature search was limited to full-text publications and peer-reviewed journal articles (26). The literature selection targeted works published in two most popular China Core Journals named Chinese Social Science Citation Index (CSSCI) CSSCI and A Guide to the Core Journal in China (AGCJC) from 2019 to 2024, using the search terms "business English," "technology-enhanced teaching," "flipped classroom," and "blended learning." Additionally, a thorough examination of relevant reviews, conference papers, and interviews was conducted to ensure the accuracy and comprehensiveness of the literature collection.

2.3 Phase 3: Evaluating the Quality of Study

The literature was meticulously selected to ensure the validity of the systematic review. Researchers adhered to the inclusion and exclusion criteria, which provided guidelines for selecting appropriate material for screening. The inclusion criteria included: (a) studies on technology-enhanced business English instruction; (b) research utilizing mixed, quantitative, or qualitative methodologies; (c) publications between 2019 and 2024; (d) articles in China Core Journals; and (e) investigations relevant to Chinese academic institutions. The exclusion criteria excluded: (a) research on informatics not directly related to business English; (b) studies employing solely qualitative or mixed methodologies without quantitative elements; and (c) research outside the scope of the study's focus, such as that pertaining to elementary and secondary education.

Table 1. Inclusion and exclusion criteria.

Inclusion Criteria	Exclusion Criteria
Business English Education with Information Technology	Business English Education without Using Information Technology
Research with quantitative, qualitative or mixed method	No finding could be found
Sample or respondents from China	Sample or respondents from other countries
Papers were published in CSSCI and PKUC	Papers were not published in China Core Journals
Papers were published between 2019 to 2024	Papers were not published between 2019 to 2024

A robust research protocol requires the inclusion of both inclusion and exclusion criteria. This paper delineates five criteria as the cornerstones of the inclusion and exclusion criteria, which are used to discern publications relevant to the research questions.

2.4 Phase 4: Summarizing the Evidence

The CNKI database was searched using the terms "business English", "technology-enhanced teaching", "flipped classroom", and "blended learning" to identify relevant literature. The search utilized the terms "flipped classroom", "blended learning", "business English", and "technology-enhanced teaching" for a comprehensive literature review.

2.5 Phase 5: Analysing the Results

After comprehending and analysing the data, we employed content analysis for categorization. The 17 papers were subjected to analysis using a combination of mixed, quantitative, and qualitative methods. The employed analytical techniques are displayed in Table 2. The table demonstrates that qualitative methods were the most frequently used, followed by mixed approaches, while quantitative methods were less frequently applied. These procedures have ensured the transparency and rigor of our research methodology, leading to a thorough and nuanced examination of the literature on business English instruction employing instructive techniques.

Table 2. Numbers of study based on methods.

Methods	China Core Journals
Quantitative	3
Qualitative	4
Mixed methods	10

3. RESULTS

Seventeen studies investigating Business English teaching and learning, the use of information technology, learning outcomes, and existing challenges from 2019 to 2024 have been identified (Table 3).

Table 3. Research situation of using information technology in business English learning.

Methods	Platform	Research Objectives	Research Angle	Ref.
Qualitative: theoretical analysis	"O2O" (Online to Offline)	Students	Investigated the necessity, challenges, and solutions for implementing "O2O" mixed mode instruction in Business English professional courses in the "Internet+" Era.	(27)
Qualitative: theoretical analysis and course design	"Learning community" of cross-border e-commerce language services system	Students	Explored the role of Business English students as active learners within the "Learning Community" framework of School-Enterprise-Business Co-operation.	(28)
Qualitative and quantitative		Papers about Business English teaching and learning	Examined various teaching strategies, genre analyses, discourse analyses, and other pertinent aspects within the domain of Business English.	(29)
quantitative	Multilingual recognition system for picking robots	Investigated the application of a multilingual recognition system for picking robots in the field of E-commerce English translation.	How students use the picking robot multilingual system for E-commerce English translation.	(30)
Qualitative: theoretical analysis and discussion	Using big data technology, cloud computing technology, AI-intelligence technology, virtual simulation reality, etc.	Cultivation of High-end Business Foreign Language Talents in Colleges and Universities	Addressing the demand and evaluating the cultivation of high-end business foreign language talents within higher education.	(31)
Qualitative and quantitative	Intelligent Teaching Platform (U Campus)	70 Junior Students	The construction of a Flipped Classroom model and its teaching evaluation.	(32)
Qualitative: theoretical analysis and discussion	Internet technology	Cultivation of Business English Translation Talents in Colleges and Universities	An analysis of the status, challenges, strategies, and outcomes in the development of talent for business English translation within the online environment.	(33)
Qualitative: theoretical analysis	Micro-teaching and learning	Business English Practical Training Teaching	The Application of Micro-class Teaching Mode Constructed based on Cognitive Linguistics Theory in Business English Practical Training.	(34)
Qualitative: theoretical analysis	Digital Trade Academy Building Platform	Industry-Teaching Integration for Business English Majors	Facilitate comprehensive collaboration between Business English programs and industry enterprises by establishing the Digital Trade Academy, a novel teaching platform, thereby enhancing and refining the process of talent cultivation.	(35)

Qualitative: theoretical analysis and discussion	Open Education Platform	Cultivation of Business English Professionals in the Open Education System	Present Conditions, Issues, and Enhancement Plans for Talent Development in Open Education.	(36)
quantitative		Research in the field of cross-border e-commerce teaching	The research hotspots, themes, and their interrelationships within the field.	(37)
Qualitative and quantitative: Corpus-based research method	Online corpus (WPI)	The phenomenon of restrictive collocations of vocabulary in a professional business English programme	The retrieval and learning of business lexical restrictive collocations through the utilization of an online corpus (e.g., WPI) to improve output-based applications.	(38)
Qualitative: Methods for action research	Online and offline learning	Business English Programme	The implementation of civic curriculum within the online-offline teaching model for Business English.	(39)
Qualitative: theoretical analysis	Flipped classroom	Business English translation teaching and learning	The imperative of employing the flipped classroom model in Business English translation teaching and the corresponding implementation strategies.	(40)
Qualitative: theoretical analysis	Flipped classroom	business English Practical Training Course	Information Technology-Assisted Flipped Classroom Blended Teaching Practices in business training course.	(41)
Quantitative		Academic Essays on Business English	An exploration of information-based teaching methodologies, the flipped classroom approach, and additional forms of application within Business English instruction.	(42)
Qualitative and quantitative		Research on Business English Education in China	A comprehensive review of two decades of Business English education research in China.	(43)

The research on business English pedagogy in China demonstrated a multifaceted trend that encompasses a range of elements, including online platform tools, instructional design, blended teaching methodologies, and course evaluation strategies. This body of research predominantly utilizes qualitative analysis, complemented by mixed-method and quantitative approaches. The studies utilized a variety of tools and platforms, including the online corpus WPI, learning communities, intelligent teaching platforms, "O2O" blended learning models, and micro-class structures. According to the introduction, the primary objective of this research is to enhance the competencies and language proficiency of business English students. These investigations focus on a wide range of areas, including innovative teaching methodologies, the development of school-enterprise partnerships, an assessment of the prevailing landscape and talent development needs, and the improvement of teaching evaluation techniques.

3.1 The Instructional Approaches and Talent Development way Utilized in informational Business English Pedagogy

The first part answered the first research question namely: *What instructional approaches and talent development way have been utilized in informational Business English pedagogy from 2019 to 2024?* The Research result is shown in Table 4.

Table 4. Instructional mode or talent cultivation way on the use of technology in business English.

Instructional Mode or Cultivation Way	Strengths	Ref.
"O2O" blended teaching model.	Stimulate students' interest, enhance teaching effectiveness, and address the requirements of "Internet+" talent development.	(27)
"Learning Community" cross-border e-commerce programme model.	Emphasize school-enterprise collaboration, construct a realistic teaching environment, and enhance skills through project implementation.	(28)
Multilingual Picking Robot System.	Contributes to the enhancement of business English translation skills.	(30)
Cultivation Strategy of High-end Business Foreign Language Talents.	A clearly defined flexible curriculum system and practical training are crucial for ability development.	(31)

Instructional Mode or Cultivation Way	Strengths	Ref.
Flipped Classroom Blended Teaching Model.	Address the issues of low engagement and student participation in the ESP program and enhance learning efficiency and practical skills.	(32)
Internet-integrated Teaching Mode.	Enhance the quality of education and satisfy educational needs.	(39)
Cognitive Linguistics-based Micro-class Teaching Model.	Enhance the effectiveness of business English practical training to address educational needs.	(34)
Digital Trade Academy Teaching Mode.	Address the shortcomings of the current education model to satisfy educational needs more effectively.	(35)
Business English Lexical Meaning Restriction Collocation Output Learning.	Improve vocabulary collocation output utilizing the online corpus WPI.	(38)
Flipped Classroom in the Era of "Internet +".	Show cases the potential to enhance teaching quality and satisfy educational needs.	(40)
Blended teaching mode, especially the application of Flipped Classroom.	Adapts teaching structures to address educational needs through Information Technology.	(41)
Informatised teaching modes such as online teaching and flipped classroom.	Anticipating the future integration of virtual reality technology to enhance the quality of business English education.	(42)

In the field of educational research, the investigation and implementation of business English informatization as a teaching modality have become increasingly prevalent. Researchers have explored various instructional approaches, including "O2O" blended learning, learning community-based project courses, flipped classrooms, and online-offline blended learning, as documented in literature from Chinese Core Journals. These instructional approaches yield several benefits: stimulating students' interest in learning, enhancing instructional effectiveness, meeting "Internet+" quality standards, establishing a practical learning environment, bolstering translation skills, fostering interdisciplinary competencies, and increasing student engagement and learning efficiency.

3.2 The Effects of Information Technology Influencing Learning and Teaching and the Evidence

The second part answered the first research question namely: *What are the effects of information technology influencing the learning and teaching of business English and what are the evidence?* The Research result is shown in Table 5.

Table 5. Effectiveness and evidence on the use of information technology in business English.

Effectiveness	Evidence	Ref.
Enriching online resources and interactive platforms to enhance learning effectiveness and engagement.	Enhancing students' interest and satisfying the requirements of "Internet Plus" talent development.	(27)
Blended teaching and project-driven to enhance the quality of business English education.	Employing the Pan-Asian e-learning platform, incorporating real-world projects, and implementing a three-dimensional, intelligent assessment approach of "e-portfolio + diagnostic evaluation".	(28)
Academic writing and corpus research enhance the quality of education.	Recent literature in key research areas offers concrete evidence.	(29)
Multi-language recognition system enhances business English translation skills.	The effectiveness of the picking robot system is empirically validated.	(30)
Advanced technology builds a new teaching ecosystem and improves the quality of talent cultivation.	Leveraging big data and AI technology to construct "Internet business quality courses".	(31)
Intelligent teaching platform supports flipped classroom and improves learning effect.	Enhancement of students' assessment skills, learning attitudes, and literacy levels.	(32)
Internet technology improves the quality of business English translation talent training.	The advent of internet education affords new opportunities and enhances traditional teaching and learning practices.	(33)
Micro-teaching Technology Provides Personalized Teaching and Stimulates Learning Autonomy.	Micro-classes elucidate learning tasks and emphasize the workplace's distinctive features.	(34)

Effectiveness	Evidence	Ref.
The Construction of Digital Trade College Enhances the Quality of Business English Education.	Teaching is informalized through data-driven approaches and the integration of industry standards.	(35)
Diversified Services of Open Education Platform Enhance Autonomous Learning Ability	The process of informatization augments vocational skills and optimizes curriculum resources to align with demand.	(36)
Online Corpus WPI Enhances the Understanding of Business Word Meaning Collocation.	The WPI delivers precise contextual vocabulary information.	(38)
"Fresh" materials enhance classroom authenticity and stimulate learning motivation.	Group presentations and assignments by students in a multimedia-rich environment are designed to evaluate higher-order competencies.	(39)
Big data technology realizes teaching innovation and improves education quality.	Video and web-based platforms facilitate independent learning and provide targeted teaching assessments.	(40)
Online resources support independent learning, and offline deep interaction.	The micro-teaching construction case focuses on the design of teaching structure to realize the flipping goal.	(41)
Online-Offline Blended Teaching Raises Concerns.	Research in business English teaching methodology integrates communicative and practical elements with information technology.	(42)

Table 5 showed that informative business English instruction has become increasingly significant for elevating educational standards. Studies suggested that informatized teaching significantly enhances learning effectiveness and student engagement in business English education. These methods encompass a range of tools and approaches such as rich online resources, simulated business environments, interactive learning platforms, blended pedagogies, project-driven learning, big data technology, artificial intelligence (AI) technology, and virtual simulation realities (27–32, 33, 34, 36, 38–42, 44). These teaching strategies not only enhance students' enthusiasm and engagement but also facilitate the development of lifelong learning and career skills. The adoption of information-based teaching leads to positive changes in Business English education, evident in the sharing and updating of teaching resources, the innovation of teaching processes and learning styles, and the enhancement of teachers' methods for assessment and summarization.

3.3 Challenges Associated with Information Technology in Business English Training and the Solving Methods

The third part answered the first research question namely: *What challenges have been associated with the integration of information technology in Business English training, and what are the possible solving methods?* The Research result is shown in Table 6.

Table 6. Existing challenge and potential solving strategies of using technology in business English learning.

Existing Challenges	Potential Solving Strategies	Ref.
Teaching mode, content and practice issues.	Constructing multi-partnership teams, updating curricula, creating a 3M teaching environment, and three-dimensional intelligent evaluation.	(27)
Misalignment between talent training and market demand, lack of teachers, lagging teaching materials, inaccurate evaluation system, as well as solidified teaching mode and insufficient integration between schools and enterprises.	Integration of school-enterprise resources, adoption of teaching strategies such as task-based teaching method, real-time updating of teaching content, and diversified evaluation system.	(28)
Teacher training, updating of teaching materials, evaluation system, etc.	Strategies were not explicitly specified.	(29)
Insufficient intersection of disciplines, insufficient construction of practical teaching platforms, and different levels of teaching staff.	Building interdisciplinary curriculum resources, optimising practical teaching resources, reforming the classroom ecological model, improving the collaborative education mechanism, etc.	(31)
Bottlenecks in the teaching of ESP programmes, problems of teachers and teaching materials.	Flipping the classroom model, utilising online resources, and enhancing higher-order competence.	(32)
Problems of traditional teaching concepts, fixed teaching contents, lack of relevance, etc.	Changing teaching concepts, integrating teaching content, improving teaching methods, and perfecting evaluation mechanisms.	(33)

Existing Challenges	Potential Solving Strategies	Ref.
Problems such as unclear objectives of practical training, poor rationality of content, unclear division of teaching responsibilities, imperfect safeguard mechanism, and unsound teaching quality supervision system	A microteaching model based on cognitive linguistics to optimise the teaching process.	(34)
Obstruction of normal teaching, unsatisfactory effect of the "dual certificate" system, poor effect of internship training bases, etc.	Construct a digital trade institute to innovate talent training modes through school-enterprise cooperation and industry-education integration, to adapt to the development of the digital economy.	(35)
Challenges include insufficient demand for talent cultivation, inadequate optimization of training programs, and imperfect quality evaluation systems.	Obtain demand information, optimise training programmes and continuously improve the evaluation system.	(36)
The output vocabulary is smaller compared to the receptive vocabulary.	Enhance vocabulary collocation output capacity using online corpus WPI.	(38)
Lack of online teaching interaction.	Multi-modal learning materials, problem-oriented teaching, diversified assignments and assessments.	(39)
Teaching materials and cases lagging the current development of the industry, mismatch between teaching methods and technology, etc.	Flipped classroom combined with big data technology, innovative instructional design and assessment.	(40)
Over-reliance on the use of information technology may lead to educators' fuzzy perception of the real role of technology in the teaching process.	Instructional structure design, supporting role of IT.	(41)
Challenges pertaining to the application of big data and corpus technologies.	Specific strategies not explicitly identified.	(42)
Talent training, curriculum construction and other research areas.	Focus on theory building, development of interdisciplinary research, establishment of research frameworks.	(43)

Informational technology for business English has shown promise in recent years for enhancing learning effectiveness and efficiency, yet it has encountered challenges. These challenges are primarily from issues related to teaching modes, content updating, practical teaching, aligning talent development with market demand, recruiting teaching staff, modernizing teaching materials, enhancing the evaluation system, and fostering school-enterprise cooperation, as documented in articles published in Chinese Core Journals. Scholars have proposed various strategies to mitigate these challenges, including developing a diverse and collaborative teaching team, enhancing the integration of language with the Internet, establishing a multimodal learning environment, implementing a three-dimensional assessment method, and cultivating a sense of community within the classroom. Additionally, task-based teaching has been implemented, teaching platforms facilitate shared content updates, and a diverse evaluation system has been established. The techniques like integrating multiple resources, updating teaching learning methods, and optimizing teaching management and assessment mechanisms to increase the overall effectiveness of business English instruction through informatization.

4. DISCUSSION

By systematic analysis of the literature published in the core journals in China, the current research on business English informational education mainly focuses on the following aspects:

Innovating teaching and learning modes and strategies: 1 - Research on blended mode instruction: Zhu (27) studied on the "O2O" approach, which strengthens the teaching and learning effect, stimulates and enhances students' learning enthusiasm and participation through online and offline interaction. 2 - Research on learning community model: Fu (28) proposed a "learning community" curriculum model, which emphasizes the integration of learning and production and universities-enterprises cooperation, promotes the combination of theory and practice, and provides a simulated business practice environment for students. 3 - Research on flipped classroom model: Cao (32) conducted an empirical investigation of flipped classroom teaching and learning through the Smart Teaching Platform to study how it can improve teaching evaluation and learning efficiency and solve the problems in ESP program. 4 - Research on problem-oriented teaching model: Li (33) suggests using problem-oriented heuristic teaching techniques during online lectures and preparing multi-modal learning materials ahead of time.

Technology application research: 1 - Application of big data technology in business English education: Zhang (42) suggests that the use of big data technology innovate teaching design and evaluation methods in the era of "Internet +". 2 - Research on the use of Micro-course technology: Liu (34) believes that micro-course technology can provide personalized teaching for Business English students, support independent learning, clarify learning objectives, consider assignments

and standards, and promote teaching reform. 3 - Research on the application of online corpus WPI: Lin & Li (38) studied how the use of online corpus WPI enriches the way of teaching Business English, as well as students' understanding and application of restrictive collocations of Business English vocabulary.

Research on the usage of information on university -enterprise cooperation and production-learning integration: 1 - Research on construction of digital trade academy: Wang (35) proposes to innovate the talent cultivation mode by establishing a digital trade academy using industry-academia fusion and school-enterprise cooperation to adapt to the development of the digital economy. 2 - Research on the value of university-enterprise cooperation: By providing real business practice environment, Fu (28) studied on emphasizing the importance of university-enterprise cooperation in achieving the interface.

Research on skill development under business English information education: 1 - Research on the development of translation skill: Li (33) examined how information technology develops business English translation and interpreting skills. 2 - Research on the development of Business foreign language skills: Wang (31) studied the role of practical business English teaching in developing students' language skills in business communication. Research on the evaluation system of business English information education: 1 - Formative Evaluation: Li & Feng (39) proposes to create diversified after-class assignments and formative evaluations, focusing on individual differences and the overall development of learners. 2 - Flipped classroom evaluation: Cao (32) studied how the flipped classroom model can improve teaching evaluation. Research on the comprehensive impact of business English information education: 1 - Teaching quality and learning effect: IT-based teaching tools and platforms can significantly improve the quality of teaching and learning, support the teaching and learning of Business English, meet the needs of modern education (31), significantly help students' overall development, and lay the foundation for the future development of Business English education.

5. CONCLUSION

This review systematically compiles studies on the informatization of business English instruction published in China Core Journals between 2019 and 2024. It also provides recommendations for future research directions and summarizes the innovations, implementation effects, and challenges of the teaching models. Research has shown that IT-based teaching methods, such as 'O2O' blended learning, flipped classroom and smart teaching platforms, effectively raise the standard of business English teaching, enhance students' engagement and motivation, and cultivate students' intercultural and practical communication skills. Abundant teaching resources, a simulated corporate environment, an interactive learning platform, personalized instruction, and real-time feedback through big data and artificial intelligence technologies are among the advantages of information-based teaching. However, these issues limit the potential of informative teaching methods and pose an obstacle to improving educational standards.

Future research should prioritize to solve current issues: firstly, updating the curriculum system to align with current business practices and trends, and enhancing the alignment between teaching content and industry needs; secondly, increasing investment in teachers' professional development to enhance their skills in information-based teaching and interdisciplinary instructional design. To comprehensively assess students' learning outcomes and vocational skills, the evaluation system must be enhanced. Furthermore, a more robust mechanism for integrating industry and teaching must be established, and school-enterprise cooperation should be enhanced. Implementing the measures should enable business English informatization instruction to better adapt to the demands of the digital age and provide robust pedagogical support for the development of business English talent with a global perspective and competitive edge. To achieve ongoing innovation and development in Business English education, future research should also focus on the long-term effects of the informatization teaching mode and explore its applicability and optimization strategies in diverse learning environments and learner groups.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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