

Research on the Design and Application Strategy of Micro-course Teaching Mode Based on MOOC Environment --- Taking the Cross-border E-commerce Course in Higher Vocational Education as an Example

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Abstract: The micro-course teaching mode based on MOOC environment changes the traditional classroom teaching mode, liberates students from the classroom, stimulates students' interest in learning, and cultivates students' initiative and enthusiasm for learning. Higher vocational education mainly focuses on training practical talents, and pays attention to combining practical knowledge with theoretical knowledge in classroom teaching. Micro-teaching can break the limitation of time and space and realize the rational use of teaching resources. Taking the cross-border e-commerce course in higher vocational education as an example, this paper analyzes the design, development and specific application measures of the micro-course teaching mode based on MOOC concept.

1. Introduction

MOOC, the full name is "Massive Open Online Course", is called "large-scale online open courses" in Chinese, referred to as "MOOC". The micro-course refers to the teaching process around a certain knowledge point or teaching activity recorded by video. The main component of the micro-course is the classroom teaching video, as well as the teaching design, teaching content, teaching materials related to the teaching theme[1]. If MOOC is a large-scale online course, then the micro-course is a short and exquisite online teaching video. Both they are the optimization and innovation of traditional classroom teaching, and at the same time they are inextricably linked with traditional teaching. Higher vocational teaching mainly focuses on cultivating practical technical talents. The current higher vocational education pays more attention to the scientificity and efficiency of teaching, while paying attention to the combination of classroom teaching and practical operation. Applying modern information and communication technology to classroom teaching is an inevitable development trend of higher vocational education, and it is also a new teaching mode that meets the learning needs of modern higher vocational students. Applying the micro-course teaching based on MOOC environment to higher vocational education is a new attempt. It can combine the advantages of MOOC and micro-course teaching, and provide a variety of teaching directions for higher vocational teaching to meet the development needs of students.

2. Design Principles of Micro-course Teaching Mode Based on MOOC Environment

2.1. Moderate decomposition mode

The characteristics of the micro-course lie in a word of "micro", which implies short time and refined content. The main content of the micro-course is based on a single knowledge point or a teaching session. The time is usually within 3-10 minutes and the maximum time is no more than 15 minutes. The biggest feature of the micro-course is micro, but it is not a simple decomposition of knowledge, but a certain systemic and holistic. Therefore, the micro-course design based on MOOC environment should be divided according to the characteristics of the teaching content and the learners' learning conditions and abilities.

2.2. Multi aspect construction

There are many micro-course learners in the MOOC environment, and the courses are more open.

Each learner is not an independent individual. In addition to learning micro-course, other forms of auxiliary learning are needed. Therefore, questions, discussions and other links can be set up for study. Therefore, when designing the micro-course, we should construct as many aspects as possible, consider the multiple ways to guide the learners from multiple angles, help the learners to solve the problems, promote the communication between the learners through diversified social communication tools, and promote the learners to establish a independence and cooperative learning mode.

2.3. The main status of learners

In the MOOC environment, learners must have a high degree of autonomy to freely choose learning materials and master the progress of learning. Therefore, in the design of teaching mode, learners should be placed in the main position. We should fully explore the learning needs of learners, improve learners' knowledge absorption and application ability through various ways and strategies, and promote deeper learning and communication[2]. At the same time, the learner's comprehensive learning behavior habits should be considered in the design of teaching mode to stimulate the enthusiasm and initiative of the learners.

2.4. Diversified curriculum resources

The MOOC environment is based on an open network. Micro-course in this environment is also not limited by time and space. Learners can learn through certain channels at any time and place, and can also choose courses of interest according to their needs. Therefore, the micro-course in the MOOC environment needs to provide diversified curriculum resources. In the process of designing the curriculum resources, the designer should establish an interactive learning and evaluation learning model according to the characteristics of the micro-course video.

2.5. Based on self-recognition level

In the MOOC environment, the learning resources that learners can access are diverse. Whether it is text, audio, video or pictures, it can be said to be massive. While, the learner has a certain level of cognition. If it exceeds the scope of learning and cognition, it will affect self-learning. Therefore, when designing micro-course resources in the MOOC environment we should understand the learner's cognitive level, reduce the cognitive load of learners, and reduce the emergence of unrelated learning resource databases to promote effective learning.

3. Higher Vocational Micro-course in MOOC Environment: taking cross-border e-commerce as an example

3.1. Application research

In recent years, with the development of China's e-commerce and international economic integration, cross-border e-commerce has entered a period of explosive growth. According to relevant statistics, in the first half of 2018, China's cross-border e-commerce import and export volume was about 9 trillion yuan, up 60% over the same period last year. At the same time, the government has also increased its support in the cross-border e-commerce industry, resulting in a huge increase in demand for talent. Higher vocational cross-border e-commerce is a new type of discipline, which is oriented towards employment and cultivates comprehensive practical talents with the aim of professional skills and quality[3]. Cross-border e-commerce courses not only require basic knowledge of e-commerce, but also international trade-related knowledge, as well as multidisciplinary cross-disciplinary studies such as accounting, English, and trade.

Higher vocational cross-border e-commerce pays more attention to students' operational skills to meets the multi-level needs of the society. However, there are still some shortcomings in the current cross-border e-commerce teaching in China. Most of the school's teaching mode begins with understanding the basic knowledge and operation process of e-commerce, and carries out relevant exercises through simulation software. While, both teachers and students lack practical experience in marketing, maintaining customers, product marketing, and managing online stores.

The application of micro-course in cross-border e-commerce teaching in higher vocational colleges is mainly divided into three parts. The first is related courses for students to learn cross-border e-commerce independently. The main mode is to decompose the original curriculum into a complete teaching system according to the students' learning rules, cognitive level and learning level, strictly design it in accordance with the teaching objectives, methods and tasks, resources, interactions, etc., so that students can understand the development trend, direction, characteristics and main modes of cross-border e-commerce through mobile and online learning in the premise of mastering basic theoretical knowledge of e-commerce, understand common e-commerce platforms at home and abroad, master relevant knowledge of international trade, logistics, payment, etc., and learn foreign trade market research, procurement, product online quotation, promotion and release, online offer, inquiry and maintenance of customer relationships [3].

The second is classroom teaching for higher vocational teachers. Teachers can use micro-course to assist in teaching when they teach. The use of multimedia teaching methods such as pictures, texts, videos and audios makes classroom teaching more colorful, vivid, and enhances the efficiency of classroom teaching. At the same time, through the video presentation of the micro-course, students' interest in learning is enhanced, and students' understanding and digestive ability of abstract knowledge is improved.

The third is the training operation for cross-border e-commerce. The practice of cross-border e-commerce teaching in vocational colleges is an important part of students' comprehensive ability. It can comprehensively improve the actual operation level of students, and encourage students to combine theoretical knowledge and operational skills to enhance the depth of learning and enhance their practical ability.

3.2. Instructional design

3.2.1. Teaching content design

Based on the MOOC environment, the cross-border e-commerce micro-course design should appropriately disassemble the system knowledge in the textbook, and break down the key parts of many knowledge points. The important knowledge points are made into a short and exquisite video released on the online open course platform. Take network marketing as an example, network marketing is one of the basic knowledge of cross-border e-commerce. During the course design of the knowledge point, the teacher team conducted a general knowledge point combing:

Table 1 Cross-border e-commerce micro-course network marketing knowledge points

Curriculum	Teaching project	Teaching task	knowledge point
Cross-border e-commerce	network marketing	An overview of network marketing	Concept
			Characteristics
			Content
	The way of Internet marketing service	Website	
		email	
		Network community	
			BBS

According to this method, each chapter is divided into several summaries. Each summary of the knowledge points can be made into a micro-course, which constitutes a series of cross-border e-commerce micro-courses. The design of the micro-course should conform to the basic principles of micro-class design in the MOOC environment, and the content should be clearly organized. The teaching process should follow the principle of from easy to difficult, stimulating the subject role of students' learning through multi-directional construction according to the students' cognitive level.

3.2.2. Design of teaching resources

The teaching resource design mainly includes micro-course video and teaching extension resources, mainly based on micro-course video. Therefore, the design of teaching resources is mainly based on the video design of micro-courses. The main contents include video content, presentation methods and production methods.

The first is learning content design. According to the design principles of the MOOC micro-course, the video content should adhere to the principle of moderate decomposition, and it should be within the cognitive level of the students. Teachers should analyze the content of the textbooks, moderately decompose the knowledge points, construct the independent or related knowledge points, and record the teaching videos[5]. In addition, the design of teaching strategies should play the main role of students in order to stimulate students' interest in learning. The way of expression can be heuristic teaching and self feedback teaching. The production method must adhere to the principle of diversified curriculum resources, and integrate multimedia teaching elements such as text, animation and audio.

3.2.3. Design of teaching activities

In the MOOC environment, the teaching of Higher Vocational cross-border e-commerce micro-courses has higher requirements for students' self-learning, and the teaching process pursues the individualized play of students and interactive teaching. Therefore, the design of teaching activities can be carried out around online and offline teaching.

Online activities should consider the autonomy of students. Teachers can send course updates and study tasks online, and students can learn according to the schedule. In addition, teachers can also share the learning experience through the online forum of MOOC, and also carry out teacher-student interaction and answer questions online. Students can set up discussion forums according to their own level through an online open platform, and make progress through students' interaction.

Offline activities require students to return to the classroom. The teacher summarizes online activities and micro-course video teaching. Put the questions that arise during the process of the micro-courses to the students for discussion. Students should feedback the effectiveness of micro-teaching and evaluate teaching.

Online learning can be recorded on the MOOC platform. This is a way for teachers to understand students' learning through an open platform, and it is also one of the online ways for teachers and students to interact. Teachers can check the students' video viewing to analyze the academic situation, and make comprehensive quantitative evaluations based on student assignments and forum interactions[4]. In addition, teachers can also understand the teaching effect through online evaluation, update the video in time, adjust the methods of production and performance.

3.2.4. Virtual training platform

Higher vocational colleges focus on cultivating comprehensive and practical talents. Therefore, cross-border e-commerce courses must pay attention to the practical training of students. Because the current training practice in higher vocational colleges has certain limitations, teachers can use the micro-courses on the MOOC platform to establish a virtual training platform. Practical skills are also one of the main teaching objectives of higher vocational cross-border e-commerce. The virtual training platform requires the cooperation of the teacher team, and the simulation training design is carried out on the basis of the micro-course teaching. The basic mode is as follows:

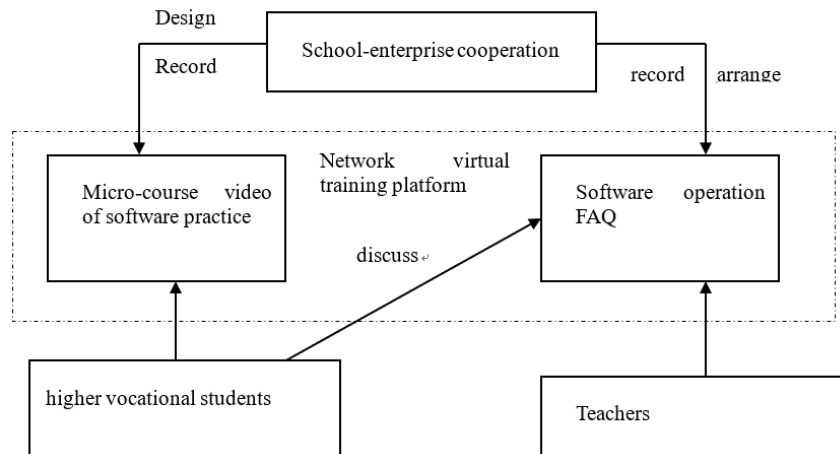


Figure 1 Schematic diagram of virtual network training platform for cross-border e-commerce micro-course

The design of the virtual network training platform should follow the principle of school-enterprise cooperation. The company and the full-time teachers will record and publish the practical operation on the platform, so that students can watch them independently. At the same time, the common problems that arise during the training process should be collected and sorted in time, and the problem database should be set up. It is collected and released by the cross-border e-commerce teaching team. The problems database should include the erroneous operation process, steps, as well as the consequences, solutions and cause of the error, which can be used for online and offline discussion by teachers and students.

4. Conclusion

In short, the application of the micro-course teaching model design in the MOOC environment in the cross-border e-commerce teaching in higher vocational colleges requires a lot of research and analysis. It is necessary to adhere to the main purpose of training practical talents in higher vocational education, and take the training of practical job skills as the main objective. Combining the advantages of the class and the micro class, we can improve the students' ability and enhance the students' enthusiasm and initiative for learning through the auxiliary classroom teaching, the students' independent learning and the construction of the virtual training platform.

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