

Practice and Evaluation of AI-Assisted Cross-Cultural Critical Thinking Teaching

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Abstract:In the context of globalization, cross-cultural critical thinking has become a core competency for individuals to adapt to intercultural communication and social development. However, traditional cross-cultural teaching often faces limitations such as single teaching resources, insufficient interactive scenarios, and difficulty in personalized guidance, which restrict the cultivation of students' critical thinking. With the rapid development of artificial intelligence (AI) technology, AI-assisted teaching has emerged as an effective way to break through these bottlenecks. This paper explores the theoretical connotations of cross-cultural critical thinking and the supporting role of AI technology, aims to provide theoretical reference and practical guidance for promoting the modernization of cross-cultural teaching and improving the effectiveness of students' cross-cultural critical thinking cultivation.

Keywords:AI-assisted teaching; Cross-cultural critical thinking; Teaching practice; Evaluation system; Competency cultivation

1. Theoretical Foundations and Connotations

The integration of AI technology and cross-cultural critical thinking teaching is not a simple combination of technology and education, but a systematic innovation based on solid educational theories. Clarifying the core connotations of cross-cultural critical thinking and the theoretical support of AI-assisted teaching lays the foundation for practical exploration.

1.1 Core Connotations of Cross-Cultural Critical Thinking

Cross-cultural critical thinking is a comprehensive competency that integrates cross-cultural awareness, critical thinking skills, and ethical values. It goes beyond the traditional single-dimensional critical thinking and emphasizes the integration of cultural perspective-taking and rational analysis.

From the perspective of cognitive dimensions, it requires individuals to objectively analyze the cultural background, values, and behavioral norms of different groups, avoid cultural centralism and prejudice, and identify the essence and logical relationships of cultural phenomena. For example, when facing cultural conflicts in intercultural communication, individuals should not only judge right and wrong based on their own cultural standards but also explore the root causes of conflicts from historical, social, and other perspectives.

1.2 Theoretical Support for AI-Assisted Teaching

AI-assisted cross-cultural critical thinking teaching is supported by multiple theories such as constructivist learning theory, personalized learning theory, and the Technology Acceptance Model (TAM).

Constructivist learning theory emphasizes that learning is an active process of knowledge construction by learners rather than passive acceptance of information. AI technology can create immersive cross-cultural scenarios (such as virtual intercultural communication simulations) and provide interactive learning environments, allowing students to construct their understanding of cross-cultural knowledge and critical thinking skills through personal experience and exploration.

Personalized learning theory holds that each learner has unique learning paces, cognitive styles, and ability levels. AI technology can analyze students' learning data (such as learning progress, knowledge mastery, and interaction preferences) through algorithms, identify their strengths and weaknesses, and push personalized learning resources and tasks. For example, for students with weak cross-cultural awareness, AI can recommend cultural background materials; for students with insufficient critical thinking skills, AI can design targeted logical reasoning training.

The Technology Acceptance Model (TAM) points out that perceived usefulness and perceived ease of use are key factors affecting users' acceptance of technology. AI-assisted teaching tools optimize the operation interface and interaction mode, reduce the technical threshold for teachers and students, and improve the practicality of technology in teaching. At the same time, the obvious effect of AI in improving teaching efficiency and personalized guidance enhances users' recognition of its usefulness, promoting the widespread application of AI in cross-cultural critical thinking teaching^[1].

2. Practical Paths of AI-Assisted Cross-Cultural Critical Thinking Teaching

2.1 Hierarchical Setting of Teaching Objectives

Based on the core connotations of cross-cultural critical thinking and students' cognitive development levels, teaching objectives are divided into three levels: basic level, improvement level, and development level, to ensure that students at different stages can achieve phased development.

The basic-level objectives focus on "foundation building," requiring students to understand the basic concepts of cross-cultural communication (such as cultural values, communication norms) and master basic critical thinking skills (such as distinguishing facts from opinions, identifying logical fallacies). AI tools are used to provide basic cultural knowledge resources and simple critical thinking training tasks to help students lay a solid foundation.

The improvement-level objectives focus on "enhancement," requiring students to be able to analyze typical cross-cultural phenomena independently, use critical thinking to evaluate cultural differences, and initially cultivate cultural empathy. AI is used to simulate cross-cultural communication scenarios and design comprehensive analysis tasks, guiding students to apply knowledge and skills to solve practical problems.

The development-level objectives focus on "innovation," requiring students to be able to handle complex cross-cultural conflicts flexibly, propose constructive solutions, and form an open and inclusive cultural attitude. AI is used to build cross-cultural collaborative learning platforms, allowing students to cooperate with peers from different cultural backgrounds, conduct in-depth discussions, and promote the integration and innovation of cross-cultural awareness and critical thinking^[2].

2.2 Three-Stage Implementation of Teaching Processes

The teaching process is divided into pre-class preparation, in-class interaction, and after-class extension, with AI tools participating in each link to form a closed-loop teaching system.

In the pre-class preparation stage, AI plays the role of "resource provider and diagnostician." It collects and screens cross-cultural materials (such as news reports, cultural documentaries, and real communication cases) according to teaching objectives and pushes them to students. At the same time, AI designs pre-test questions to assess students' prior knowledge of cross-cultural communication and critical thinking levels, and feeds back the assessment results to teachers to help them adjust teaching plans and implement targeted teaching.

In the in-class interaction stage, AI acts as "scenario builder and guide." It creates immersive cross-cultural communication scenarios through virtual reality (VR) or augmented reality (AR) technology, allowing students to participate in role-playing (such as simulating cross-cultural business negotiations, international academic exchanges). During the interaction, AI real-time analyzes students' language expressions, logical reasoning, and cultural attitude performance, provides instant feedback (such as pointing out inappropriate cultural expressions, suggesting optimization of logical thinking), and guides students to reflect and adjust. In addition, AI organizes interactive discussions, sets heuristic questions, and stimulates students' critical thinking^[3].

In the after-class extension stage, AI functions as "task designer and tutor." It designs personalized after-class tasks according to students' in-class performance, such as requiring students to use AI tools to investigate a specific cross-cultural phenomenon and write a critical analysis report; or arranging cross-cultural online collaborative projects, where students cooperate with overseas students through AI platforms to complete research tasks. AI provides one-on-one tutoring for students in the process of completing tasks, answers questions in a timely manner, and tracks the progress of task completion to ensure the effectiveness of after-class learning.

2.3 Integration of Diversified Teaching Resources

AI technology breaks the limitations of traditional teaching resources and realizes the integration of multi-type, multi-channel, and multi-cultural resources to provide rich support for cross-cultural critical thinking teaching.

In terms of resource types, AI integrates text resources (such as academic papers, cultural monographs), audio-visual resources (such as cultural documentaries, cross-cultural communication videos), and interactive resources (such as virtual simulation scenarios, online quizzes). This diversified resource form caters to different students' learning styles and improves the efficiency of resource utilization.

In terms of resource channels, AI collects resources from global open educational platforms (such as UNESCO's Open Educational Resources Portal, Coursera), academic databases, and cross-cultural communication communities. It screens and classifies resources through algorithms to ensure the authenticity, authority, and applicability of resources, avoiding the problem of low-quality resources in traditional teaching.

3. Evaluation System of AI-Assisted Cross-Cultural Critical Thinking Teaching

The evaluation of AI-assisted cross-cultural critical thinking teaching should break through the traditional single evaluation model, establish a multi-dimensional, process-oriented, and technical-supported evaluation system to comprehensively and objectively reflect the teaching effect and students' competency development.

3.1 Multi-Dimensional Evaluation Indicators

The evaluation indicators are constructed from three dimensions: cognitive ability, emotional attitude, and behavioral performance, covering the core elements of cross-cultural critical thinking.

The cognitive ability dimension includes indicators such as cross-cultural knowledge mastery (understanding of cultural values, communication norms of different cultures), critical thinking skills (ability to analyze cultural phenomena, evaluate logical validity, put forward innovative viewpoints), and cross-cultural analysis ability (ability to explore the root causes of cultural differences and conflicts). This dimension focuses on evaluating students' intellectual development in the learning process.

The emotional attitude dimension includes indicators such as cultural empathy (ability to understand and resonate with the emotional experiences of people from different cultures), open-mindedness (attitude towards accepting cultural differences), and cultural respect (recognition and respect for the uniqueness of different cultures). This dimension focuses on evaluating students' emotional changes and value formation.

The behavioral performance dimension includes indicators such as cross-cultural communication skills (ability to conduct effective communication in cross-cultural scenarios), critical practice ability (ability to use critical thinking to solve practical problems in cross-cultural communication), and cross-cultural collaboration ability (ability to cooperate with people from different cultural backgrounds). This dimension focuses on evaluating students' ability to apply what they have learned in practical scenarios^[4].

4. Conclusion

AI-assisted cross-cultural critical thinking teaching is an important innovation in the context of educational informatization and globalization. It takes advantage of AI technology to break through the limitations of traditional teaching, provides new paths and methods for the cultivation of students' cross-cultural critical thinking, and has important practical significance for improving students' core competencies and adapting to the needs of intercultural communication. It should be emphasized that AI is only an auxiliary tool for teaching, and the core of cross-cultural critical thinking teaching is still the all-round development of students. In future practice, we need to continuously explore the organic integration of AI technology and educational theories, optimize teaching models and evaluation methods, and avoid over-reliance on technology. Only by adhering to the people-oriented educational concept and giving full play to the complementary advantages of AI technology and human teaching can we better promote the cultivation of students' cross-cultural critical thinking and provide talent support for the construction of a community with a shared future for mankind.

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