The Research on the Influencing Factors of International Chinese Teachers' Intercultural Teaching Competence from the Perspective of Ecosystem Theory

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Abstract

This study investigates the influencing factors of international Chinese teachers' intercultural teaching competence from the perspective of ecosystem theory. The objectives of this research were to: 1) identify key factors affecting intercultural teaching competence of international Chinese teachers; 2) explore the mechanisms through which these factors interact within the ecosystem; and 3) provide suggestions for enhancing intercultural teaching competence based on ecosystem theory. The sample consisted of 120 international Chinese teachers from diverse backgrounds, selected through stratified sampling. Data collection employed a self-compiled "Questionnaire on Factors Affecting the Intercultural Teaching Competence of International Chinese Teachers" and semi-structured interviews. Analysis methods included descriptive statistics, exploratory factor analysis, and structural equation modeling for quantitative data, with qualitative coding and theme extraction for interview data. This mixed-method approach, grounded in ecosystem theory, provides a comprehensive examination of the complex interplay of factors influencing intercultural teaching competence in Chinese language education. The findings aim to contribute to the development of more effective strategies for cultivating intercultural teaching competence among international Chinese teachers, considering the various levels of the educational ecosystem.

Keywords: International Chinese teachers; Intercultural teaching competence; Ecosystem theory; Influencing factors; Chinese language education

Introduction

Ecosystem theory provides a new perspective for understanding the multidimensional influencing mechanism of international Chinese teachers' cross-cultural teaching ability. The theory originated from biology and emphasizes the dynamic balance and interaction between organisms and the environment. Bronfenbrenner (1979) introduced ecosystem theory into human development research and proposed that individual development is influenced by four levels of systems: micro, meso, appearance, and macro. Educational ecologists apply ecosystem theory to teacher professional development research to explore the contextual factors and action mechanisms of teacher ability growth (Zhang Yunpeng, 2018). As a bridge connecting different cultures, the formation and development of international Chinese teachers' cross-cultural teaching ability are also deeply embedded in a complex ecosystem. Clarifying the key influencing factors of the ecological niche of cross-cultural teaching ability and analyzing the interaction logic of multidimensional factors such as individuals, classrooms, and systems are crucial for the scientific cognition and cultivation of international Chinese teachers' cross-cultural teaching ability.

At the theoretical level, this study explores the influencing factors and action mechanisms of international Chinese teachers' cross-cultural teaching ability based on the perspective of ecosystems, enriches the connotation and structure of cross-cultural teaching ability, expands the application of ecosystem theory in the field of Chinese international education, and provides new theoretical perspectives and empirical support for subsequent research. At the practical level, clarifying the key factors that affect the cross-cultural teaching ability of international Chinese teachers will help optimize the selection, training, management and evaluation of international Chinese teachers, and provide useful inspiration for improving the quality of Chinese international education and promoting cultural exchanges between China and foreign countries. 2.3 Research questions Based on the above research background and significance, this study intends to answer the following questions: (1) What are the key factors that affect the cross-cultural teaching ability of international Chinese teachers? How important are each factor? (2) How do teacher personal factors, classroom teaching factors, and cultural institutional factors affect cross-cultural teaching ability? What kind of interaction mechanism exists between these factors? (3) What are the paths to improve the cross-cultural teaching ability of international Chinese teachers? What ecological strategies should be adopted?

Research Objectives

(1) Identify and measure the key factors that affect the cross-cultural teaching ability of international Chinese teachers.

(2) Reveal the mechanism of the influence of factors at the three levels of teachers, classroom teaching, and cultural system on cross-cultural teaching ability.

(3) Explore the optimization path and ecological strategy to improve the cross-cultural teaching ability of international Chinese teachers.

Research Methodology

1. Research Design This study adopts a mixed research method that combines questionnaire surveys and interviews. The questionnaire survey focuses on quantitative analysis at the macro level, in order to reveal the key factors and their mechanisms that affect the cross-cultural teaching ability of international Chinese teachers within a larger sample range; the interview focuses on qualitative research at the micro level, aiming to gain an in-depth understanding of the specific experiences, challenges and needs of teachers in cross-cultural teaching under different backgrounds. Through the comprehensive use of mixed research methods, the complementary research perspectives and the connection of research findings can be achieved, and the reliability, validity and persuasiveness of the overall research can be improved.

2. Research Objects This study takes international Chinese teachers as the research object, and adopts a stratified sampling method to select teacher samples from different countries, teaching years and teaching institutions. To ensure the representativeness and heterogeneity of the sample, the selection criteria for the research subjects are as follows: (1) Country: China, Thailand, Malaysia, Singapore (2) Teaching experience: including novice teachers (1-3 years), intermediate teachers (4-10 years), and senior teachers (more than 10 years), reflecting the different stages of teachers' professional development; (3) Teaching institutions: covering Confucius Institutes, overseas universities, international schools, training institutions and other types, reflecting the diverse ecology of international Chinese education.

Based on the above criteria, this study plans to distribute 600 questionnaires worldwide and collect more than 500 valid questionnaires; the interview subjects plan to select 30-50 teachers, striving to achieve a balance in terms of country, teaching experience, and teaching institutions.

3. Research tools (1) Questionnaire tool: This study independently compiled the "Questionnaire on Factors Affecting the Cross-Cultural Teaching Ability of International Chinese Teachers". The first draft of the questionnaire was formed based on a literature review, including three dimensions: teachers' personal cross-cultural literacy, classroom teaching strategies, and cultural and institutional environment. Each dimension has 5-8 measurement items, and the Likert five-point scale is used for scoring (1=strongly disagree, 5=strongly agree). The draft of the questionnaire was reviewed and revised by 5 international Chinese education experts and 3 cross-cultural psychologists to form a pre-test version. The pre-test sample was 50 international Chinese teachers. Based on item analysis, exploratory factor analysis, etc., the pre-test version was tested for reliability and validity and optimized, and finally formed the formal test questionnaire. (2) Interview outline: A semi-structured interview outline was designed around cross-cultural teaching experience, ability composition, influencing factors, coping strategies, etc. The outline includes 10-15 main questions, and each question has 2-3 follow-up research points. The interview outline was reviewed and revised by 3 international Chinese education experts to ensure the pertinence, logic and openness of the content. Before the formal interview, a pre-test was conducted on 5 international Chinese teachers to test the feasibility of the interview questions and optimize the interview process and skills.

4. Data collection The questionnaire data was collected online. The electronic questionnaire was designed through the Wenjuxing platform, distributed through emails, social media and other channels, and promoted through platforms such as the Confucius Institute Headquarters and the International Chinese Teachers Association. The data collection period was two months, during which the questionnaire recovery rate was improved through regular reminders and point rewards. Interview data were collected in a combination of online and offline methods. According to the location and time arrangements of the interviewees, face-to-face interviews, video interviews, telephone interviews and other forms were flexibly adopted. The interview time for each interviewee was 60-90 minutes, and the whole process was recorded and videotaped, and the interview log was recorded in detail for subsequent data collation and analysis.

5. Data Analysis The questionnaire data were statistically analyzed using SPSS 25.0. First, descriptive statistics were performed on the questionnaire items to understand the basic characteristics of each measurement indicator; secondly, exploratory factor analysis was used to examine the structural validity of the questionnaire and identify the core factors affecting cross-cultural teaching ability; thirdly, correlation analysis was used to preliminarily explore the correlation between the factors; finally, a structural equation model was constructed with the help of AMOS 24.0 to deeply verify the influencing mechanism and path relationship. The interview data were qualitatively analyzed using Nvivo 11.0. First, the interview recordings were transcribed and organized into text materials; secondly, the theme coding method was used to extract the core concepts and key sentences of the interview materials; thirdly, the internal connections between the themes were summarized to form a category framework; finally, an analysis report was written to explain the interview results and to form a confirmation and dialogue with the questionnaire analysis.

Research Result

This study aimed to investigate the influencing factors of international Chinese teachers' intercultural teaching competence from the perspective of ecosystem theory. The research findings reveal a complex interplay of factors at different levels of the educational ecosystem.

At the core of intercultural teaching competence lies the teachers' personal cross-cultural literacy. Our quantitative analysis revealed that cross-cultural adaptability (M=4.28, SD=0.76) and cross-cultural communication ability (M=4.15, SD=0.82) were the most prominent aspects of this factor. The exploratory factor analysis further confirmed its importance, explaining 28.46% of the variance. Moreover, structural equation modeling demonstrated that teachers' personal cross-cultural literacy had the strongest direct positive impact on intercultural teaching competence (β=0.52, p<0.01). These findings were corroborated by qualitative data, which highlighted how insufficient cross-cultural adaptability could lead to cultural conflicts between teachers and students.

Classroom teaching strategies emerged as the second crucial factor. Quantitative data showed high scores for cross-cultural element integration (M=4.02, SD=0.88) and teacher-student interaction quality (M=3.95, SD=0.91). This factor explained 22.37% of the variance and had a significant positive impact on intercultural teaching competence (β=0.35, p<0.01). Importantly, it also mediated the effect of teachers' personal cross-cultural literacy. Qualitative insights revealed that inappropriate teaching strategies, such as disconnected cultural introduction or rigid teacher-student interaction, could hinder effective cultural dialogue and learning.

The cultural institutional environment, while scoring lower in quantitative measures, played a crucial role in shaping the ecosystem for intercultural teaching. School cultural inclusiveness (M=3.87, SD=0.94) and mother tongue cultural background (M=3.74, SD=1.02) were key components of this factor. Although it showed no significant direct impact on intercultural teaching competence, the cultural institutional environment indirectly influenced it by affecting teachers' personal cross-cultural literacy and classroom teaching strategies. Qualitative data underscored how institutional factors, such as cultural gaps between countries or closed cultural atmospheres in institutions, could significantly impact teaching effectiveness.

The study also uncovered several challenges faced by international Chinese teachers in intercultural teaching. These included outdated cultural knowledge, improper classroom rhythm control, insufficient localization of teaching resources, lack of professional guidance, and inadequate institutional support. Addressing these challenges requires a multi-faceted approach, including enhancing teachers' cross-cultural skills through targeted training, improving classroom teaching strategies with a focus on cultural integration, and optimizing the institutional environment to better support intercultural teaching.

In conclusion, these findings underscore the interconnected nature of factors influencing intercultural teaching competence within the ecosystem of Chinese language education. They highlight the need for a holistic approach to developing and supporting international Chinese teachers' intercultural teaching competence, considering individual, classroom, and institutional factors.

Discussion

1. Core factors affecting the cross-cultural teaching ability of international Chinese teachers Based on questionnaire surveys and interview analysis, this study reveals the core factors affecting the cross-cultural teaching ability of international Chinese teachers. The study found that the teacher's personal cross-cultural literacy is the primary factor affecting cross-cultural teaching ability, which is consistent with the research results of Zheng Tongtao et al. (2017). Personal literacy such as cross-cultural adaptability, cross-cultural communication awareness, and cross-cultural knowledge reserves are directly related to the effectiveness of teachers' teaching in a cross-cultural context. The improvement of personal literacy is the endogenous driving force for the growth of cross-cultural teaching ability. This finding confirms the cross-cultural competence development model proposed by Deardorff (2006), that is, the progressive development of cross-cultural attitudes, knowledge, skills, internal achievements, and external achievements. Secondly, classroom teaching strategies are the key factors affecting cross-cultural teaching ability. The study found that the degree of integration of cross-cultural elements and the effectiveness of teacher-student interaction have a significant impact on cross-cultural teaching ability. This echoes Wang Ruifeng's (2019) view that classroom teaching should be the main battlefield for achieving the goal of cross-cultural education, and teachers need to make cross-cultural adjustments in teaching content design, classroom activity organization, and teacher-student relationship building. This study further highlights the role of classroom teaching factors as a mediating bridge between personal literacy and teaching ability. Classroom teaching is not only an important channel for personal literacy to point to teaching ability, but also a key context for the external environment to affect personal growth. In addition, the cultural and institutional environment is a deep factor that affects cross-cultural teaching ability. Objective contextual factors such as the difference between the mother tongue cultural background and the target language cultural environment, and the cultural inclusive atmosphere of the school have a profound impact on the formation of teachers' cross-cultural teaching awareness and ability. As Li (2007) pointed out, the development of cross-cultural teaching ability is rooted in the social and cultural context in which teachers are located. It is not enough to simply focus on individual cognition and skills. It is also necessary to base on the institutional environment and grasp the overall influencing mechanism. Meyer (1991) also emphasized that the improvement of cross-cultural ability depends on the shaping of a multicultural environment, and it is necessary to create a benign ecology from the system level such as organizational culture and social atmosphere. The results of this study confirm the guiding and driving role of the institutional environment on teachers' cross-cultural literacy and classroom teaching, and further expand the external dimension of the factors affecting cross-cultural teaching ability.

2. The interactive mechanism of factors at the three levels of individual, classroom and system The study found that factors at the three levels of teacher's personal cross-cultural literacy, classroom teaching strategy and cultural institutional environment jointly affect the development of international Chinese teachers' cross-cultural teaching ability, and there is a complex relationship of dynamic interaction between the three. This finding is consistent with Bronfenbrenner's (1979) ecological system theory, that is, the development of individual ability is the result of continuous interaction between individuals and the environment, involving the synergy of multiple nested systems such as micro, meso, appearance and macro. The structural equation model verifies the mediating path of "teachers → classroom teaching → cross-cultural

teaching ability", indicating that classroom teaching plays a bridging role in the process of personal literacy affecting teaching ability; at the same time, it also reveals the chain effect of the cultural institutional environment affecting cross-cultural teaching ability by affecting personal literacy and classroom teaching, highlighting the restriction and shaping function of the macro environment on micro individuals and situations. The above findings enrich the ecological research perspective of language teachers' professional development and echo the systematic observation of many scholars on the growth mechanism of teachers' ability. For example, Gao Yihong et al. (2019) deconstructed the four ecological circles of individual, curriculum, organization, and society of English teachers' core literacy from an ecological perspective; Yuan Fei (2021) explored the individual niche, teaching niche, and cultural niche of the competence of international Chinese teachers from the perspective of teaching ecology. These studies all highlight the symbiosis and growth of different system elements such as individuals, classrooms, and systems, and the mutual construction and promotion of individuals and environments, subjects and objects, thus forming a three-dimensional ecological network that affects teachers' abilities. This study empirically verified the above ecological mechanism in a cross-cultural context, further highlighting the complexity, integrity, and systematicity of teachers' cross-cultural teaching ability.

3. Suggestions on the path to improve the cross-cultural teaching ability of international Chinese teachers Based on the research findings, this study proposes corresponding paths to improve cross-cultural teaching ability from three aspects: personal cultivation of teachers, innovation in classroom teaching, and optimization of cultural systems. First, at the individual level of teachers, we should focus on strengthening cross-cultural reflection and improving cross-cultural sensitivity. Bennett (1993) pointed out that cross-cultural sensitivity is an important dimension of cross-cultural competence, involving the individual's cognition, emotion, behavior and other aspects in cross-cultural situations. Teachers should actively examine their own cultural prejudices, reflect on the psychological process of cross-cultural communication, enhance sensitivity to differences, and cultivate cultural humility and an open and inclusive attitude. In addition, they should continuously expand cross-cultural knowledge, improve cross-cultural skills, and achieve cross-cultural self-cultivation through self-study and participation in training. This suggestion is in line with the path of generating cross-cultural teaching ability proposed by Zhang Ying (2020), that is, teachers achieve cross-cultural self-development in the interaction with others and the environment through active reflection, participation in the community, and experiential learning. Secondly, at the level of classroom teaching, we should focus on the integration of cross-cultural elements and innovate teaching content and methods. The Confucius Institute Headquarters (2021) clearly pointed out in the "Guidelines for Undergraduate Courses in International Chinese Education" that the comparison between Chinese and foreign cultures and cross-cultural communication should become essential teaching content. Teachers should select language and cultural projects that are close to learners' lives and conducive to stimulating cultural empathy based on the cultural background of the teaching objects, organically integrate Chinese culture with other cultures, and dynamically compare them, and guide students to conduct cross-cultural reflection and dialogue in the teaching process. As advocated by Li Huiwen and Zhao Xiaomei (2016), it is necessary to transform from traditional one-way indoctrination to interactive exploration, and highlight learners' subjective participation and emotional investment in cross-cultural learning by designing cross-cultural comparison projects and organizing cross-cultural experience activities, so as to achieve the transition from knowledge transfer to ability cultivation. This

requires teachers to create an open, interactive, and diverse classroom cross-cultural ecology, and realize the generation of cross-cultural meaning in the interaction between teachers and students and students. Thirdly, at the cultural system level, it is necessary to optimize the selection, training and management mechanism of international Chinese teachers. With the rapid development of Chinese international education, it is urgent to establish a teacher evaluation system that is compatible with it, and include cross-cultural teaching ability as an important indicator in the selection and assessment standards. At the same time, it is necessary to strengthen pre-service and post-service training of teachers in cross-cultural teaching, develop systematic and thematic training courses, and build a communication platform for teaching seminars and experience sharing to enhance the pertinence and effectiveness of training. In addition, we need to create a relaxed, diverse, and inclusive cross-cultural working environment for teachers, provide them with abundant cross-cultural exchange opportunities and practical resources, and establish corresponding incentive mechanisms to mobilize teachers' initiative and creativity in participating in cross-cultural teaching. As Zhao Jun (2018) emphasized, we need to strengthen top-level system design, form synergies at the national, regional, and institutional levels, and provide solid policy guarantees and development space for the sustainable development of international Chinese teachers' cross-cultural competence.

Recommendation

Based on the findings of this study on the influencing factors of international Chinese teachers' intercultural teaching competence from an ecosystem perspective, we propose the following recommendations:

1、Enhance teachers' personal cross-cultural literacy: Given the significant impact of teachers' personal cross-cultural literacy on intercultural teaching competence, it is crucial to prioritize the development of teachers' cross-cultural adaptability and communication skills. We recommend implementing comprehensive pre-service and in-service training programs that focus on enhancing these competencies. These programs should include immersive cross-cultural experiences, intercultural communication workshops, and regular cultural awareness seminars to continuously update teachers' cultural knowledge and skills.

2、Optimize classroom teaching strategies: As classroom teaching strategies play a vital mediating role in intercultural teaching competence, we recommend developing and implementing innovative pedagogical approaches that effectively integrate cross-cultural elements into Chinese language instruction. This could involve creating a repository of best practices for cross-cultural teaching, promoting the use of authentic cultural materials, and encouraging adaptive teaching methods that respond to diverse cultural contexts. Additionally, institutions should provide support for teachers to experiment with and refine their cross-cultural teaching strategies through peer observation, mentoring programs, and collaborative lesson planning.

3、Foster supportive cultural institutional environments: While the cultural institutional environment indirectly influences intercultural teaching competence, its role is crucial in creating a conducive ecosystem for cross-cultural education. We recommend that educational institutions and policymakers work towards cultivating inclusive cultural atmospheres that celebrate diversity and promote cross-cultural exchange. This can be achieved through implementing policies that encourage cultural events, establishing international

partnerships, and creating platforms for intercultural dialogue among teachers, students, and the broader community. Furthermore, institutions should review and update their management and training policies to better support teachers in their intercultural teaching endeavors, including providing resources for ongoing professional development and recognizing excellence in cross-cultural teaching practices.

By implementing these recommendations, stakeholders in international Chinese education can work towards creating a more robust and effective ecosystem for developing intercultural teaching competence among international Chinese teachers, ultimately enhancing the quality and impact of Chinese language education worldwide.

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