

Application of Artificial Intelligence Empowering Ideological and Political Education in Business English Courses

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Abstract: *With the advancement of the deep integration of artificial intelligence and education, the traditional ideological and political teaching of business English courses has significant shortcomings in terms of single context construction, lagging process feedback and lack of refinement in value guidance. To this end, this paper introduced artificial intelligence and multimodal interaction technology to construct a course ideological and political teaching model that integrates language intelligent analysis, virtual context simulation and process tracking feedback, so as to improve the embedding depth of value guidance and the adaptability of language training. The research focuses on the three functional modules of "virtual communication scene generation + intelligent semantic recognition + behavioral data analysis" to support teachers to dynamically adjust the ideological and political content embedding strategy in the teaching process and achieve detailed control of students' ideological and political cognition, language output and interactive behavior. The experimental results show that the average score of the experimental group students in the business English course ideological and political teaching mode enabled by artificial intelligence was 430 points in the pre-test, and the average score in the post-test rose to 474.6 points, an average increase of 44.6 points. In the traditional teaching mode, the control group had an average score of 428.6 in the pre-test and 439 in the post-test, with an average improvement of only 10.4 points. The post-test scores of the experimental group were significantly better than those of the control group, which verified the positive role of artificial intelligence technology in promoting students' language ability in the integration of ideological and political education (IPE) and English skills teaching.*

Keywords: *Business English Course Ideological and Political Education; Artificial Intelligence; Virtual Reality; Intelligent Evaluation; Immersive Teaching*

1. Introduction

Under the guidance of the fundamental task of "cultivating morality and cultivating people" in higher education in the new era, IPE in courses has become the core path to promote the full coverage, full process, and full-staff education of IPE in colleges and universities. Especially in college English teaching, how to effectively integrate value guidance and ideological shaping while imparting language knowledge has become an important proposition of current curriculum reform. However, the traditional ideological and political teaching model of courses generally has problems such as single context, shallow content embedding, lagging teaching methods, and inaccurate process evaluation, making it difficult to truly achieve the organic unity of IPE and language ability training.

Based on this, this paper focuses on the ideological and political practice of business English courses empowered by artificial intelligence, and designs an intelligent teaching model that integrates language skills training and value guidance. Through empirical experiments, it explores its actual effectiveness in improving students' language ability, ideological and political cognition level, and learning participation, aiming to provide theoretical support and practical paths for the systematic innovation of ideological and political teaching in English courses in colleges and universities.

2. Related Works

In recent years, research on the integration path and ideological influence of ideological and political elements in college English courses has continued to deepen. Scholars have explored multiple dimensions, including curriculum design, teaching practice, policy orientation, and cultural context, revealing the opportunities and challenges faced by IPE in the context of global language education. Ruan and Yang evaluated the practice of IPE in college English teaching in Chinese universities, emphasizing the synergistic effect of goals, content, implementation, and evaluation, and suggested focusing on teachers, textbooks, teaching content, and institutional support to promote reform [1]. Zhang discussed the ideological and political construction of English courses in colleges and universities under the background of the new era, emphasizing that teachers should explore the ideological and political elements contained in the courses, integrate them into teaching activities, and promote the comprehensive development of students' knowledge literacy, moral quality and comprehensive quality [2]. Muhalim discussed the interweaving of neoliberalism and English ideology in Indonesian colleges and universities, especially the contradictions in colleges and universities with religious backgrounds, and analyzed how English teachers deal with and transform these ideologies with the help of Bakhtin's "ideology generation" theory [3]. Zeng and Sutumawong analyzed the importance of practical teaching of ideological and political courses in colleges and universities, pointed out the problems existing in current practical teaching, and put forward suggestions for optimizing teaching models to enhance the attractiveness of courses and teaching effectiveness [4]. Cushing used critical stylistics and discourse analysis to explore how texts in England's post-2010 education policies collectively reinforce standard language ideology, and revealed that teachers were constructed as the role of disseminating standard English, concealing the power structure behind the language [5]. Hamid and Ali explore the secularization trend of Bangladesh's English teaching policy in the context of new nationalism after 9/11, analyzing the multi-level ideology of de-Islamization, economization, and pro-ruling party under the influence of global counter-terrorism and South Asian regional politics [6]. Sah and Fang called for the introduction of a decolonial perspective into the research and practice of English teaching in the global South, critically reflecting on the colonial legacy hidden in EMI (English as a Medium of Instruction) policies and the unequal power relations they have caused, and avoiding further strengthening the interests of privileged groups [7]. MacSwan and Rolstad distinguished between empirically based language ideologies and unfounded postmodern language views, criticizing the late theory of translanguage phenomena for being divorced from empirical research, violating the concept of multilingualism, and potentially undermining the advocacy of language diversity and civil rights [8]. Hamid explored how Bangladesh localized English teaching through the world English perspective in the secular and religious education system, responded to the complex relationship between English and Islam, and revealed the multiple sociopolitical significance of teaching materials under different ideological goals [9]. Ricklefs investigated the language perspectives of 180 ESL (English as a Second Language) teacher trainees at a university in the United States based on critical pedagogy and language ideology theory, discovered six major language ideologies, analyzed their associations with individual background factors, and proposed implications for the practice and research of teacher education [10]. Bernstein et al. investigated the language ideology and bilingual education policy preferences of 134 normal school students and in-service teachers in Arizona and found that their background experience, comprehension ability and policy-making ability were related, emphasizing the key role of teacher education in promoting multilingual awareness and understanding of language diversity [11]. Existing research focuses on the advocacy and initial practice of curriculum ideological and political concepts, but there is still a lack of systematic and empirical exploration in terms of technology integration, evaluation system construction and ideological conflict response.

3. Methods

3.1 Promoting the Innovative Transformation of Curriculum IPE by Information Technology Integration

With the rapid development of technologies such as artificial intelligence, virtual reality, and big data, traditional curriculum IPE can no longer meet the requirements of talent training in the new era. Business English, as a course with strong practicality and communication, has a natural space for IPE. Relying on modern information technology, it can effectively break through the limitations of time, space, and textbooks, and transform course content into an immersive experience of multi-sensory

interaction. For example, with the help of AI-driven virtual reality systems, teachers can build realistic business communication and value integration scenarios, transform abstract political concepts into real and tangible scenarios, and enable students to subtly accept ideological and political content in language learning.

In addition, new media channels such as mobile learning apps, micro-courses, and short video platforms have built a network cultural ecology where English learning and IPE coexist. These technical means have expanded the boundaries of IPE in courses and enhanced students' sense of participation and identity. Business English teachers should actively adapt to technological changes, integrate the concept of "AI + IPE in courses", explore cross-platform and multi-scenario teaching designs, promote the implementation of "three-dimensional education" in English classrooms, and enhance the penetration and affinity of IPE.

3.2 Building an Intelligent-Driven Business English Course Ideological and Political Design System

In the context of artificial intelligence empowerment, the design of ideological and political content of courses should break the structural limitations of the past that emphasizes knowledge and neglects value, and strengthen the deep integration of language skills and IPE. Course content should be graded and classified according to students' language foundation and ideological and political understanding ability, and a progressive teaching module should be constructed. For example, through case teaching, topics such as corporate ethics, international relations, and environmental responsibility can be introduced to guide students to make value judgments and cultural comparisons in language practice, thereby enhancing the practical relevance of IPE.

The content design should also reflect systematicity and continuity, ensuring the logical continuity and progressive goals between courses, so that the improvement of English language skills and the accumulation of ideological and political literacy can be promoted simultaneously. At the same time, the course should combine national strategies and international perspectives, integrate Thought on Socialism with Chinese Characteristics for a New Era and the core socialist values into unit topics and text materials, and achieve dual-track progress in language learning and value guidance.

3.3 Establishing a Multi-Dimensional Evaluation Mechanism to Achieve Quality Feedback throughout the Process

The traditional evaluation system based on test scores can no longer fully reflect the learning effect of students in IPE. To this end, a multi-dimensional evaluation mechanism covering "cognition-practice-thinking" should be constructed, and a combination of formative evaluation and summative evaluation should be introduced. Through online discussions, task-driven learning, project reports, English debates and other forms, students' language expression, depth of thought and cultural understanding can be comprehensively examined.

Artificial intelligence technology can be used to accurately collect and dynamically analyze learning behavior data. With the help of the intelligent learning platform, the system can track students' homework completion, interactive activity, and knowledge mastery in real time, and combine natural language processing technology to analyze their ideological and political tendencies and value attitudes in English expression, and achieve personalized feedback and process guidance. At the same time, teachers can also use visual data to gain insight into teaching shortcomings, optimize teaching content and strategies in a timely manner, and build an integrated "teaching-learning-evaluation" intelligent evaluation closed loop.

3.4 Building an Intelligently Supported Teacher Development Platform

Teachers are the key force in promoting IPE in courses. In an AI-enabled environment, business English teachers need to have solid language teaching skills, as well as strong political literacy, international vision, and technological adaptability. Colleges and universities can set up "intelligent teaching and research rooms for IPE in courses" to gather teaching staff to carry out multidisciplinary teaching and research activities and promote collaborative innovation in teaching content, teaching methods, and digital tools.

The teacher training and capacity improvement mechanism should be improved, and diversified development paths such as online micro-courses, expert lectures, teaching observation, and world visiting studies should be established to help teachers deeply understand the concept of curriculum IPE,

master new teaching tools and platforms enabled by AI, and stimulate teaching innovation. A tiered teacher team can be built, and cross-disciplinary talents in the fields of artificial intelligence and educational technology can be introduced to provide solid support for the language intelligence construction of English curriculum IPE.

3.5 Building a Diversified and Collaborative Business English Course Resource System

To promote the effective embedding of ideological and political content in English classes, it is necessary to systematically integrate high-quality teaching resources and build a diversified and collaborative curriculum resource library. It can develop original English materials, bilingual interpretation texts, and Chinese and foreign cultural comparison materials around ideological and political elements such as Chinese traditional culture, red culture, and national strategy, so that students can enhance their cultural identity and national consciousness in language learning.

At the same time, combined with the professional characteristics of business English, focusing on topics such as business ethics, international governance, and transnational communication, the paper developed ideological and political micro-videos, scenario cases, task projects and other resources that fit students' interests and career needs, so as to achieve a natural integration of language knowledge and value concepts. AI technology is used to intelligently classify and push learning resources, achieve accurate content matching and scenario-based application, and enhance the pertinence and effectiveness of course content.

3.6 Creating Intelligent Scenarios to Optimize the Ecological Structure of the Classroom

In the context of informatization, creating a real, vivid, and immersive teaching situation is an important way to improve the effectiveness of IPE in courses. Through virtual reality and multimedia technology, various business English scenarios can be simulated and IPE elements can be embedded. For example, simulation environments such as virtual company negotiations, cross-border recruitment, and international conferences can be constructed, and values such as patriotism, responsibility, and honest cooperation can be integrated to encourage students to achieve a two-way improvement in language learning and ideological identification in the process of participating in communication.

Teachers can also use audio and video equipment, self-media platforms and other resources to organize students to carry out practical activities such as English speeches, situational drama performances, and debate training, and upload the results to the teaching platform for students to watch repeatedly and self-evaluate. In addition, students can be guided to use English learning apps and ideological and political platforms to complete task collaboration and knowledge internalization, and realize the dual-wheel drive of language skills and political literacy in multimodal learning.

4. Results and Discussion

4.1 Experimental Subjects and Grouping

Experimental subjects: 60 sophomores majoring in Business English at a certain university

Grouping method: Randomly divided into an experimental group (30 people) and a control group (30 people)

Basic conditions: The English level, gender ratio and ideological and political foundation of the two groups of students are similar

4.2 Experimental Period and Course Content

Experimental period: one semester (16 weeks, 2 class hours per week)

Teaching modules: covering topics such as business negotiation, cross-cultural communication, and corporate ethics

Ideological and political themes: responsibility, professional integrity, national image, cultural confidence, etc.

4.3 Experimental Methods and Differentiated Teaching Design

The control group used traditional PPT teaching + text reading to integrate English and IPE

The experimental group used artificial intelligence platform for teaching, combined with the following methods:

VR/AI immersive situation simulation (such as cross-border conferences, moral conflict cases)

English + ideological and political bilingual knowledge graph navigation:

Intelligent feedback and process tracking (online task analysis, language error correction)

Intelligent spoken dialogue system based on speech recognition and natural language processing

4.4 Data Analysis Method

Pre- and post-test comparison analysis (independent sample T test) examines the difference in the improvement of language scores, ideological and political cognition between the experimental group and the control group.

Multivariate regression analysis explores the relationship between learning participation and language ability and ideological and political cognition improvement.

Corpus analysis (NLTK or SPSS semantic coding) analyzes the emotions and value orientation of students' open-ended answers.

Platform behavior data mining (such as frequency, click-through rate, average learning time) is used to analyze the teaching stickiness and teaching efficiency of the AI system.

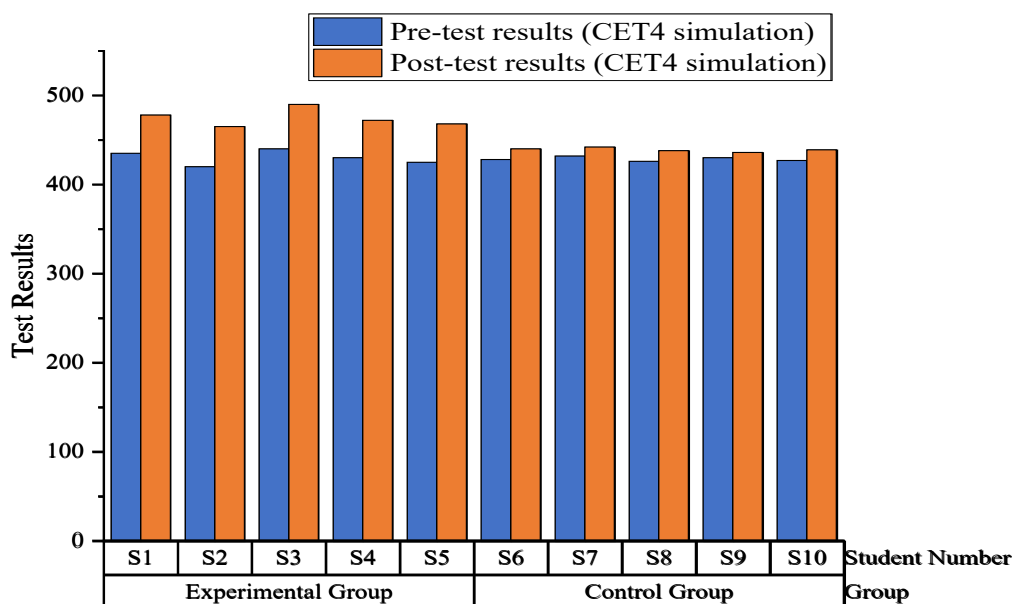


Figure 1 Comparison of grades

As can be seen from Figure 1, after one semester of teaching intervention, the English scores of both the experimental group and the control group have improved, but there are significant differences in the extent of improvement. In the business English course ideological and political teaching mode enabled by artificial intelligence, the average score of the experimental group was 430 points in the pre-test, and the average score in the post-test rose to 474.6 points, an average increase of 44.6 points. In the traditional teaching mode, the average score of the control group was 428.6 points in the pre-test and 439 points in the post-test, with an average increase of only 10.4 points. It is particularly noteworthy that the scores of S3 and S1 in the experimental group increased by 50 points and 43 points respectively, showing the potential of immersive intelligent situational teaching in stimulating students' learning motivation and improving their language skills. In comparison, the scores of the control group generally increased by about 10 points, and the change was relatively gentle. Overall, the post-test scores of the experimental group were significantly better than those of the control group, which verified the positive role of artificial intelligence technology in promoting students' language ability in

the integrated teaching of IPE and English skills.

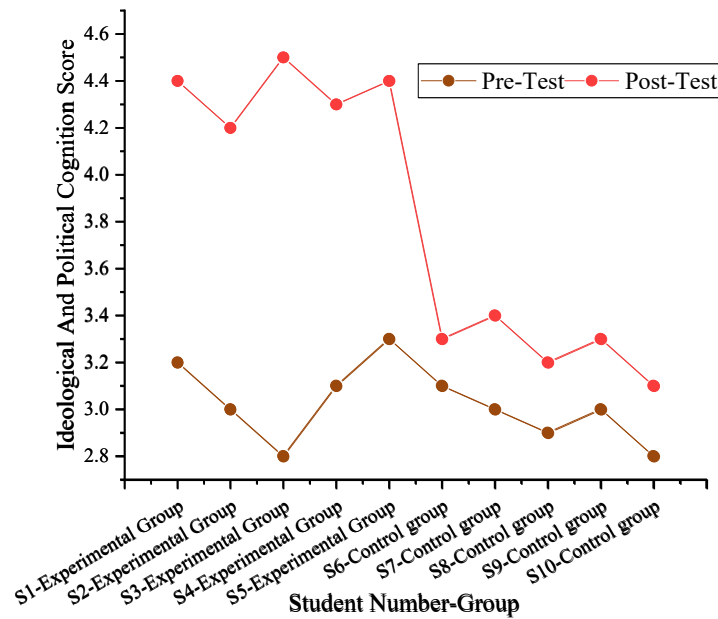


Figure 2 Ideological and political cognition assessment

As can be seen from Figure 2, after the students in the experimental group received AI-enabled ideological and political teaching, their ideological and political cognition level was significantly improved. The average score of the experimental group in the pre-test was 3.08, and the average score in the post-test rose to 4.36, with an overall improvement of 1.28 points. The S3 and S1 students had the largest improvement, 1.7 points and 1.2 points respectively, indicating that AI situational teaching has a significant effect in promoting students' value understanding and critical expression. In contrast, the average score of the control group was 2.96 in the pre-test, and only increased to 3.26 in the post-test, with an average increase of only 0.3 points, which was significantly lower than that of the experimental group. The data show that the traditional teaching model has limited influence on the delivery of ideological and political content and is difficult to stimulate students' cognitive deepening. In contrast, in the experimental group, through the organic combination of virtual communication, case exercises and AI feedback mechanism, students showed higher enthusiasm and accuracy in understanding and expressing core ideological and political elements such as sense of responsibility and cultural identity, which fully verified the positive role of intelligent technology in improving the effectiveness of IPE.

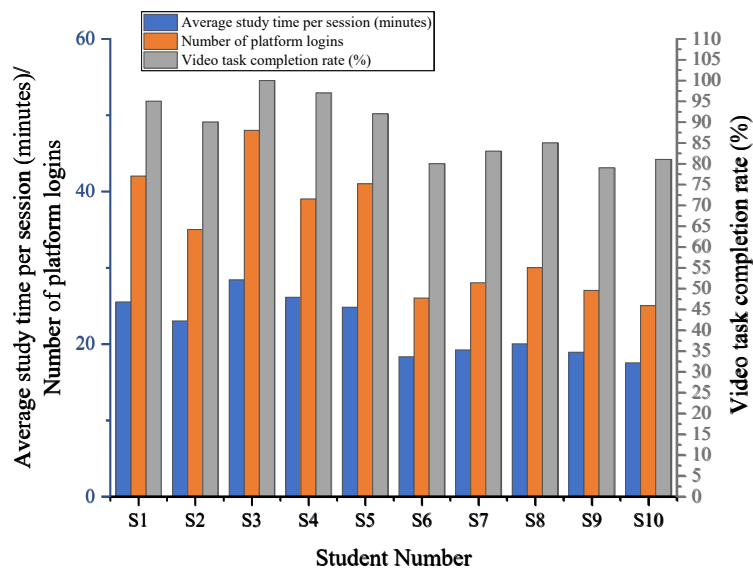


Figure 3 Learning behavior data

As can be seen from Figure 3, the experimental group is better than the control group in all

indicators of platform learning behavior, showing higher learning initiative and involvement, which further proves the positive guiding role of artificial intelligence technology on students' learning behavior. The average number of platform logins for students in the experimental group (S1–S5) was 41, significantly higher than the average of 27.2 for the control group (S6–S10). In addition, the average study time for each session was 25.56 minutes for the experimental group, while it was 18.78 minutes for the control group, indicating that students in the experimental group spent more focused time on the platform. The most significant difference was in the completion rate of the video tasks. The overall completion rate of the experimental group remained above 90%, with the highest reaching 100%(S3), while the control group was generally below 85%, with the lowest being 79% (S9). These results show that in the AI-driven teaching system, factors such as personalized recommendations and interactive task incentive mechanisms significantly improve students' learning stickiness and willingness to continue participating. In contrast, students in the control group that did not use AI-enabled teaching had relatively insufficient learning enthusiasm, and the frequency and depth of platform use were relatively limited. This shows that artificial intelligence plays a key role in optimizing learning behavior and promoting organized learning behavior in the integration of IPE and language.

Table 1 Satisfaction

Student Number	Satisfaction with teaching content	Satisfaction with interaction methods	Technology platform experience satisfaction
S1	4.8	4.9	4.7
S2	4.5	4.6	4.4
S3	5	5	4.9
S4	4.7	4.8	4.6
S5	4.6	4.7	4.5
S6	4	4.1	3.8
S7	3.8	3.9	4
S8	4.2	4.3	4.1
S9	3.9	4	3.7
S10	4.1	4.2	3.9

From the satisfaction results in Table 1, the experimental group generally scored higher than the control group in terms of teaching content, interactive methods and technical platform experience, showing the significant advantages of AI-enabled teaching in enhancing students' learning experience. Specifically, the experimental group (S1–S5) scored an average of 4.72 in "teaching content satisfaction", 4.8 in "interactive method satisfaction", and 4.62 in "technical platform experience satisfaction". These data show that the intelligent context, semantic interaction, and task-driven content arrangement designed by the AI system were highly recognized by students, especially S3, who scored full marks or close to full marks in all three dimensions (5.0, 5.0, 4.9). In contrast, the control group (S6–S10) had relatively low satisfaction scores, with an average satisfaction rating of 4.0 for teaching content, 4.1 for interactive methods, and only 3.9 for technology platform experience. Some students, such as S9, even scored below 3.8 in the platform experience dimension, reflecting that traditional teaching has certain shortcomings in terms of technical interactivity and participation. Overall, the data clearly show that the AI-enabled teaching model optimizes the presentation of teaching content, and also significantly enhances classroom interactivity and platform friendliness, thereby further consolidating the effectiveness of course IPE at the level of emotional identification.

5. Conclusions

This paper studies the ideological and political teaching of business English courses under the empowerment of artificial intelligence, based on the integration path of "ideological and political goal integration + intelligent technology support", and constructs a teaching model with virtual situations, intelligent feedback and multi-evaluation as the core. Through empirical experimental comparative analysis, with the support of the artificial intelligence platform, students' English language ability, ideological and political cognition level and learning participation are significantly higher than those of the control group under the traditional teaching model. In particular, in terms of ideological and political cognition improvement and interactive behavior activity, the experimental group showed a higher comprehensive performance, which verified the potential of AI technology in enhancing the effectiveness of ideological and political courses and teaching affinity. In addition, learning behavior data and satisfaction surveys further confirm the advantages of intelligent platforms in improving

learning experience and detail management, highlighting the role of technology empowerment in fine-tuning the value guidance process. However, the research also has certain limitations, such as the small number of samples, the short experimental cycle, and the platform functions still need to be further optimized. Future research can introduce interdisciplinary teaching teams and multimodal corpus analysis methods on the basis of expanding samples, and further explore the deep integration mechanism and sustainable development path of IPE driven by artificial intelligence.

References

- [1] Ruan X, Yang X. *Integrating ideological and political education into curriculum development in the new era: Perspectives from English as a foreign language teaching in Universities of China*[J]. *Open Journal of Modern Linguistics*, 2024, 14(3): 344-352.
- [2] Zhang Y. *The Integration Path of Curriculum Ideology and Politics in English Teaching*[J]. *Adult and Higher Education*, 2023, 5(13): 103-107.
- [3] Muhalim M. *Neoliberal ideology, faith-based higher education institutions, and English in Indonesia: negotiating English teachers' ideological formation*[J]. *Globalisation, Societies and Education*, 2023, 21(3): 353-366.
- [4] Zeng J, Sutummawong N. *Study on the ideological and political practice teaching of college students based on the internet+ technology*[J]. *International Journal of Informatics and Information Systems*, 2023, 6(1): 24-30.
- [5] Cushing I. *Policy mechanisms of the standard language ideology in England's education system*[J]. *Journal of Language, Identity & Education*, 2023, 22(3): 279-293.
- [6] Hamid M O, Ali M M. *Teaching English in the Muslim world against the backdrop of 9/11 and resurgent nationalism: A case study of Bangladeshi ELT*[J]. *TESOL Quarterly*, 2023, 57(3): 830-858.
- [7] Sah P K, Fang F. *Decolonizing English-medium instruction in the global south*[J]. *Tesol Quarterly*, 2025, 59(1): 565-579.
- [8] MacSwan J, Rolstad K. *(Un) grounded language ideologies: A brief history of translanguaging theory*[J]. *International Journal of Bilingualism*, 2024, 28(4): 719-743.
- [9] Hamid M O. *World Englishes, secularisation, and de-secularisation: Examining English language textbooks in a Muslim society from the perspective of language as situated practice*[J]. *Journal of Multilingual and Multicultural Development*, 2024, 45(3): 739-757.
- [10] Ricklefs M A. *Variables influencing ESL teacher candidates' language ideologies*[J]. *Language and education*, 2023, 37(2): 229-243.
- [11] Bernstein K A, Anderson K T, Close K, et al. *Teacher beliefs about multilingual learners: how language ideologies shape teachers' hypothetical policymaking*[J]. *International Multilingual Research Journal*, 2023, 17(3): 191-219.