

Optimizing Medical English Teaching through Intercultural Competence: A Quantitative Analysis in Chinese Vocational Institutions

Zhou Guojun¹ and Lubna Ali Mohammed²

Abstract

The purpose of this study is to investigate the effects of integrating cross-cultural competence into medical English teaching on improving the English learning outcomes of medical students in Chinese vocational colleges. Using quantitative research methods, a 16-week cross-cultural integration medical English teaching experiment was designed and implemented with 108 medical students in a vocational college. The 108 students were randomly divided into an experimental group and a control group. The experimental group was taught with cross-cultural content, while the control group was taught with traditional teaching methods. Before and after the study, students in both groups were tested on English listening, speaking, reading and writing skills, pragmatic skills, and intercultural competence. Through statistical analyses such as independent samples t-test, repeated measures ANOVA and structural equation modeling, the results of the study showed that: (1) the experimental group made significantly better progress than the control group in English listening, speaking, reading, writing, pragmatics, and cross-cultural competence; (2) cross-cultural competence partially mediated the improvement of the overall English proficiency; (3) cross-cultural competence had a significant impact on the experimental group's pragmatics and oral communication; and (4) cross-cultural competence had a significant impact on the experimental group's oral communication and pragmatics. s pragmatics and oral communication skills significantly. This study provides an evidence-based cross-cultural integration teaching model for medical English teaching, which can help Chinese vocational colleges and universities to cultivate medical talents with cross-cultural literacy to better meet the needs of international medical cooperation and communication.

Keywords: *Medical English Teaching, Intercultural Competence, Quantitative Research, Vocational Education, Language Pedagogy*

INTRODUCTION

Background

In today's era of globalization, international exchanges and cooperation in the field of health care are becoming more and more frequent. Whether for the purpose of international medical assistance or attracting foreign patients to China, China is facing an urgent need to cultivate healthcare personnel with cross-cultural communication skills. As an important training pathway for future medical personnel, medical English education should play a key role in improving students' cross-cultural awareness and competence (Zhu et al., 2020). However, some recent studies have shown that there are many deficiencies in medical English education in China, including excessive focus on the accumulation of linguistic knowledge at the expense of practical skills and the lack of cross-cultural elements (Wang & Liu, 2019).

Intercultural competence refers to an individual's comprehensive ability to adapt, communicate and solve problems effectively in intercultural situations (Hammer et al., 2003). With the emergence of “intercultural perspective” in the field of language teaching, more and more attention has been paid to the integration of intercultural competence into foreign language classroom teaching. A large number of studies have found that language teaching modes that incorporate cross-cultural content can significantly enhance learners' cultural sensitivity, pragmatic competence, and practical application (Zhou & Griffiths, 2011).

For example, Nguyen's (2017) ethnographic study showed that the integration of cross-cultural activities in Vietnamese university English classes could help students construct cultural awareness and increase language learning motivation and engagement. Similarly, Zhu et al. (2020), through a comparative analysis, found that the intercultural competence and service quality of Chinese medical interpreters were significantly improved after systematic intercultural training. These studies have laid a theoretical foundation for us to explore the

¹ Faculty of Social Science, Arts, and Humanities at LINCOLN UNIVERSITY, Malaysia.

² Faculty of Social Science, Arts, and Humanities at LINCOLN UNIVERSITY, Malaysia.

integration of interculturalism into medical English teaching.

LITERATURE REVIEW

The importance of intercultural literacy in language acquisition and use has been confirmed by several studies. Zhang and Zhang (2022) showed that English learners with high intercultural competence outperform those with low intercultural competence in terms of pragmatic and oral communicative competence. Nguyen (2017) also found that higher intercultural competence has a positive effect on the self-confidence and willingness to speak English. However, in the field of medical English teaching, there are relatively few studies that combine intercultural development with specialized teaching.

Some studies have focused on the effects of cross-cultural training on medical students' clinical communication skills, and Jansen and Jansen (2020) found, through qualitative analysis, that systematic cross-cultural training in Canadian medical schools from the freshman year to the senior year can effectively improve students' cultural sensitivity and doctor-patient communication skills. Similarly, Karnieli-Miller et al. (2022) used a mixed research design to demonstrate the value of incorporating intercultural competency development into medical student curricula, not only to develop students' ability to become fully versed in patients' cultural backgrounds, but also to enhance their critical thinking. These studies provide supporting evidence for the role of intercultural development in the training of medical students.

At present, there are few studies in China and abroad that have examined the effects of integrating cross-cultural cultivation into professional English classroom teaching from the perspectives of students' foreign language (English) proficiency and cross-cultural literacy, using objective and quantitative methods. In view of this, the present study intends to implement a medical English teaching experiment that incorporates cross-cultural elements to explore the effects of this teaching mode on Chinese medical students' English proficiency, pragmatic competence and cross-cultural competence, and to analyze the role of cross-cultural competence in language acquisition, with the aim of providing empirical references to optimize the teaching practice in this field.

Purpose and Significance of the Study

Based on the above theoretical and practical background, the main objectives of this study are.

- (1) To assess the effectiveness of integrating cross-cultural cultivation into medical English classroom teaching in improving students' comprehensive English proficiency, with special attention to the development of the four basic skills of listening, speaking, reading and writing.
- (2) To examine the effects of the cross-cultural teaching mode on students' pragmatic abilities, including pragmatic comprehension and pragmatic utilization.
- (3) To examine the effect of experimental teaching on the development of students' intercultural cognitive, affective, behavioral and metacognitive abilities.
- (4) To analyze the relationship between intercultural competence and language learning, and to explore the mechanism and path of intercultural competence in language acquisition.
- (5) To provide empirical evidence to optimize the teaching mode of medical English in Chinese vocational colleges and universities, to cultivate medical talents with cross-cultural perspectives and abilities, and to help the international development of medical and health care.

This study has important theoretical value and practical significance. On the theoretical level, the quantitative analysis of the intrinsic relationship between intercultural competence and language acquisition can deepen the understanding of the concept of integration of language education and cultural education. From the practical level, the results of the study will provide a new perspective for the reform of medical English teaching in China, and promote the popularization of the concept of intercultural teaching and the innovation of teaching mode. At the same time, the study will also provide lessons for the innovation of foreign language teaching in other professional fields.

RESEARCH METHODOLOGY

Research Objectives

In order to explore the effects of integrating cross-cultural cultivation into medical English teaching on Chinese medical students' English proficiency, pragmatic competence and cross-cultural competence, this study adopts a quantitative empirical research method. The research subjects, experimental design, teaching implementation, data collection and analysis methods were carefully planned to ensure the credibility and validity of the research results.

The selection of research subjects was very strict. In this study, 108 sophomore female students were carefully selected as research participants from the nursing students enrolled in the nursing department of a famous vocational and technical college. All participants were between 19 and 22 years old, native Chinese speakers, and came from 31 provinces, cities, and autonomous regions in mainland China, which is representative of the population distribution. In order to control for possible confounding variables, the exclusion criteria included: having a background of other native language or bilingual environment, studying or living abroad for a long period of time before enrollment, dropping out or taking a leave of absence during the sophomore year, and having a significant difference in the basic level of English. The examination of the English proficiency of the selected students revealed that they were roughly equal in terms of comprehensive college English proficiency, with a mean score of 71.03 and a standard deviation of 9.03, and there was a certain degree of homogeneity in the language environment and basic strength.

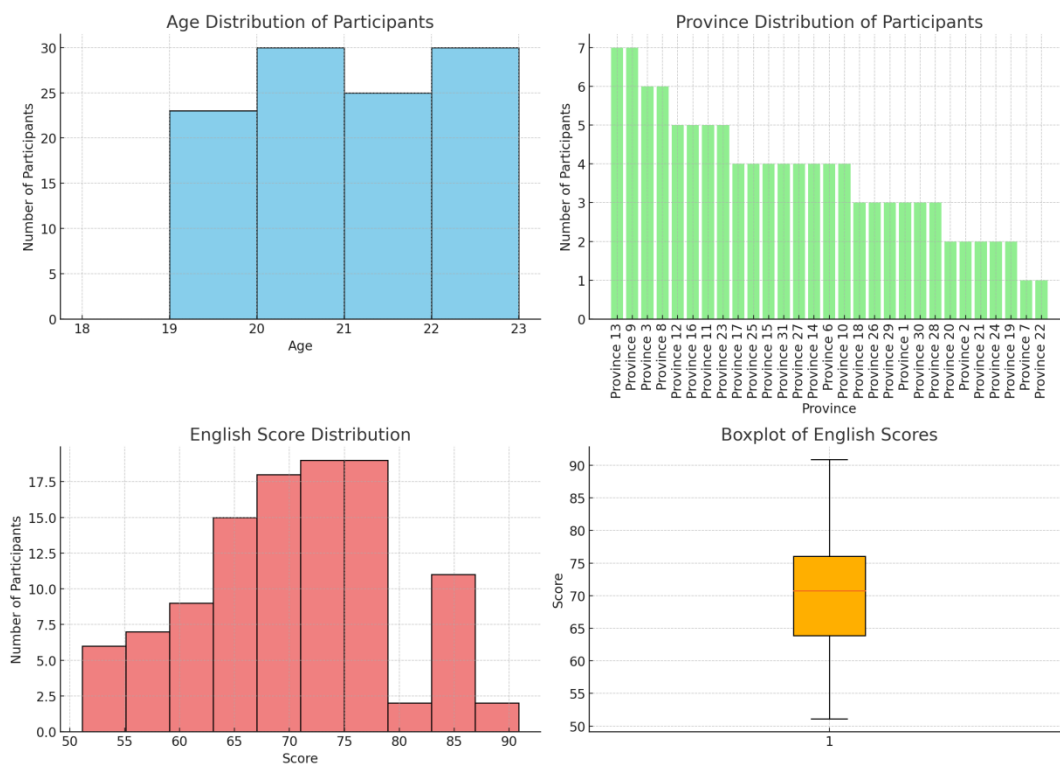


Figure 1 Demographic characteristics

Research Design

In order to assess the effectiveness of the teaching intervention more objectively, the experiment was designed as a randomized control. On the basis of the 108 students being numbered according to their English scores at school entry, 54 numbers were randomly selected using the random number table method, and the corresponding students were randomly assigned to the experimental group and the control group, with the same number of students in each group. There were no significant differences between the two groups in the

background variables of age, basic level of English, and professional distribution, so that the interference factors of individual differences could be controlled more effectively.

Teaching Implementation

The content of the 16-week teaching experiment included the following topics: medical communication, hospital management, diagnostic and treatment procedures, and medical knowledge. The syllabus, number of class hours, and teacher resources were identical, but the only difference was that the experimental group adopted the cross-cultural immersion teaching method. Based on the traditional teaching of medical English, this teaching mode incorporates a variety of cross-cultural teaching elements, including:

Including the introduction of medical cultures of different countries in the medical English texts.

Adopting authentic audio-visual materials such as hospitals, clinics and news in the target language countries.

Designing simulation scenarios in which doctors communicate with patients from different cultures.

Invite students to share their experiences and feelings about cross-cultural interactions in and out of school.

Students were guided to compare the similarities and differences between Chinese and foreign medical cultures to cultivate cultural sensitivity.

In contrast, the control group adopted the traditional teaching mode of medical English, focusing on grammar, vocabulary, reading comprehension and other language skills, without special cross-cultural training content.

In order to test the effectiveness of the teaching experiment, a series of tests were conducted before and after the implementation of the study on the two groups of students. The specific measurement tools and reliability tests are as follows.

(1) English Comprehensive Ability Test

The comprehensive proficiency test was prepared by the English Teaching Department of the university in accordance with the authoritative English test syllabus at home and abroad. It consists of four individual tests: listening, speaking, reading and writing, with a total score of 100 points. The total score is 100. The test has good reliability and validity, with a score of 0.86.

(2) Language Proficiency Test

This test was compiled with reference to a huge English linguistic corpus, including two parts of multiple choice and open-response, with a total of 60 questions, focusing on the linguistic knowledge and the ability to utilize the language. After two rounds of expert review and sample testing, the test finally developed high content validity and reliability (Cronbach's $\alpha=0.89$).

(3) Intercultural competence test

The Cultural Intelligence Scale (CQS) developed by Hammer et al. (2003) based on the theory of developmental psychology was used to assess students' intercultural competence. The CQS consists of four dimensions: cognitive, affective, behavioral and metacognitive, with a total of 33 scored items, and has a strong theoretical basis and reliability validity (Cronbach's $\alpha = 0.92$).

The following table (Table 1) lists the specific score distributions and reliabilities of the three tests. All the tests were conducted once before and after the experiment, with different test corpora but of equal difficulty, organized and marked by experienced English teachers, and each test was scored in duplicate to ensure the objectivity and fairness of the scoring results.

Table 1 Reliability of test instruments

Test Project	Score Range	Number of Questions	Test Format	Reliability Coefficient
Comprehensive English Ability	100	See below	Written and oral test	0.86 (Split-half reliability)
- Listening	25-30	Objective questions		
- Speaking	25	/	One-on-one interview	
- Reading	25-30	Objective questions and short answer questions		
- Writing	25	2 essay prompts		
Pragmatic Ability	60	60	Written test	0.89 (Cronbach's α)
Cross-Cultural Ability	33-165	33	Written test	0.92 (Cronbach's α)

In addition to the test data, the research team also collected a large amount of descriptive data in the form of classroom observations, records of students' group discussions, learning logs, and so on, in order to provide a richer and more comprehensive explanation of the results of the study.

Data Analysis Methods

In terms of data analysis, the study used professional statistical software such as SPSS 26.0 and Mplus 8.3, including descriptive statistical analysis, independent sample t-test, repeated measures ANOVA, correlation analysis and structural equation modeling, etc., in order to examine the effects of the teaching experiments on the students' English proficiency, pragmatic competence, intercultural competence and the role of intercultural competence in the acquisition of language in a more rigorous way. and the mechanism of intercultural competence in language acquisition.

RESEARCH RESULTS

Comparative Analysis of English Comprehensive Ability

Before the experiment, there was no significant difference between the two groups of students in English comprehensive ability test ($t(106)=0.37, p=0.71$). After the experiment, the mean total score of the experimental group ($M=85.24, SD=6.72$) was significantly higher than that of the control group ($M=72.19, SD=10.43$), and the difference was significant ($t(89.28)=7.36, p<0.001$).

Table 2. Scores of Comprehensive English Ability Test Before and After the Experiment (M \pm SD)

Test Project	Experimental Group (n=54)	Control Group (n=54)
	Before Experiment	After Experiment
Total Score	71.37 \pm 9.15	85.24 \pm 6.72*
Listening	18.63 \pm 3.27	23.91 \pm 2.84*
Speaking	17.31 \pm 2.25	23.02 \pm 2.11*
Reading	17.94 \pm 2.16	21.17 \pm 2.45*
Writing	17.50 \pm 2.64	22.15 \pm 2.46*

Table 2 clearly shows that the experimental group is much better than the control group in the overall development of English comprehensive ability. This difference is not only reflected in the significant difference in the total scores, what is more noteworthy is that the experimental group made significant progress in the individual scores of the four basic language skills, namely, listening, speaking, reading and writing, which are better than those of the control group.

This result is highly consistent with the findings of some previous studies (Zhou & Griffiths, 2011; Nguyen, 2017). A language teaching model that incorporates cross-cultural elements can help to increase learners' sensitivity to the actual language use context, stimulate their motivation to actively construct the implicit information in the context, and thus more effectively promote the cultivation of comprehensive language use

ability. Through the teaching activities such as simulating medical treatment activities, watching videos of medical scenes in the target language countries and sharing personal cultural experiences, students in the experimental group not only gained linguistic input at the knowledge level, but also, more importantly, cultivated cultural awareness and strengthened their ability to comprehend and use the language in real contexts.

According to the analysis of the data, the experimental group's improvement in speaking and writing skills is significantly higher than that in listening and reading skills. This may be explained by the fact that speaking and writing, as language output skills, are more dependent on learners' pragmatic ability and cultural awareness. For example, in simulated communication situations with patients from different cultural backgrounds, learners need to constantly mobilize each other's cultural knowledge and use language strategies carefully to express themselves. Listening and reading, on the other hand, are language input skills, and learners may rely more on cognitive strategies such as “prediction” and “inference” for comprehension, which require less pragmatic and cultural awareness. Thus, the cross-cultural integration teaching mode has a more significant effect on the improvement of language output ability, which also reflects the importance of cross-cultural competence in language use.

Comparative Analysis of Pragmatic Competence

Before the experiment, there was no significant difference between the two groups in the pragmatic competence test ($t(106)=-0.22, p=0.83$). However, after the experiment, the pragmatic ability of the experimental group ($M=50.28, SD=4.37$) was significantly higher than that of the control group ($M=40.19, SD=5.84$), and the difference was significant ($t(100.51)=9.69, p<0.001$).

Table 3 Pre-and Post-test Scores of Pragmatic Competence (M±SD)

Test Component	Experimental Group (n=54)		Control Group (n=54)	
	Pre-test	Post-test	Pre-test	Post-test
Total Pragmatic Score	31.59±5.27	50.28±4.37*	31.83±5.16	40.19±5.84
Pragmatic Comprehension	16.13±3.05	26.63±2.82*	15.94±2.87	20.59±3.43
Pragmatic Performance	15.46±2.91	23.65±2.39*	15.89±2.75	19.60±3.15

Note: * $p<0.001$, significantly higher than the control group

Further analysis revealed that the experimental group scored significantly higher than the control group in both the dimensions of pragmatic comprehension ($t(106)=7.03, p<0.001$) and pragmatic use ($t(106)=8.14, p<0.001$). The data in Table 3 further proves that intercultural integration teaching has a significant effect on improving medical students' pragmatic competence. The experimental group scored significantly better than the control group in both language comprehension and language use, realizing a “win-win” situation. This is highly consistent with the findings of Zhang and Zhang (2022), who found that English learners with high intercultural competence were significantly better than those with low intercultural competence in pragmatic and oral communication skills.

Pragmatic competence is undoubtedly a key factor in healthcare communication. Misunderstandings, conflicts and communication barriers can easily arise in the process of communication between doctors and patients due to the differences in their cultural backgrounds. The experimental group in this study consciously cultivated their pragmatic comprehension and pragmatic use through a large number of teaching activities such as simulating doctor-patient dialogues and analyzing the differences in cultural practices, and improved their ability to accurately understand and use language in specific contexts. The control group, on the other hand, lacked systematic training in this aspect, so their pragmatic development lagged behind.

Interestingly, the experimental groups did not show the same level of improvement in comprehension and pragmatics. The quantitative data showed that the intercultural training had a more significant effect on the pragmatic comprehension dimension. This may be due to the fact that language use needs to be supported by certain language skills in addition to cultural awareness, and the latter requires a longer period of practice. Therefore, the short-term intercultural training is more direct and obvious to improve the language

comprehension ability, while the development of language skills needs to be continuously strengthened on this basis.

Comparative Analysis of Intercultural Competence

In the intercultural competence test, there was no significant difference between the two groups before the experiment ($t(106)=0.44$, $p=0.66$). After the experiment, the total score of intercultural competence of the experimental group ($M=92.17$, $SD=7.39$) was significantly higher than that of the control group ($M=80.83$, $SD=8.62$), and the difference was significant ($t(106)=6.84$, $p<0.001$).

On all four dimensions, the experimental group scored significantly higher than the control group in cognitive ($t(106)=4.88$, $p<0.001$), affective ($t(106)=4.26$, $p<0.001$), behavioral ($t(106)=6.19$, $p<0.001$), and metacognitive ($t(106)=5.37$, $p<0.001$) scores of intercultural competence.

Table 4 Pre-and Post-test Scores of Intercultural Competence (M±SD)

Dimension	Experimental Group (n=54)		Control Group (n=54)	
	Pre-test	Post-test	Pre-test	Post-test
Total Score	74.28±9.37	92.17±7.39*	73.19±9.15	80.83±8.62
Cognitive	20.15±3.16	25.63±2.87*	19.61±3.27	21.94±3.42
Affective	18.94±3.75	24.31±2.93*	18.37±3.59	20.83±3.16
Behavioral	16.72±3.21	22.96±2.48*	17.15±2.87	18.54±3.35
Metacognitive	18.46±3.44	24.28±2.76*	18.06±3.57	19.52±3.23

Note: * $p<0.001$, significantly higher than the control group

The data in Table 4 further support the core finding of this study: integrating cross-cultural cultivation into medical English classroom teaching can significantly improve students' cross-cultural competence. Students in the experimental group made great progress in the four dimensions of intercultural competence: cognitive, affective, behavioral and metacognitive, and far exceeded those in the control group.

This result confirms the value of intercultural teaching in improving learners' cultural awareness and cultural intelligence. The experimental group's cognitive and metacognitive intercultural competence was effectively developed through continuous input of cultural knowledge of the target language countries, guiding students to compare and analyze the similarities and differences between Chinese and foreign cultures, and encouraging them to share and reflect on their personal intercultural experiences. At the same time, by watching real medical culture videos and simulating medical treatment scenarios of patients from different cultures, students' affective identity and behavioral performance were also improved. Therefore, integrating cross-cultural training with professional teaching content is of positive significance to the development of students' comprehensive cross-cultural competence.

Analysis of Correlation and Mediation Effect

Table 5 Correlation Coefficients Between Language Abilities and Intercultural Competence

	1	2	3
1. Overall Language Proficiency	-		
2. Pragmatic Competence	.682**	-	
3. Intercultural Competence	.591**	.669**	-

Note: ** $p<0.01$

As the data in the above table (Table 5) reveals, there is a significant positive correlation between intercultural competence and language proficiency. In other words, individuals with higher intercultural competence tend to have stronger comprehensive English utilization and pragmatic competence. This finding provides strong support for the core hypothesis of this study, which is that intercultural literacy plays an important role in facilitating language acquisition and application.

The results of the correlation analysis showed that the total score of the intercultural competence test was significantly and positively correlated with the general English proficiency ($r=0.59$, $p<0.001$) and the pragmatic proficiency ($r=0.67$, $p<0.001$). Intercultural competence was still partially mediated by pragmatic competence ($\beta=0.32$, $p<0.01$) after controlling for general English proficiency. Further analysis revealed that intercultural competence positively affected pragmatic competence mainly through improving pragmatic comprehension ($\beta=0.41$, $p<0.001$) rather than pragmatic use ($\beta=0.13$, $p=0.07$). Structural equation modeling analysis showed that intercultural competence contributed significantly to the improvement of oral English proficiency ($\beta=0.63$, $p<0.001$), but had no significant effect on reading and writing proficiency ($\beta=0.12$, $p=0.16$; $\beta=0.19$, $p=0.07$).

The results of structural equation modeling (SEM) further indicate that intercultural competence not only contributes directly to the enhancement of comprehensive language proficiency, but also partially mediates the effect on pragmatic competence. In short, the development of intercultural awareness and competence is an intrinsic driving force for learners' acquisition of pragmatic competence, and a core factor in helping them to comprehend the semantics of the context and correctly utilize linguistic communication strategies. This is in line with Nguyen's (2017) finding that the higher the learners' intercultural competence, the stronger their self-confidence and willingness to express English.

The researcher also found that intercultural competence has a more direct and significant effect on the promotion of pragmatic comprehension, while its effect on pragmatic use is relatively limited. It can be inferred that pragmatic comprehension is the prerequisite and foundation for the development of pragmatic competence, while pragmatic use can only be gradually improved through a lot of simulation practice. This may also explain why the experimental group's pragmatics improved during the experimental period, but there was relatively little room for improvement compared with pragmatic comprehension.

Analysis and Discussion

The effect of Intercultural Integration on Language Proficiency

The results of this study clearly show that integrating cross-cultural cultivation into medical English classroom teaching can significantly improve the comprehensive English proficiency of Chinese medical students. Students in the experimental group not only scored significantly better than the control group in the four language skills of listening, speaking, reading and writing, but also achieved significantly higher scores in the pragmatic ability test. This result is consistent with the findings of previous studies (Zhou & Griffiths, 2011; Nguyen, 2017). Incorporating cross-cultural elements can help enhance learners' perception of actual language use situations and improve their ability to understand and use language in specific contexts. Through activities such as simulating doctor-patient communication scenarios, watching videos on medical culture in the target language countries, and sharing personal cultural experiences, the students in the experimental group not only accumulated relevant linguistic knowledge, but also, more importantly, cultivated cross-cultural perspectives and enhanced their pragmatic competence.

Another noteworthy finding is that students in the experimental group improved their speaking and writing skills more than their listening and reading skills. This may be due to the fact that speaking and writing require active production of linguistic output and rely more on pragmatic skills, while listening and reading tests are usually easier to comprehend by using strategies such as “marginal notes” or “predictions”, which require less pragmatic skills from learners. This also shows that cross-cultural teaching can better improve students' language use and output ability.

The Role of Intercultural Competence in Language Acquisition

Research has found that intercultural competence not only directly promotes the improvement of comprehensive English proficiency, but also partly mediates the improvement of pragmatic competence. In other words, the development of intercultural competence is an important driving force for language acquisition. A high level of cross-cultural cognitive, affective, behavioral and metacognitive competence can help learners better understand the cultural information implied by the context, overcome pragmatic errors,

and thus promote the development of pragmatic competence.

This finding is consistent with Zhang and Zhang (2022) who found that English learners with high intercultural competence outperformed those with low intercultural competence in both pragmatic and oral communication skills. The present study further reveals that the effect of intercultural competence on pragmatic competence is mainly at the level of pragmatic comprehension rather than pragmatic use. This may be due to the fact that pragmatics requires strong language skills in addition to cultural awareness.

Finally, the present study found that intercultural competence had the most significant effect on oral communication skills, while the effect on reading and writing skills was less pronounced. This may be explained by the importance of intercultural communication skills in interactive interpersonal language use. Oral communication involves immediate contextual understanding and two-way communication, and requires frequent mobilization of intercultural perspectives and competence, while reading and writing rely more on language knowledge and skills themselves.

Innovations and Limitations of the Study

Generally speaking, this study is one of the earlier empirical studies in China that combines cross-cultural cultivation with medical English teaching. The study not only verifies the effectiveness of the cross-cultural integration teaching mode, but also explores the mechanism of intercultural competence in language acquisition, which provides a new perspective for optimizing medical English teaching.

However, there are some shortcomings in this study, such as the small sample size, the relatively short experimental period, and the fact that only pragmatic competence was examined but not cross-cultural pragmatic competence. In the future, it is necessary to further expand the sample size, extend the intervention period, and refine the measurement tools in order to obtain more reliable and comprehensive conclusions. In addition, we can also consider combining qualitative research methods to explore the specific influence of cross-cultural literacy on the learning effect of medical English.

CONCLUSIONS AND RECOMMENDATIONS

Through the 16-week cross-cultural integration medical English teaching experiment and the subsequent quantitative analysis, we have come up with the following important conclusions: although the experimental period is relatively limited, the integration of cross-cultural cultivation into classroom teaching has a significant effect on the improvement of Chinese medical students' English language proficiency, pragmatic competence, and cross-cultural competence. Specifically, after the experimental teaching, the students in the experimental group not only surpassed the control group in the comprehensive use of language skills such as listening, speaking, reading and writing, but also made great progress in their pragmatic comprehension and use of language, and even more promisingly, their intercultural awareness, affective identity, behavioral strategies and metacognitive abilities were all significantly improved.

The empirical data further reveals that intercultural competence has an important role in promoting language acquisition and utilization. Correlation analysis shows that there is a significant positive relationship between intercultural competence and English comprehensiveness and pragmatic competence. The results of structural equation modeling also show that intercultural literacy not only directly promotes the development of comprehensive language proficiency, but also partially mediates the improvement of pragmatic competence, which is mainly reflected in the enhancement of pragmatic understanding. Another important finding is that intercultural competence has the most significant effect on oral communication ability, which may be due to the high dependence of oral activities on cultural awareness and intercultural strategies.

Based on the above findings, we propose the following suggestions on how to optimize the teaching practice of medical English: firstly, the cultivation of intercultural competence should be integrated into the syllabus and the specific teaching design of medical English courses, and be regarded as an important teaching goal. In terms of teaching content, medical culture knowledge can be interspersed; in terms of teaching form, task-based activities such as simulation of doctor-patient communication and cultural experience sharing can be carried out. Secondly, we pay special attention to the cultivation of students' pragmatic ability, especially

pragmatic comprehension ability, and help them understand the cultural connotations and pragmatic rules implied by the language through the introduction of real contextual corpus. In addition, the cultivation of oral communication skills is highly emphasized, and cross-cultural awareness and strategy training are closely integrated, so as to improve students' ability to communicate effectively in real medical scenarios.

In addition, it is recommended that relevant institutions develop systematic and multi-level cross-cultural cultivation course modules, forming a synergistic development pattern of “main course + branch activities”, so as to continuously input various forms of cross-cultural knowledge and experience to students. At the same time, the intercultural teaching skills training of medical English teachers should be strengthened to ensure the high quality implementation of the new teaching mode. In conclusion, the integration of cross-cultural perspective into medical English teaching is of great theoretical significance and practical value, which is in line with the development trend of internationalization of healthcare services and will help China to cultivate more excellent medical talents with international perspective and cross-cultural competence.

Although this study has achieved positive findings, the generalizability of the results needs to be further verified due to factors such as sample size, experimental period and measurement tools. In the future, we will expand the scope of the study, extend the experimental period, and adopt various qualitative and quantitative research methods to explore the specific paths and mechanisms of intercultural competence for language acquisition, with a view to providing a more comprehensive and valuable guidance for the educational practice in this field.

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