



# An Exploration of Blended Teaching Mode of Vocational Education based on MOOC+SPOC

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**Abstract.** Based on the connotation and characteristics of the mixed teaching mode of MOOC+SPOC, this paper analyzes the necessity and feasibility of carrying out non-commissioned officer military vocational education based on MOOC+SPOC and puts forward the specific measures of mixed teaching mode based on non-commissioned officer military vocational education, which has guiding significance for promoting the information of non-commissioned officer military vocational education.

**Keywords:** MOOC; SPOC; Mixed teaching; Vocational education

## 1 Introduction

Vocational education is a typical long-distance on-the-job education, which fully embodies the idea of lifelong education. Its biggest feature is that educators and learners are basically separated in time and space. With the extensive application of information technology in the field of education, it has promoted the further development of vocational education in the direction of information. MOOC(Massive Open Online Courses) and SPOC (Small Private Online Course), as a form and development trend of education in the information age, provide effective ways to accelerate the pace of construction of vocational education and realize the leapfrog development of vocational education [1,2].MOOCs have attracted the attention of many researchers and practitioners since 2012, from the initial alarm of "a digital tsunami" caused by MOOCs to a "problem perspective" of hot and cold thinking about MOOCs, Finally, SPOC (small limited online courses), a new model of online course learning in the "post-MOOC era" of online education, emerged.

In this paper, we firstly introduce connotation and characteristics of blended teaching, introduce the feasibility of blended teaching in vocational education, and then discuss measures to implement the blended teaching mode.

## **2 Connotation and characteristics of blended teaching**

### **2.1 Connotation of blended teaching**

Here we are talking about blended teaching in which MOOCs and SPOCs are applied to teaching. The first problem to be solved in the development of MOOCs in China is who the MOOCs serve. Some scholars have proposed that the future development of Chinese MOOCs should "face China, serve education, radiate society and go global". Obviously, the key to service education is how to make MOOCs play their due role in serving school education, which becomes a problem worth studying and exploring.

SPOC came into being in this context. SPOC is a kind of "relevant mode" that combines classroom teaching with online learning, focuses on the course design and development of our university in the process of concrete implementation, and takes MOOC course content as course resources or embedding or referencing [3]. It is more delicate and niche than MOOC, which not only integrates the advantages of massive open online courses. At the same time, it can also make up for the shortcomings of traditional classroom teaching. It has become an important practical way of classroom teaching reform and innovation and has triggered the theoretical and practical research of blended teaching. Thus, SPOC provides the opportunity to integrate MOOCs into the classroom and improve the quality of classroom teaching. The main difference between SPOC and MOOCs is that MOOCs are available to all students online, while SPOC is available to students in a particular class at a particular school. SPOC has two modes: synchronous and asynchronous. Synchronous SPOC completely follows a MOOC source course semester that is being started. Teachers can only supplement the content but cannot modify the original content of the source course. Asynchronous SPOC is to copy the semester content of the source course of a finished course. Teachers can delete the content of the original MOOC. In the upper part, teachers can share the content of the MOOC course, and in the lower part, teachers can upload teaching content different from that of the MOOC they follow.

### **2.2 The characteristics of blended teaching**

#### **2.2.1. Benefits brought to students.**

The benefits of blended teaching based on MOOC+SPOC have been proven in practice. Generally speaking, there are the following points: First, students can watch MOOC teaching videos after class to correct what they don't understand; Second, watch the MOOC video before class and then play back the MOOC video with questions after class, so as to make the study more efficient and targeted; Thirdly, the diversified online training and automatic testing assignments published regularly on MOOC not only provide students with more training opportunities, but also cultivate students' consciousness of learning. Fourth, homework is allowed to be submitted for many times to get the highest score, students submit homework found to do wrong can be submitted again, until the score is satisfied, so that students in a homework submission to strengthen the

knowledge, to achieve more practice, "do in learning, and do in the middle school" effect [4, 5].

### **2.2.2. Benefits to teachers**

The benefits of blended teaching based on MOOC+SPOC for teachers have also been published in papers by many teachers who have conducted pilot teaching. First, SPOC teachers do not have to spend as much time, energy and cost as MOOC teachers to record short lecture videos and design a large number of exercises. That is to say, SPOC teachers can easily acquire a large number of teaching resources in MOOC courses and reuse them, so as to realize the transition from the original teaching mode of "more teaching and less practice" to "more intensive teaching and more practice". From the original comprehensive to focus only on the difficult issues. Second, SPOC teachers can get an online team to answer questions. Even if SPOC teachers don't have time, there will be MOOC teachers or other SPOC teachers and teaching assistants to answer questions, so that the university can help everyone. In addition, SPOC is convenient for teachers to manage students in their own classes and check their MOOC academic performance. Moreover, teachers can publish, cut off, score and count the MOOC assignments on a regular basis, thus saving teachers' time in assigning homework in class and wholesale homework after class.

## **3 The feasibility analysis of blended teaching in vocational education**

To apply blended teaching to vocational education is to take full advantage of both MOOCs and SPOCs. Although the subversive effect of MOOCs on traditional education is not as great as people think, the realization of blended teaching of MOOC+SPOC combining online and offline has become an inevitable trend in the current development of education. In order for MOOCs to truly transform and optimize traditional classrooms, we should not only "promote the advantages of MOOCs", but also "avoid the disadvantages of MOOCs". The application of blended teaching in vocational education has the following advantages:

### **3.1 Greatly improving the utilization efficiency of educational resources**

MOOCs come from a wide range of sources, with local universities and research institutes offering a large number of courses. These shared courses are highly open and shared on MOOC platforms, where you only need to have an Internet connection to learn. Students can study by using MOOC platforms designated by computers or mobile phones. They do not love the restrictions of learning time and place, and the number of students has broken through the restrictions of physical classrooms. A large number of students can access MOOC platforms at the same time during breaks. Course videos can also be watched repeatedly, so as to teach once and learn again. It greatly improves the utilization efficiency of educational resources, greatly increases the number of

students, improves the coverage rate of students participating in vocational education, effectively saves the cost of human, material and financial resources of education, and realizes the efficient utilization of educational resources.

### **3.2 To meet the personalized learning needs of students**

Teaching practice has proved that, based on the needs of learners' positions and meeting the needs of learning personalized courses, can effectively stimulate the learning motivation and enthusiasm of learners. To participate in vocational education and training through MOOC, follow the principle of "learning according to demand and teaching students in accordance with their ability" and implement menu course selection. Besides completing the required basic courses, I will choose corresponding courses based on my own job characteristics and personal career development needs, so as to improve my own knowledge structure and meet the personalized learning needs, to overcome the long-term dependence of learning habits, to change passive learning to active learning, to improve learning efficiency and enthusiasm.

### **3.3 Conducive to the development of the service function of the information network**

To carry out vocational education based on MOOC+SPOC, the first condition is perfect and extensive network support. At present, the information network has been widely connected to thousands of households, the bandwidth transmission rate of the backbone network has also been greatly improved, and the construction of the local area network has been relatively perfect, which is very conducive to the upload, download and open sharing of various course resources, and effectively enhance the service potential of the information network. At the same time, because some students can use the internal network, physically isolated from the local Internet, with good confidentiality, can fully meet the confidentiality requirements of special vocational education courses, there will be no leakage of course materials, textbooks, CDS and other traditional media in the process of transmission.

## **4 Measures to carry out vocational education based on blended teaching mode**

In the concrete construction practice, blended teaching mode can be expanded from the following aspects:

### **4.1 Accelerating the construction of curriculum content**

Currently, among MOOC platforms, the "Dream Course" platform led by the National University of Defense Technology is widely used. More than 400,000 people have registered for the platform, and more than 450 courses have been online. In addition, the platform has been managed by the Vocational Education Bureau of the Training

Management Department, and the Vocational Education Technology Service Center has been set up in the National University of Defense Technology to construct the "dream Course" platform. The Vocational Education Bureau also needs to increase its support for the hardware construction of the platform so that it can meet the demands of large-scale online services. In order to improve the access speed of all parts of the army, mirror sites should also be set up in each region to reduce the problem that the "Dream Class" platform cannot be accessed due to the failure of communication sites. In terms of course content, although there are more than 400 online courses, there are not enough courses that meet students' needs, especially those with strong practical content. In terms of course video production, the number of pilot colleges and courses should be increased. In the next step, the Vocational Education Bureau should increase investment, increase the establishment and construction of micro courses in colleges and universities, complete a batch of micro courses with advanced content, strong focus on practice, and form a curriculum system that can meet the needs of employers and adapt to the characteristics of various professional positions. The emphasis is placed on the theoretical teaching content oriented to the formation of basic service ability and the practical teaching content oriented to the formation of excellent quality, so as to ensure that students' theoretical level and practical ability are improved simultaneously.

## **4.2 Optimize the dual-division team structure**

Compared with academic education, vocational education focuses more on practical application. The purpose of education is to cultivate the ability of practical problems in the field of employment. Pay attention to students' comprehensive quality development, emphasis on practical ability. These new characteristics of vocational education put forward higher standards and stricter requirements for the comprehensive teaching ability of teachers engaged in vocational education.

### **4.2.1. Broaden the professional foundation of teachers**

Teachers engaged in vocational education must have a broad range of knowledge, be able to take the initiative to lead students to innovate in their major, and should also have strong scientific research ability, be good at finding and putting forward problems, and have the spirit of studying and bearing hardships. In addition, teachers should be relatively rich in teaching experience, military service experience should be relatively complete;

### **4.2.2. Cultivate the ability of teachers**

Strengthen the teachers' ability to improve the teaching theory, the application level of educational technology and the level of teaching skills, especially the comprehensive ability of organizing and implementing practice, practical and training teaching and case teaching, so that the teachers engaged in vocational education can achieve the goal of "teacher + engineer";

#### **4.2.3. Improve teachers' teaching and research level**

Guide teachers to actively participate in the reform of teaching content and innovation of teaching methods, pay attention to the training of teachers, so that teachers can fully enjoy the opportunity to learn and improve, especially the training of new methods and means needed for vocational and technical education teaching, such as MOOC, SPOC, micro class, flipped classroom and other new theoretical and practical ability training. Through training, we can improve our personality, increase our knowledge and develop our ability, so as to realize the "win-win situation" of teachers' all-round development and the development of vocational education. In addition, it is necessary to build a two-way exchange and post exchange system between colleges and universities according to post requirements, and to ensure the effective implementation of teachers' professional experience, teaching experience and practical experience systematically. At the same time, it is necessary to promote the information exchange between colleges and employers in a timely and unobstructed manner, enhance the pertinence of teaching, "delay" the function of colleges and universities, so that the education of colleges and universities and post training organic connection, at the same time also establish a trinity of expert, instructor and external teacher team for colleges and universities.

#### **4.3 Improve students' enthusiasm for continuous participation**

One prominent problem in MOOC learning is the high rate of course attrition. Although there are many registered learners, the rate of those who follow through and earn a certificate is low. Getting students to sit alone in front of a computer for weeks on end and focus on a subject is a daunting task. In addition, MOOC learners are prone to "procrastination". Students use their spare time to study online is not a strong binding force, after the initial excitement, encountered difficulties or busy work, will be delayed. Therefore, it is important to offer a large number of learning resources on Moocs to attract students, and to provide enough training opportunities for students to practice for a while. The most important thing is to answer questions in a timely manner, so that students do not accumulate problems and do not let problems become the terminator of students' learning. A strong teaching assistant team should be established to encourage and attract experienced and high-quality other student learners to participate in the Q&A and discussion through the collective Q&A of the lecturing teacher and teaching assistant team, so as to enhance the learning experience and learning effect of student learners. In addition, the use of some material incentives can also attract students to continue to participate.

#### **4.4 Improve the objectivity of performance assessment**

Assignments in MOOC learning are easy for learners to solve by copying. Therefore, it is necessary to create a learning environment in which students and students "dare not", "cannot" and "do not want" to plagiarize. One is to control the proportion of academic performance (including assignments and forum activity) in Moocs. Since Moocs are posted weekly and due at regular intervals, this "job marathon" will undoubtedly be

a test for copycats. The second is to arrange the experiment in SPOC. SPOC teachers set different experiment contents according to the professional characteristics of their own classes. Because the experiment focusing on practicality is relatively large in scale and has certain openness, it is relatively easy to confirm plagiarism, which can be easily detected by duplicate software. In this way, learners will have less expectation of plagiarism. The third is to make the job randomly generated. Each student has a different topic, which is completed within a limited time. The relative score of this part is obtained according to the total score ranking. The competitive spirit of students is used to stimulate students' sense of competition, so that there is no chance for copyists.

## 5 Conclusion

Vocational education is a brand-new cause, and hybrid teaching model is a new education model emerging in recent years. To promote the effective integration of the two is a process of both opportunities and challenges, returns and risks. Although there are still controversies and problems, the great attraction of Moocs in high-quality university courses has led more and more well-known universities and traditional educators to join them, including the construction of MOOC platforms, the opening of MOOC courses, and the exploration of the blended teaching model of "MOOC+SPOC+ flipped classroom". It is slowly showing people its charming luster. Therefore, we should fully draw on successful experiences at home and abroad, actively explore and develop a new road suitable for the characteristics of our military vocational education.

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