

Research on the Reform Practice of Cross Border E-Commerce Courses for Small Languages in Guangdong Universities under the Background of Artificial Intelligence

Shanshan Hu^{1,2}, Haoyuan Li^{1,*}

¹*Business School, Lingnan Normal University, Zhanjiang, Guangdong, China*

²*Guangdong Coastal Economic Belt Development Research Center, Lingnan Normal University
Zhanjiang, Guangdong, China*

**Corresponding Author*

Abstract: Artificial intelligence has reshaped the trade international pattern, with cross-border e-commerce holding a pivotal position. This study concentrates on the reform of cross-border e-commerce courses for minority languages in Guangdong universities within this context. A survey was conducted to identify the current state of relevant courses in Guangdong universities. It was found that there exist several key issues, such as curriculum design not meeting market demands, backward teaching methods, weak faculty, and low student interest in learning. In the educational reform practice, systematic exploration was carried out from multiple dimensions. These include optimizing the curriculum system, innovating teaching methods, integrating teaching resources, and strengthening teacher training. And these efforts have yielded significant results. However, there are still some challenges to overcome. For instance, curriculum implementation, teachers' technology application, student adaptation, and the stability of school-enterprise cooperation need to be further improved. Despite these challenges, the reform of cross-border e-commerce courses for minority languages in Guangdong universities under the background of artificial intelligence is of great importance and has the potential to bring positive impacts on both education and the cross-border e-commerce industry.

Keywords: Artificial Intelligence; Minority Languages; Cross-Border E-Commerce; ASEAN

1. Introduction

With the deepening of economic globalization, cross-border e-commerce has become a new engine for international trade. In recent years, the cross-border e-commerce market size of the ten ASEAN countries has continued to rise, demonstrating enormous development potential with their large population base, abundant natural resources, and increasingly sophisticated digital infrastructure. With its geographical advantages, manufacturing foundation, and mature e-commerce ecosystem, Guangdong Province in China has increasingly close cross-border e-commerce cooperation with the ten ASEAN countries, ranking at the forefront of cross-border e-commerce trade cooperation between mainland China and ASEAN. However, the cultivation of small language cross-border e-commerce talents in Guangdong universities faces many challenges, including a disconnect between curriculum design and market demand, traditional teaching methods, and insufficient application of artificial intelligence technology. The rapid development of artificial intelligence has brought unprecedented changes to the cross-border e-commerce industry, with areas such as intelligent customer service, precision marketing, and data analysis becoming the new focus of the industry. Therefore, how to integrate artificial intelligence technology into the teaching of small language cross-border e-commerce courses and improve the quality of talent cultivation has become an urgent problem to be solved.

The aim of this study is to explore the educational reform path of cross-border e-commerce courses for minority languages in Guangdong universities under the background

of artificial intelligence. The following goals are expected to be achieved: firstly, to optimize the curriculum system and teaching content to better meet the actual needs of the cross-border e-commerce market in the ten ASEAN countries; The second is to innovate teaching methods and means, using artificial intelligence technology to enhance teaching effectiveness; The third is to strengthen the construction of the teaching staff and improve the comprehensive quality and practical ability of teachers. Through educational reform practice, it not only helps Guangdong universities improve the teaching quality of cross-border e-commerce majors in minority languages, cultivate more professional talents that meet industry needs, provide students with broader career development opportunities, but also injects new impetus into cross-border e-commerce trade between Guangdong and the ten ASEAN countries, further promoting the development of regional economic integration and facilitating exchanges and cooperation in various fields such as trade and culture.

2. Literature Review

Significant progress has been made in the research on talent cultivation for cross-border e-commerce [1]. Scholars have delved into the curriculum system, emphasizing its alignment with market demand [2]. They advocate for a diversified curriculum that combines core subjects of e-commerce such as operations and marketing with multiple foreign languages, enabling students to stand out in the global market [3]. Experiential learning is also a focus of research. Research has shown that practical teaching methods, such as practical training and internships in cross-border e-commerce operations, have significant effects [4]. These methods enable students to apply their learned knowledge to practical scenarios, thereby improving their understanding and problem-solving abilities. In addition, the study also focuses on the cultural aspects of cross-border e-commerce [5]. The study emphasizes the need for students to master cultural differences in order to facilitate communication and marketing in different countries [6].

Another important direction of cross-border e-commerce education research is the application of emerging technologies [7].

With the advancement of technology, people are paying more and more attention to integrating technologies such as big data and artificial intelligence into teaching [8]. The study explores how to use these technologies to develop personalized learning paths for students, improve teaching methods through virtual reality and augmented reality, and enhance the accuracy of course content delivery [9]. In addition, the application of artificial intelligence based on learning analysis in performance evaluation has been proven to provide more objective and comprehensive feedback on students' learning progress, helping teachers adjust teaching strategies in a timely manner [10].

However, there are still some shortcomings in current research. Most research focuses on the theoretical aspects of curriculum systems and teaching method frameworks, with relatively less in-depth analysis of the implementation of specific courses and the evaluation of teaching effectiveness. In addition, there is a lack of targeted research on the combination of cross-border e-commerce education with the unique market characteristics of specific regions (such as ASEAN countries). In addition, research on the application of artificial intelligence technology in cross-border e-commerce courses is still in its infancy, with limited in-depth studies and a lack of mature practical cases. This indicates that there are still plenty of opportunities for exploration and research in this field.

3. Analysis of the Current Situation of Cross Border E-Commerce Courses for Minority Languages in Guangdong Universities

3.1 Curriculum System Setting

Guangdong Province ranks first in the country in terms of cross-border e-commerce scale, with exports as the main focus. Over 70% of its products are sold globally from the Pearl River Delta. However, the rapid development of cross-border e-commerce has also exposed problems in the curriculum design of cross-border e-commerce courses for minority languages in Guangdong universities. Firstly, the curriculum system is disconnected from market demand. Although some undergraduate universities have set up cross-border e-commerce directions in their talent

training programs for majors such as e-commerce and international trade, they lack systematicity; A few vocational colleges offer cross-border e-commerce majors, but they focus on cultivating practical skills, which is difficult to meet the demand of enterprises for middle and high-level talents. For example, data shows that there are over 160 universities and about 2 million college students distributed in the Guangdong Hong Kong Macao Greater Bay Area. However, the structure and quality of talent resources still need to be improved, and many universities' cross-border e-commerce talent training programs have not taken into account the economic development needs of the Greater Bay Area. The course offerings of some universities in Guangdong Province are shown in Table 1.

Table 1. Number of Courses Related to Cross-Border E-Commerce

	Language fundamentals course	Cross border E-commerce professional course	Cultural courses in minority languages	Practical teaching courses
GUF	8	45	6	8
SZU	7	10	5	7
GUT	5	8	3	6
JNU	7	9	4	7
SCNU	6	10	5	6
LNNU	6	10	4	6

Note: Guangdong University of Foreign Studies is GUF. Shenzhen University is SZU. Guangdong University of Technology is GUT. Jinan University is JNU. South China Normal University is SCNU. Lingnan Normal University is LNNU

3.2 Teaching Methods and Tools

The teaching methods and tools are still traditional, and the practical teaching link is weak. In traditional teaching, teachers mainly focus on imparting theoretical knowledge, and students' participation and learning enthusiasm are not high. Although some universities have established cross-border e-commerce training bases, there is a gap between them and the real cross-border e-commerce environment, and students lack practical opportunities to effectively improve their practical abilities. According to the survey, many companies have reported that

college graduates lack practical skills in cross-border e-commerce, making it difficult for them to directly take up their positions.

3.3 Construction of Teaching Staff

In terms of teacher team construction, the teaching staff is weak and there is a shortage of "dual teacher" teachers. Most teachers of cross-border e-commerce courses come from majors such as e-commerce, international trade, foreign languages, etc. They have rich theoretical knowledge but lack practical experience. Although some universities train "dual qualified" teachers through post employment training, the training content and form are relatively single, and the effectiveness is limited. Data shows that currently, the proportion of "dual teacher" teachers in universities in Guangdong Province who possess both theoretical knowledge and practical experience in cross-border e-commerce is relatively low, making it difficult to meet teaching needs.

3.4 Student Learning Situation

From the perspective of students' learning situation, their understanding of cross-border e-commerce in minority languages is limited, and their interest in learning is not high. Many students have insufficient understanding of the cross-border e-commerce major in minority languages at the time of enrollment, believing that its employment prospects are narrow and their learning motivation is insufficient. According to the survey data, a total of 503 questionnaires were distributed and 480 valid questionnaires were collected. Among them, only 15% of students had a clear understanding of the cross-border e-commerce major in minority languages at the time of enrollment, 32% of students said they had a vague understanding of the major and gradually understood it after enrollment, and 53% of students believed that the professional curriculum was unreasonable and disconnected from the actual needs of enterprises. In addition, students lack practical abilities and find it difficult to adapt to the needs of enterprises. Due to weak practical teaching, students have limited abilities in cross-border e-commerce operations such as platform operation, store management, marketing promotion, etc., which fall short of the actual needs of enterprises. According to

the survey, only 7% of students believe that their practical operation ability is strong, and 65% of students say that their practical operation ability is average or weak, making it difficult to meet the needs of enterprises. At the same time, students have a pessimistic perception of the employment prospects of cross-border e-commerce majors in minority languages, with only 12% of students being very optimistic about the employment prospects and 43% expressing concerns about the employment prospects. These data indicate that Guangdong universities urgently need to reform the curriculum of cross-border e-commerce courses for minority languages, in order to enhance students' learning interest and practical abilities, and meet the demand of enterprises for professional talents.

4. Teaching Reform Practice

4.1 Curriculum System Optimization

Driven by the dual demands of artificial intelligence and the ASEAN cross-border e-commerce market, Guangdong universities are restructuring their curriculum system for small language cross-border e-commerce. We follow the principles of integration, foresight, and practicality to redesign the curriculum system. Firstly, add basic courses on artificial intelligence, such as "Introduction to Artificial Intelligence", to help students understand the application scenarios of AI in cross-border e-commerce. At the same time, in response to the market characteristics of the ten ASEAN countries, courses such as "Operation of ASEAN Cross border E-commerce Platforms" and "Cross border E-commerce Culture and Etiquette in Small Languages" have been added. These courses not only cover the operational processes and rules of e-commerce platforms, but also delve into the cultural differences, consumption habits, and legal norms of the ten ASEAN countries, helping students better adapt to the market environments of different countries. After optimizing the curriculum system, students are able to systematically master knowledge of minority languages, cross-border e-commerce, and artificial intelligence. They are able to flexibly use minority languages for cross-border e-commerce activities, and utilize AI tools to analyze the market and optimize operations. For example,

in the course of "Cross border E-commerce Marketing", students use intelligent marketing tools to simulate marketing planning. By analyzing market data and consumer behavior in the ten ASEAN countries, personalized marketing strategies are developed, effectively enhancing their data analysis and marketing planning abilities. In addition, students can also learn how to use artificial intelligence technology for cross-border e-commerce risk management and customer service optimization to address various challenges that may arise in the ASEAN market, laying a solid foundation for future development in the field of cross-border e-commerce.

4.2 Innovation in Teaching Methods

Guangdong universities are actively exploring the integration of artificial intelligence technology into teaching methods. In terms of personalized teaching, the school has introduced intelligent language learning software such as Duolingo. This software pushes personalized learning content based on students' learning progress and mastery. At the same time, teachers use Learning Management Systems (LMS) to track students' learning progress and adjust teaching strategies in a timely manner. In case teaching, using big data mining technology, representative ASEAN cross-border e-commerce cases are selected. Teachers guide students to use AI data analysis tools to conduct in-depth analysis of cases, cultivating students' data thinking and decision-making abilities. The implementation of project-based teaching method focuses more on improving practical skills. The school collaborates with cross-border e-commerce companies to introduce real projects into the classroom. For example, collaborating with the Shopee platform to have students group up to complete a store operation project. Students apply their knowledge of minority languages and cross-border e-commerce to conduct market research, product selection, store decoration, and marketing promotion using AI tools, and ultimately summarize and report based on operational data. Enterprise mentors and school teachers jointly evaluate and guide student projects, enabling students to enhance their comprehensive abilities in practice.

4.3 Integration of Teaching Resources

Schools actively develop digital teaching resources using artificial intelligence technology, and teachers use AI assisted tools to develop multimedia courseware, online courses, and electronic textbooks. In the course of "Cross border E-commerce Oral English in Small Languages", an intelligent voice dialogue mini program is developed to simulate ASEAN business scenarios and allow students to practice oral English. At the same time, the school integrates external resources, collaborates with cross-border e-commerce companies, and introduces real project cases and practical platforms. Using AI technology to achieve resource sharing between schools and enterprises, providing students with more practical opportunities. In addition, the school has created a blended learning resource library that allows students to choose their own learning resources.

4.4 Teacher Training and Improvement

To enhance teachers' ability to apply artificial intelligence technology, the school conducts on campus training courses and regularly organizes special lectures and training activities. At the same time, teachers will be selected to conduct practical training in artificial intelligence enterprises and cross-border e-commerce enterprises to gain a deeper understanding of industry needs and technological applications. In addition, the school has established a platform for the development of teachers' teaching abilities, and regularly organizes teaching observation, teaching competitions, and teaching seminars. Teachers share their teaching experience and jointly explore new methods of integrating AI technology into teaching. For example, during a teaching observation activity, a teacher demonstrated how to use intelligent data analysis tools for case teaching, which significantly improved students' participation and understanding. These measures have effectively promoted the continuous improvement of teachers' teaching abilities and provided strong guarantees for the smooth progress of curriculum reform.

5. Analysis of the Effectiveness and Problems of Educational Reform Practice

5.1 The Effectiveness of Educational

Reform Practice

Through comparative analysis, presentation of survey results, and other methods, provide a detailed explanation of the effectiveness of optimizing the curriculum system, innovating teaching methods, integrating teaching resources, and training and improving the teaching staff.

5.1.1 Effectiveness of curriculum system optimization

After optimizing the curriculum system, students can systematically master knowledge of minority languages, cross-border e-commerce, and artificial intelligence, and the curriculum is more in line with market demand. Taking Guangdong University of Foreign Studies as an example, the optimized curriculum system includes courses on artificial intelligence fundamentals and specialized courses on ASEAN cross-border e-commerce platform operations. Survey data shows that students' satisfaction with the course has increased from 75% to 88%. Students have effectively improved their data analysis and marketing planning skills by using intelligent marketing tools in simulated marketing planning, resulting in a 30% increase in their participation rate in related competitions.

5.1.2 Effectiveness of innovative teaching methods

The innovation of teaching methods has significantly improved students' learning enthusiasm and classroom participation. The use of intelligent language learning software has significantly improved students' autonomy and personalization level in language learning. In case teaching, combining AI data analysis tools, students' data thinking and decision-making abilities are exercised. Through project driven teaching method, students' practical abilities in real projects have been significantly improved. Taking Shenzhen University as an example, after implementing the project driven teaching method, the project completion rate of students during their internship in cross-border e-commerce enterprises reached 90%, an increase of 25% compared to before.

5.1.3 Effectiveness of integrating teaching resources

The integration of teaching resources provides students with richer and more convenient learning resources. The development of

digital teaching resources, such as online courses and electronic textbooks, meets the needs of students for self-directed learning. The real project cases and practical platforms introduced by school enterprise cooperation provide students with more practical opportunities. The establishment of a blended learning resource library facilitates students to choose suitable learning resources based on their own learning progress and needs. Taking Lingnan Normal University as an example, after the integration of teaching resources, the utilization rate of online courses and electronic textbooks reached 85%, and students' satisfaction with teaching resources increased to 82%.

5.1.4 Training and improvement of teaching staff effectiveness

The training and improvement of the teaching staff have effectively enhanced the teaching level and practical guidance ability of teachers. By participating in artificial intelligence technology training and enterprise practice, teachers have gained a deeper understanding of industry demands and technology applications. The establishment of a platform for the development of teachers' teaching abilities has promoted the exchange of experience among teachers and the innovation of teaching methods. Taking South China Normal University as an example, after participating in training, teachers' ability to use AI technology in teaching has significantly improved, and students' course evaluation scores have increased by an average of 15%.

5.2 Existing Issues

In the process of educational reform, there are some challenges in curriculum implementation and teacher technology application. Firstly, due to limited teaching resources and insufficient connection between some courses during the implementation of the curriculum, students may experience knowledge gaps in the learning process. At the same time, the arrangement of practical teaching activities is not reasonable enough, and some practical courses have a short duration, which makes it difficult to meet the needs of students for full practice. Secondly, teachers face technical difficulties and obstacles to the transformation of teaching concepts when using artificial intelligence

technology in teaching. Some teachers are not proficient enough in mastering new technologies, unable to fully utilize the advantages of AI teaching tools, and some teachers lack innovative awareness of teaching methods, still leaning towards traditional teaching models.

In addition, there are also issues with student adaptation and coordination of external collaborative resources. Some students are not proficient enough in using AI assisted learning tools during the process of adapting to the new teaching mode, making it difficult for them to fully play their role. At the same time, some students are slow to adapt to the adjustment of the curriculum system and the innovation of teaching methods, and their learning enthusiasm needs to be further improved. In terms of coordinating external cooperation resources, the stability of cooperation with enterprises needs to be improved, and some enterprises have low enthusiasm for participating in teaching, resulting in difficulties in the construction and management of off campus practice bases. At the same time, the sustainability of school enterprise cooperation projects is insufficient, making it difficult to provide students with stable practical opportunities in the long run.

6. Conclusion

This study explores in depth the key path and practical achievements of cross-border e-commerce course reform for minority languages in Guangdong universities under the background of artificial intelligence. By optimizing the curriculum system, innovating teaching methods, integrating teaching resources, and strengthening the construction of the teaching staff, a solid foundation has been laid for cultivating small language cross-border e-commerce professionals who can adapt to market demand. The practice of educational reform has effectively improved students' satisfaction with the curriculum, practical ability, and learning enthusiasm, injecting new impetus into the cross-border e-commerce trade between Guangdong and the ten ASEAN countries. The successful experiences of universities such as Guangdong University of Foreign Studies and Shenzhen University fully demonstrate the positive impact of educational reform practices. However, during the process of

educational reform, problems such as poor integration of curriculum implementation, insufficient technical application ability of teachers, slow adaptation of students to new teaching models, and poor stability of school enterprise cooperation have been exposed. It is urgent to improve these issues through further optimizing the curriculum implementation process, strengthening teacher training, enhancing students' adaptability, and deepening school enterprise cooperation.

Acknowledgments

This paper is supported by Guangdong Provincial Education Science Planning Project (Higher Education Special), "Research on the Talent Cultivation Path of Cross border E-commerce for Small Languages in Guangdong Province under the Background of Artificial Intelligence (No. 2024GXJK332)".

References

- [1] Fang Minjiang, Dinh Tran Ngoc Huy, Building a cross-border e-commerce talent training platform based on logistic regression model. *The Journal of High Technology Management Research*, 2023, 34(2): 100473.
- [2] Sharma Rishabh, Himanshu Gupta, Leveraging cognitive digital twins in industry 5.0 for achieving sustainable development goal 9: An exploration of inclusive and sustainable industrialization strategies. *Journal of Cleaner Production*, 2024, 448: 141364.
- [3] Luo Yuxin, Research on the talent training of cross-border e-commerce. *Open Access Library Journal*, 2023, 10(1): 1-9.
- [4] Lu Yang, Artificial intelligence: a survey on evolution, models, applications and future trends. *Journal of Management Analytics*, 2019, 6(1): 1-29.
- [5] Han Linlin, Xu Han, Improving the service quality of cross-border e-commerce: How to understand online consumer reviews from a cultural differences perspective. *Frontiers in Psychology*, 2023, 14: 1137318.
- [6] Yaprak Attila, Culture study in international marketing: a critical review and suggestions for future research. *International Marketing Review*, 2008, 25(2): 215-229.
- [7] Chen Yongfeng, Mengya Li, Jiajie Song, et al., A study of cross-border E-commerce councilresearch trends: Based on knowledge map** and literature analysis. *Frontiers in Psychology*, 2022, 13: 1009216.
- [8] Popenici Stefan AD, Sharon Kerr, Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and practice in technology enhanced learning*, 2017, 12(1): 22.
- [9] Tapalova Olga, Nadezhda Zhiyenbayeva, Artificial intelligence in education: AIED for personalised learning pathways. *Electronic Journal of e-Learning*, 2022, 20(5): 639-653.
- [10] Al-Mansouri, Jamal O., The Impact of Real-Time Feedback on Optimizing Teachers' Classroom Teaching Pace. *Research and Advances in Education*, 2024, 3(11): 45-48.