

Research on the Development of Loose-leaf Teaching Materials under the Background of Industry-Education Integration: Taking “Cross-border E-commerce English” as an Example

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Abstract

With the continuous deepening of globalization, the cross-border e-commerce industry has developed rapidly, and the demand for professional talents is growing. In this context, the integration of industry and education has become an important direction for educational reform. As a flexible and up-datable teaching resource, loose-leaf teaching materials can better adapt to industry changes and educational needs. This paper uses case analysis to take the development of “Cross-border E-commerce English” loose-leaf teaching materials as an example analyzing its development background, process, and application effects, and puts forward corresponding strategies and suggestions. By discussing the development strategies of loose-leaf teaching materials under the background of industry-education integration, the aim is to provide references for the development of teaching materials in related fields.

Keywords

Industry-Education Integration; Loose-leaf Teaching Materials; Cross-border E-commerce English; Development of Teaching Materials.

1. Introduction

Vocational education in China is undergoing profound historical changes. In 2019, the Chinese State Council issued the “National Vocational Education Reform Implementation Plan” (20 articles in vocational education), and vigorously promote the modernization and high-quality development of vocational education, and clearly emphasize the “construction of a large number of school-enterprise “dual” cooperation development of national planning textbooks. We advocate the use of new loose-leaf and workbook-type teaching materials and the development of information resources.” This indicates that the development of loose-leaf teaching materials is an important direction of vocational education reform aiming at improving the practicability and adaptability of teaching materials. As a new form of international trade, cross-border e-commerce has put forward higher requirements for foreign language communication ability. As a professional course, the development of Cross-border E-commerce English textbooks is directly related to the quality of talents training. With its flexibility and updating, loose-leaf teaching materials can timely reflect the latest trends of the industry and meet the teaching needs. From the perspective of the integration of production and education, this paper will take cross-border E-commerce English as an example to analyze the necessity, strategy and implementation path of developing loose-leaf teaching materials.

2. Literature Review

Under the guidance of national vocational education policies, the development of loose-leaf teaching materials and related research have become hot topics in current vocational education reform research, and research based on this topic has shown an increasing trend in the past two years. In the “full text” of CNKI, 4827 pieces of related academic papers were found by entering “loose-leaf teaching materials”. It can be seen that the research on loose-leaf teaching materials is one of the hot topics in today's vocational education.

2.1. Studies on Loose-leaf Teaching Materials Abroad

The foreign loose-leaf teaching material model has received widespread attention and application in the field of vocational education. The core advantage of loose-leaf teaching materials lies in their flexibility and modular characteristics, which enable the teaching materials to quickly adapt to industry changes and technical updates.

Germany has mature research and practice in the field of loose-leaf teaching materials, and this teaching material model is widely applied in German vocational education. German loose-leaf teaching materials, also known as Arbeitsblatt, highlight the characteristics of practice orientation. This teaching material model emphasizes student-centered learning, allowing students to learn by completing comprehensive work tasks, which is the core of action-oriented teaching.

The United States focuses on breakthroughs and innovation in the structure of loose-leaf teaching materials. These teaching materials are usually written in teaching modules based on ability units, and these ability modules are linked in the form of loose-leaf, emphasizing clear ability goals, and not emphasizing the integrity of the discipline system [1]. With the continuous development of educational technology, American loose-leaf teaching materials have also begun to integrate digital resources, such as online courses, simulation software, and interactive learning platforms to provide a richer and more interactive learning experience.

In the British vocational education system, apprenticeship is a long-standing and important method of education. In recent years, the British government has introduced degree apprenticeships, a system that extends vocational education to the field of higher education, encouraging cooperation between enterprises and universities to provide courses. Students can study at university while interning in enterprises, and after graduation, they can obtain both academic recognition and the skills needed by enterprises.

In summary, the current status of foreign loose-leaf teaching material research shows its importance and practicality in vocational education, while also pointing out the aspects that need further improvement and enhancement in the development and application of teaching materials. Foreign practices provide valuable experience and reference for other countries.

2.2. Studies on Loose-leaf Teaching Materials at Home

Domestic scholars' research on the development of loose-leaf teaching materials based on the integration of industry and education mainly focuses on the following three aspects.

First is the theoretical research on loose-leaf teaching materials, which mainly includes the connotation, characteristics, types, and development and design of loose-leaf teaching materials, such as scholars Yang Hao and others, based on the background of the strategies of a strong manufacturing country, the national education digital strategy, and the era of high-quality development of vocational education, they discussed the new connotation of new-type loose-leaf teaching materials from the perspective of action logic curriculum paradigm, digitization, and open sharing on the basis of existing achievements [2].

The second is exploring the construction ideas of new loose-leaf teaching materials based on the “1+X” certificate system. For example, scholar Luo Huating takes the cross-border e-

commerce major as a breakthrough point. He takes the standard system of the "1+X" certificate system as the basis, and takes the effective integration of courses and positions as the center to explore the construction ideas of vocational colleges' loose-leaf teaching materials based on the "1+X" course certificate integration [3].

Thirdly, it's the practical research on the application of loose-leaf teaching materials, such as scholar Lin Hao, who designed the new form of integrated "loose-leaf teaching materials + QR code resources + functional inserts + loose-leaf notes" for the deep integration of online and offline "Mold CAD/CAM Technology (UG)", and completed the writing of the sample chapters of the loose-leaf teaching materials, and used the teaching experimental research method to select students from the 20th level of Lu Bei Technician College for practice to test the development and use effects of the school-based teaching materials, and through the questionnaire feedback of teachers and students to determine the results of the teaching material development and reflect on the shortcomings of the development [4].

It can be seen that the research and practice of domestic loose-leaf teaching materials are continuously deepening, but still face some challenges, such as the depth of school-enterprise cooperation, the practicality of digital resources, and the systematization of the ideological and political education concept. Future research and practice need to be improved and enhanced in these aspects. Overall, the loose-leaf teaching materials are still in the exploratory stage, and the complete system from development to application of loose-leaf teaching materials has not yet been established, so further research in related aspects is needed.

3. Theoretical Framework

Situated Learning Theory serves as the theoretical basis for guiding the design, writing, and evaluation of loose-leaf teaching materials directing the organization of teaching content to ensure that the materials match the actual work requirements and career development paths.

Situated learning, proposed around 1990 by Professor Jean Lave from the University of California, Berkeley, and independent researcher Etienne Wenger, is a learning approach that emphasizes the social and practical nature of knowledge and learning. It considers learning as a process of constructing knowledge through social interaction and practical activities.

The theory of situated learning is deeply influenced by the social constructivist movement, advocating the introduction of real-life situations into the teaching process and allowing learners to construct meaning through social negotiation. Exploring teaching strategies and methods of reform from this perspective to guide the design and writing of loose-leaf teaching materials, is not only a supplement and improvement to traditional teaching models but also a valuable attempt at educational reform [5]. Situated learning emphasizes two principles of learning: First, presenting knowledge in the real context of its application, combining learning with practice, allowing learners to think and act like experts or "masters"; Second, learning through social interaction and collaboration.

Based on the teaching strategies of situated learning theory, teachers can adopt a contextualized design scheme when designing and writing loose-leaf teaching materials, that is, creating real-life situations and designing modular chapter content based on typical work tasks. Taking "Cross-border E-commerce English" as an example, the created context is set according to teaching objectives, typical job content, and students' existing knowledge levels. According to the theory of situated learning, the loose-leaf teaching materials should include a wealth of practical cases, which should come from real work environments and help students understand the application of theoretical knowledge in actual work. Through case situation simulation, students can improve their ability to solve practical problems.

4. Case Analysis

4.1. Development Background of the School-level Loose-leaf Teaching Material "Cross-border E-commerce English"

With the rapid development of global e-commerce, the demand for professional talents in the cross-border e-commerce industry is growing. Under the background of industry-education integration, to ensure that the teaching material content can timely reflect the latest developments in the cross-border e-commerce industry and provide cases and simulations of actual cross-border e-commerce operations, also to enhance students' practical skills, and cultivate students' communication and social skills in the international business environment, the Foreign Language Teaching and Research Office of Shandong Vocational and Technical University of International Studies developed the school-level loose-leaf teaching material "Cross-border E-commerce English" from February 2022 to March 2023.

4.2. Process of Developing the Loose-leaf Teaching Materials

To ensure that the development of the loose-leaf teaching material "Cross-border E-commerce English" can closely connect with industry needs and students' learning objectives, and to improve the practicality and effectiveness of the teaching material, the school first established an interdisciplinary team composed of English teachers, cross-border e-commerce industry experts, and cross-border e-commerce course designers.

On this basis, the school first cooperated with multiple cross-border e-commerce companies through questionnaires, interviews, and symposiums to conduct cooperative research, collecting specific talent needs from companies, thus laying the foundation for the design of the writing ideas and framework of the loose-leaf teaching material. Companies surveyed include Shandong Runmei Cross-border E-commerce Co.,Ltd., Shandong Misha Cross-border E-commerce Incubator Co., Ltd., Qian Yuan Supply Chain Technology (Rizhao) Co., Ltd., Shanghai Baozun E-commerce Co., Ltd. Rizhao Operation Branch, Shandong Daidai Purchase Information Technology Co.,Ltd., and other relevant employers. The content of the questionnaire and interview mainly revolves around which English skills are most important in the cross-border e-commerce industry, what practical cases of cross-border e-commerce should be included in the teaching material, how to balance the teaching of theoretical knowledge and practical skills in the teaching material, what cross-cultural communication content should be included, and how to ensure the continuous updating and improvement of the teaching material content, etc.; at the same time, a questionnaire survey was also conducted among students to understand the learning needs and preferences of the target learners, students' English proficiency, professional background, and career development goals, etc.

Then, the results of the needs analysis were organized into a report, including research data, analysis conclusions, and recommendations. According to the research report, the professional skills and English communication abilities required for different positions in the cross-border e-commerce industry were analyzed to determine the teaching objectives for the writing of the loose-leaf teaching material and the design framework of the chapters. It was clarified that the development plan of the loose-leaf teaching material based on the typical work tasks of the position should be reflected in the modular case teaching as the main line, and teaching methods and student activities suitable for the loose-leaf teaching material were planned, such as case analysis, role-playing, simulated negotiations, etc.

Arrange the chapter catalog according to the job positions; clarify the typical work tasks in the cross-border e-commerce work process: Accounts Creating, Products Uploading, Products Description, Commonplace Service, Pre-sale Service, On-sale Service, After-sale Service, Customer Marketing. Each module in the eight consists of multiple situational cases, and strengthen practical operation using the training platform (as shown in Table 1).

Table 1. Design Framework for “Cross-border E-commerce English”

Job Positions	Job Skill Requirements	Job Tasks	Practical Training on the Platform
E-commerce Specialist	Accounts Creating	Task 1: Creating an account on Amazon Task 2: Knowing Amazon Seller Central ...	Amazon Simulation Training System /Ebay Simulation Training System /AliExpress Simulation Training System
	Products Uploading	Task 1: Getting the Right Features Task 2: Making a Title ...	
	Products Description	Task 1: Writing Product Description Task 2: ...	
	Commonplace Service	Task 1: Writing Bullet Points on Amazon Task 2: ...	
E-commerce Customer Service Specialist	Pre-sale Service	Task 1: Reply to Enquiry for Unspecified Products Task 2: ...	
	On-sale Service	Task 1: Writing A Shipping Notification Task 2: ...	
	After-sale Service	Task 1: Handling Customer Complaints about Non-arrival Task 2: ...	
E-commerce Marketing Promoter	Customer Marketing	Task 1: Writing Emails on Holiday Promotion Task 2: ...	

Finally, experts from the cross-border e-commerce industry are involved in the compilation of the teaching materials to ensure the professionalism and practicality of the content. Practical case development is carried out in cooperation with enterprise partners to fully utilize the backbone personnel of the enterprises and to collect and compile real cases of cross-border e-commerce, which are designed into learning tasks and projects in the teaching materials. After the basic completion of the loose-leaf teaching materials, attempts are made to develop digital resources that are compatible with the teaching materials, such as online exercises and simulated trading platforms.

4.3. Teaching Materials Trial and Feedback

After the completion of the “Cross-border E-commerce English” loose-leaf teaching materials, they were first tried out in the cross-border e-commerce major (vocational college) for the classes of 2022 and 2023. The use of the loose-leaf teaching materials also promoted the reform of teaching methods. Teachers adopted situational and interactive teaching methods in classroom teaching carrying out case-based teaching based on the projects within the modules. Students start from tasks, and explore the practical application of theoretical knowledge. It increases the fun of the class, and the practical operation on the platform fully realizes the practicality of the discipline.

Students generally reflected that compared with traditional teaching materials, the loose-leaf teaching materials truly reflect the content of the job positions making learning more flexible and interesting, and practical cases and simulated projects help them better understand and master the knowledge and skills of cross-border e-commerce. Teachers believe that the loose-leaf teaching materials are convenient for updating and adjusting teaching content, and are also more in line with the actual job position needs. The enterprise partners of the school-enterprise cooperation highly recognize the students in practice and recognize the application effect of the teaching materials, they reflect that students have strong practical operation ability and a certain cross-cultural communication ability. At the same time, in response to the feedback from teachers and students, such as the difficulty of understanding professional vocabulary and the update of digital resources, the "Cross-border E-commerce English" loose-leaf teaching materials are constantly being adjusted and optimized.

5. Issues and Strategies in the Development of Loose-Leaf Teaching Materials

5.1. Existing Problems

After the trial use of the school-level loose-leaf teaching material "Cross-border E-commerce English," to better understand the evaluation and feedback from teachers and students, the author conducted in-depth questionnaires and interviews with teachers and students respectively. This was done to summarize the advantages of the development of the loose-leaf teaching materials and the problems in their application providing a reference for subsequent optimization of the teaching materials. In general, the advantages are that the school-enterprise cooperation in developing teaching materials highlights the practical characteristics of education under the background of industry-education integration, and the modular design and case-based teaching have played a good role in promoting educational reform and greatly enhanced students' interest in learning. The main problems summarized are as follows:

5.1.1. The Form of the Teaching Material is Singular

The traditional teaching materials are mainly paper-based, which is not conducive to the use of information resources and the development of new teaching methods. This is the most prominent difficulty in the self-compiled loose-leaf teaching materials. At present, the self-compiled loose-leaf teaching materials are traditional paper-based lacking corresponding audio and video resources, and the digital resources are relatively scarce, which undoubtedly becomes a weak point of this material. Systematic teaching material development requires strong technical tools and platform support, which puts forward higher requirements for the supporting technical equipment of the loose-leaf teaching material development.

5.1.2. The Teaching Team Lacks Practical Experience

Teachers, as the implementers of teaching, play a crucial role in the development and application research of loose-leaf teaching materials. The school's teaching team is mainly composed of academic personnel and lacks sufficient practical experience in the industry. Most teachers are inclined towards theoretical academia. To improve teachers' practical experience, many vocational colleges have established feedback mechanisms between teachers and the industry to ensure that teaching content and methods can be continuously optimized to meet industry needs. At the same time, they also focus on cultivating teachers with dual qualifications of academia and profession, that is, "dual-qualification" teachers, to enhance the practical teaching ability of the teaching team.

5.1.3. The Contradiction between Basic English and Cross-border E-commerce English

In the development of loose-leaf teaching materials, it is crucial to handle the relationship between basic English knowledge and cross-border e-commerce English knowledge. Applied

loose-leaf teaching materials may over-emphasize the practical application needs of cross-border e-commerce English and neglect the consolidation of basic English knowledge, resulting in a slight disconnection between basic English and cross-border e-commerce English knowledge and make it difficult for students to apply basic English to actual cross-border e-commerce scenarios.

5.2. Suggestions for Solutions

In response to the above problems, strategies and suggestions are proposed to solve these issues.

5.2.1. Provide Technical Support for Digital Resources

In the process of developing the "Cross-border E-commerce English" loose-leaf teaching materials, providing technical support for digital resources is crucial. Digital resources play an auxiliary role in teaching materials, such as aiding understanding, enhancing interaction, providing additional learning materials, and facilitating self-learning. Developing digital resources that are compatible with the loose-leaf teaching materials, such as online exercises and simulated trading platforms, can improve the interactivity and interest of the teaching materials. Therefore, a mature loose-leaf teaching material should not only be a paper-based material but also develop multimedia teaching resources that match the content of the teaching material, such as video lectures, animated demonstrations, interactive simulations, etc. Through technical support measures, the teaching effect of the loose-leaf teaching material can be greatly improved, the interactive experience of students can be enhanced, personalized learning can be promoted, and the continuous updating and adaptability of the teaching material content can be ensured.

5.2.2. Cultivate "Dual-qualification" Teachers

To improve the practical skills of the teaching team, schools should establish cooperative relationships with cross-border e-commerce enterprises, and invite enterprise experts to participate in the teaching team, and provide industry perspectives and practical experience. For example, regularly organize teachers to participate in industry training and seminars to update their knowledge structure and enhance their practical ability. They can also adopt the form of jointly developing teaching projects with enterprises, allowing teachers to participate in actual industry projects and accumulate practical experience. At the same time, encourage teachers to obtain professional qualification certificates related to the teaching field to improve their professional qualification level.

5.2.3. Maintain a Balance between Basic English Knowledge and Cross-border E-commerce English Knowledge

Establish a student feedback mechanism to timely understand students' needs and suggestions for course content, and adjust teaching strategies. Reasonably allocate teaching resources to ensure that both basic English and cross-border e-commerce English receive enough attention and support. Continuously update the content of teaching materials to ensure that both basic English knowledge and cross-border e-commerce English knowledge reflect the latest industry dynamics and technological progress.

6. Conclusion

The development of the school-level loose-leaf teaching material "Cross-border E-commerce English" responds to the urgent demand for high-quality and applied talents under the background of industry-education integration. This study, through in-depth analysis and practical exploration, finds that through school-enterprise cooperation, typical work content modularization and case method teaching, the practicality and interactivity of teaching materials can be effectively improved, which is conducive to cultivating students' professional

knowledge and practical operation skills, and meeting students' learning needs and enterprise employment standards. Looking forward to the future, we will further deepen the integration of industry and education, and expand the breadth and depth of school-enterprise cooperation, continuously optimize the development and application of loose-leaf teaching materials, and pave a new way for the reform and development of China's vocational education.

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