

# Research on Online Teaching Mode of Vocational Education under the Background of Social Constructivism

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**ABSTRACT.** *In the development of human society, with the deepening of people's self-cognition, a variety of learning theories bloom. In the late 20th century, constructivist learning theory began to prevail, which well revealed the close relationship between human cognitive initiative and experience, environment, society and other factors. As an important part of many branches of constructivism, social constructivism has great influence on education. It emphasizes the mutual cooperation and knowledge sharing among individuals, which has a very positive and far-reaching influence on the current educational theory and practice. Vocational education is an important part of today's higher education. From the initial "hand in hand" teaching to the current micro class and MOOC, China's vocational education is gradually exploring new forms of teaching mode. Especially under the background that the state strongly supports the "Internet +" education model, more and more schools and teachers begin to attach importance to online teaching. There are various online teaching modes. Which mode is most suitable for the current development of China's vocational education and how the effect of the current online teaching mode have become urgent problems to be solved and determined in vocational education. This study will use the investigation method, interview method and analysis method to study and analyze the online teaching mode of vocational education in China under the background of social constructivism, aiming to find the advantages and disadvantages of the online teaching mode in use and explore more effective online teaching modes.*

**KEYWORDS:** *Social constructivism, Vocational education, Online teaching mode*

## 1. Introduction

Social constructivism emphasizes mutual cooperation and knowledge sharing among individuals. Cooperation and sharing is the general trend of the development of vocational education. With the rapid development of Internet technology, the era of big data has come. The concept of Internet + provides a new way for the development of vocational colleges. Different from the previous teaching mode, vocational college students all over the country are able to break through the geographical and temporal constraints, get in touch with the world's most advanced professional and technical concepts, and learn excellent professional and technical

knowledge from all over the world.

The outbreak of COVID-19 will highlight the advantages of online learning in late 2019. Vocational schools have paid more attention to online teaching than ever before. Various online teaching modes introduced by universities have provided more learning channels for students who are unable to attend school during the epidemic. Some vocational schools, especially those that emphasize practical operation, have begun to explore new online teaching modes to meet the requirements of new era and new environment for vocational education and teaching.

With the support of theoretical framework and some practice, the effectiveness and practicability online teaching mode in vocational colleges has received some success. But because limit time of practice, the innovation of online teaching mode needs to be further explored and practiced. Therefore, under the social constructivism emphasizing sharing and mutual assistance, it is of great significance to discuss the online teaching mode of vocational colleges, which is helpful for vocational colleges to find problems, summarize experience, develop innovation, and provide vocational college students with real, practical and effective online learning approaches.

## **2. Several Popular Online Teaching Methods**

At present, there are many online teaching modes in China, such as MOOC, micro courses, flipped classroom, online teaching app, network broadcast room and so on. Moocs, micro courses and flipped classroom are mature, convenient to use and less influenced by time and space.

### **2.1 Mooc**

MOOC is the abbreviation of English Mass Open Online Courses

“MOOC”. The lesson is a good illustration of social constructionism, which aims to achieve any person, at anytime, anywhere, to learn any knowledge. This kind of network break through all kinds of limitations, let students learn anytime, anywhere can happen to the teaching model, for more people to provide quality learning opportunities. Tang Min (2015) believes that the biggest characteristic of MOOC is the sharing of high-quality educational resources. The courses are generally the best and most up-to-date courses offered by excellent teachers from prestigious schools, free from time and space restrictions.<sup>[1]</sup>

MOOC has its advantages, but it also has some disadvantages: it cannot realize the active atmosphere of face-to-face interaction in traditional classes. Although each chapter is short, the whole course is long and spans a lot of time, and lacks supervision, which requires students to have strong self-control. The teaching mode is relatively simple, and it is not easy to realize the practical training.

## **2.2 Micro-Course**

The concept of micro courses came from a college in the 1960s in The United States, Called Minicourse. Subsequently, micro-courses began to appear gradually in the public eye. Zhao Caihong (2019) believes that micro-course is a short and concise teaching resource aiming at explaining a single knowledge point. Its time is generally less than ten minutes, which can support mobile, personalized and fragmented learning experience and meet the diversified learning methods of students in the new network era. <sup>[2]</sup> Micro-course teaching is a new platform for rapid acquisition of learning resources, which emphasizes the meaning construction of the learned knowledge through students' independent learning. Teachers are only disseminators and guides of knowledge in the whole teaching process. <sup>[3]</sup>

## **2.3 Flipped Classroom**

Flipped Classroom, translated from English “Flipped Classroom” or “Inverted Classroom”, is often referred to as “Flipped Classroom teaching mode”. Wu Jiang (2015) pointed out that the so-called flipped classroom is in the informatization environment, teachers teaching video as the main form of learning resources and students before class to complete the teaching video resources to watch and learn, teachers and students together to finish the homework in class, collaborative inquiry and the interactive communication activities such as a new type of teaching mode. <sup>[4]</sup>

In short, flip the classroom by combining Internet technology and online learning space, the traditional teaching mode of teaching organization form, class structure, teaching design and teaching concept to construction organization, emphasizes the process of imparting knowledge from classroom to classroom, let students choose suitable for their own learning styles, myself more learning initiative to the students.

## **3. Suggestions about Online Teaching**

Teachers and students have the best say on whether online teaching mode can meet the development needs of vocational colleges in China today. Through personal practice, both teachers and students in vocational colleges have had some contact with online teaching. In order to have a more comprehensive understanding of the current situation of online teaching, the author made two questionnaires. The student questionnaire contains 12 questions about the usage and feelings related to online teaching before, during and after class. There are four questions in the teacher questionnaire, which mainly investigates teachers' feelings, gains and suggestions after using online teaching.

After a two-month investigation, the author collected 312 valid student questionnaires and 30 teacher questionnaires. Through the analysis of the survey results, especially from the question 11 of the questionnaire, we can clearly know the needs of students.

11. What are your attitudes to the following aspects that need to be improved in

the development of online teaching in the future? [Matrix multiple choice question]

Title\Options	totally agree	agree	not sure	disagree	totally disagree
Select teaching content suitable for online teaching	98(31.41%)	111(35.58%)	69(22.12%)	15(4.81%)	19(6.09%)
Change teaching strategies and methods	111(35.58%)	107(34.29%)	69(22.12%)	12(3.85%)	13(4.17%)
Reform education evaluation methods	82(26.28%)	124(39.74%)	75(24.04%)	5(1.6%)	26(8.33%)
Increasing the construction of supporting electronic teaching resources for courses	99(31.73%)	92(29.49%)	91(29.17%)	8(2.56%)	22(7.05%)
Strengthen teacher online teaching method training	78(25%)	117(37.5%)	79(25.32%)	15(4.81%)	23(7.37%)
Strengthen the management of classroom teaching order	98(31.41%)	101(32.37%)	91(29.17%)	9(2.88%)	13(4.17%)
Improve students' classroom	97(31.09%)	92(29.49%)	96(30.77%)	14(4.49%)	13(4.17%)

participation					
Improve students' independent learning ability	102(32.69%)	110(35.26%)	76(24.36%)	11(3.53%)	13(4.17%)
Guide students to correct their learning attitudes and cultivate good learning habits	90(28.85%)	113(36.22%)	83(26.6%)	9(2.88%)	17(5.45%)

Analysis of 11 questions as you can see, from the aspects of teaching, students to select teaching contents, changing teaching strategies and teaching methods, strengthen course of electronic teaching resource construction, strengthening classroom teaching order management, to improve students' participation and the demand is relatively strong, the demand for changing the teaching strategies and methods are particularly strong. These need the country, society, school joint effort, explore together.

Combined with the students' hopes and demands for online teaching, based on the constructivism theory, the author consulted a large number of literatures and put forward two Suggestions to improve the quality of online teaching.

### ***3.1 Fully Rely on the Internet to Build Vocational College Resources Cloud Platform***

Shen Lijun (2018) believes that “Internet education” refers to a new form of education that appears with the help of information technology and online learning platform. It mainly uses new network technology, breaks through the limitation of learning place, and provides individualized service for learners, which is a new mode of educational service.<sup>[5]</sup>

China has always attached great importance to Internet education. In November 2000, the Ministry of Education issued *the Circular on the Implementation of the “School-to-School” Project in Primary and Secondary Schools*; in December 2003, the Ministry of Education and other three departments jointly issued the *“Pilot Programme for the Modern Distance Education Project in Rural Primary and Secondary Schools”*; in March 2012, the Ministry of Education issued the *“Ten-Year Development Plan for Education Informatization (2011-2020)”*; and in September 2012, the State submitted the “12th Five-Year Plan “period To build a “three links and two platforms””; in November 2013, the Ministry of Education issued *“Opinions*

*on the Implementation of the National Project for the Promotion of the Information Technology Application ability of Primary and Middle School Teachers* “; on February 6, 2018, the General Office of the Ministry of Education issued “the main points of Education Informatization and Network Security work in 2018”. The strong support of the state provides great support for the innovation of Internet enterprises, and also provides unprecedented opportunities for colleges and universities.

At present, the teaching technology provided by Internet means includes electronic whiteboard interaction, flipped classroom, micro-course, admiration class, webcast, school network teaching platform and related auxiliary APP. Vocational colleges and universities with the help of Internet related technology, play their own advantages, research and development of online teaching platform, enrich online teaching mode. Chengdu Automobile Vocational and Technical School, for example, has set up a “AAA” level application model and access client-side teaching service platform, combined with the characteristics of the internship, to launch a project-based teaching model; the Yangtze Vocational College has established a CIO decision-making mechanism, and according to the “Internet mobile terminal” thinking mode, combined with the original network teaching comprehensive management platform, the establishment of mobile learning APP, through mobile terminals anytime, anywhere learning.

Some colleges and universities are also using the Internet to carry out mixed teaching, combining online and offline teaching the limitations of traditional teaching and supplement the instability of online teaching. In view of this, the regional colleges and universities introduce quality courses, excellent offline teaching through recording, micro-lessons and other ways to share. On October 12, 2011, the Ministry of Education issued the “Opinions of the Ministry of Education on the Implementation of the Construction of National Fine-quality Open Courses”. Subsequently, the first batch of “National-level” excellent-quality resource sharing courses announced by the Ministry of Education built a total of 1767 undergraduate courses, Tsinghua University” School online “course platform, Shanghai Jiaotong University “Good University online” and a series of admiration courses platform came into being. Qin Nan (2017) holds that hybrid teaching is divided into the following categories according to the form of teaching occurrence: one is alternating mode; the second is dynamic mode; the third is self-regulation mode; and the fourth is complete virtual mode.<sup>[6]</sup> This kind of mixed teaching mode can optimize all kinds of excellent course resources, which can make teachers apply network resources to teaching design, and also make teachers more substantial in curriculum content.

In an interview, Lu Xinyu, a teacher of Lanzhou Vocational College of Resources, Environment and Technology in Gansu Province, mentioned that the school attaches great importance to the use of the Internet for mixed teaching. May 23, 2020, School College of Metallurgical Engineering and Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, organized a theme online public science day.

Extending from class to class, the form of students' homework completion is also more abundant, from paper homework, on-site defense to email, learning forum,

online APP homework submission, homework batch correction, online defense and other transfers. Various resource platforms can also monitor students' learning situation in real time, quickly analyze and obtain intuitive data, answer questions online, and so on, saving a lot of unnecessary time waste.

### ***3.2 Innovating the Online Teaching Mode of Vocational Colleges with the Latest Technology***

The world's advanced universities had introduced virtual reality technologies as early as the early 1990s, such as the Massachusetts Institute of Technology (MIT), which developed and put into use Web Lab remote laboratories in 1998, the University of Ruhr in Germany, which had established a learning system on control engineering, and the University of Oxford in the United Kingdom, which had established a chemical information industry center. With the help of virtual technology, many countries have realized the teaching which can not be realized by practical training. Han Li (2019) put forward the practical training teaching mode of virtual reality as one. She thinks that “virtual” refers to the virtual simulation environment designed by means of virtual reality technology, in which students can carry out simulation and repetitive practical training teaching; “real” refers to the practical skills training in real environment such as laboratory, training room, workshop and so on, based on real training equipment. The two aspects of “virtual” and “real” practice teaching are implemented in parallel and complement each other.<sup>[7]</sup>

Ningxia Vocational and Technical College on April 30, 2019 with Alibaba Tmall campus northwest region, Ali Yun digital government Ningxia district principal to discuss the construction of the western digital campus, planning to build nail the future campus, Tmall campus and so on. Wang Fang, a teacher of the School of Art and Design of Ningxia Vocational and Technical College, said in an interview that the school has rich experience in information specialty construction and digital campus construction, not only has a cooperation plan with Alibaba, before the Institute of Art and Design has been working with Ningxia sharing Group to carry out 3D of printing projects, using virtual technology to print design works through the network and 3D of technology Production, the realization of art design and the actual output of this combination of virtual teaching model.

Liu Guowei, a teacher at Shaoxing Vocational and Technical College, said Zhejiang has a great advantage in virtual reality technology. Shaoxing Vocational and Technical College is now the first designated teaching base for the national medical information technology training and examination project in Zhejiang Province, the first “digital upgrading training base for small and medium-sized businesses” in the country, and the Shaoxing Institute of Endowment and Home Economics Industry and the Red Cross participate in the training base for the aged service, and fully build a virtualized training base. In addition, the school also attaches importance to the actual operation of students, regularly hold skills competitions, network simulation of the actual learning work environment, so that students can actually apply the skills learned in the future work.

Technology provides very favorable conditions for teachers and students in vocational colleges, and the integration of industry and education has further accelerated the transformation and upgrading of the national vocational education curriculum.

#### **4. Conclusion**

Vocational colleges shoulder the heavy responsibility of cultivating and transporting high quality technical personnel. In this process, vocational colleges need to keep up with the pace of The Times, provide students with advanced teaching concepts, high-quality teaching services, and provide rich practical training opportunities.

The continuous innovation and development of online teaching mode is the result of the whole society's in-depth exploration of individual cognitive process and also the product of adapting to the birth of new technology. Vocational colleges should grasp the pace of The Times, strive to build an online learning platform suitable for the actual situation of the school, increase cooperation with enterprises with the help of other high-quality resources, and effectively apply online teaching mode to teaching.

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