

The construction and application of SPOC teaching mode under the perspective of "Internet plus education"

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Keywords: Internet plus education; SPOC; Teaching mode; Application system

Abstract: Under the new form of "Internet plus world" pattern, education is deeply integrated with "Internet plus", forming educational form characterized by sharing educational resources. In this case, SPOC came into being and became a new choice for university campus, vocational training and enterprise training. Its development is immature, and there are still some problems in its specific application in China. It is necessary to systematically build the application system of SPOC. This paper discusses the construction of SPOC application system from three aspects: technical level, teaching mode and evaluation system.

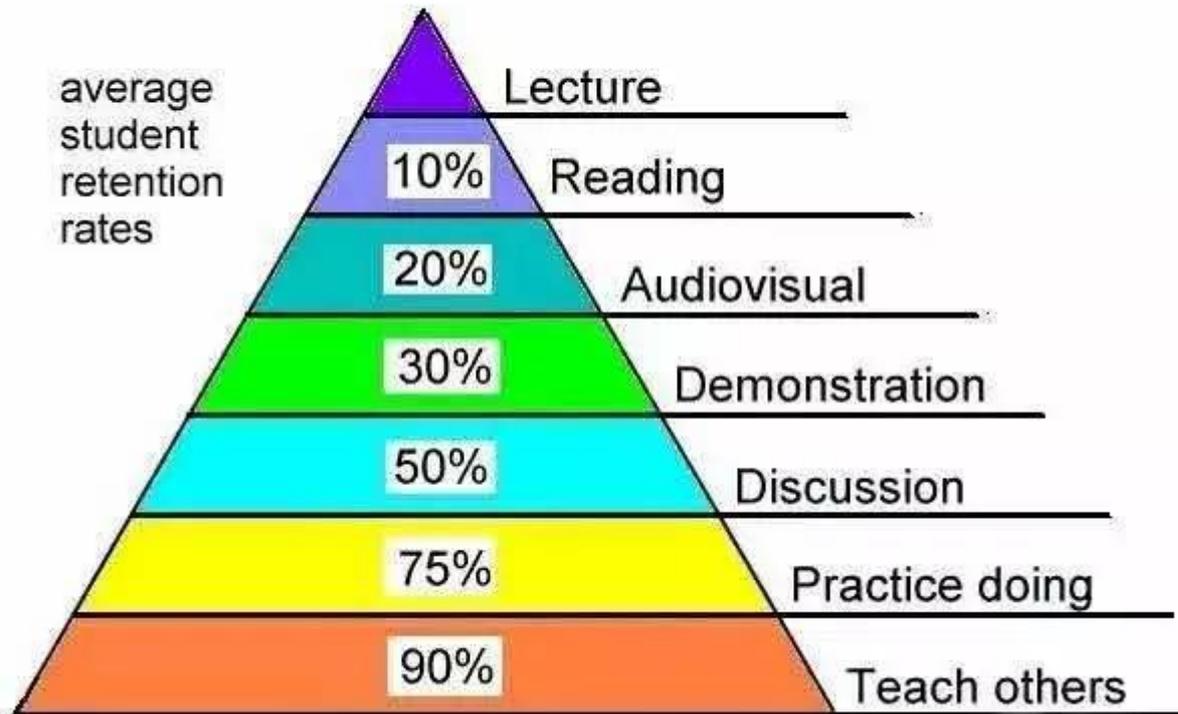
1. Introduction

In 2015, the Internet plus appeared for the first time in the government work report. Since then, the Internet plus mode has been integrated with many fields and played an important role. The "13th Five-Year +" education plan for national education development reflects the application of Internet plus education and clarifies its importance. Therefore, it is necessary to actively and fully integrate information technology with education and teaching, and innovate the mode of personnel training. The mixed teaching mode of information technology combined with network resources in different ways is gradually replacing the traditional classroom teaching. Among many models, SPOC teaching model has played an important role in improving the teaching effect in some colleges, especially in the application of courses in higher vocational colleges. This paper studies and explores the SPOC teaching mode under the background of Internet plus. Break through the traditional teaching concept, change the traditional way of classroom teaching and learning, and use the new teaching mode dominated by students and teachers to carry out teaching. Strive to improve the teaching effect, open the learning environment and enrich the learning methods.

2. SPOC connotation

SPOC (small private online course), that is, a small-scale restricted online course, was developed by Amando Fox of the University of California, Berkeley Professor Armando fox proposed to promote the personalization of MOOC education. It generally controls the size of students between dozens and hundreds, and sets restrictive access conditions for students applying for courses. Compared with MOOC, it has a pre application process and strict approval process, but it still inherits the principle of open sharing of MOOC in essence. Its characteristics are mainly reflected in the following aspects Point. (1) Advocating differentiated teaching in line with the concept of teaching students according to their aptitude can provide more targeted and personalized guidance for specific learning needs. (2) set layered teaching objectives to improve the completion rate of curriculum learning from the aspects of feasibility, prerequisite conditions and scale constraints. (3) Advocate the mixed teaching mode of integrating traditional classroom and online education, and realize the organic integration of online and offline teaching in teaching system, implementation methods and teaching resources^[1](Figure 1).

Learning Pyramid



Source: National Training Laboratories, Bethel, Maine

Figure 1 SPOC teaching mode

3. The necessity of SPOC in the new form of "Internet plus education"

3.1 Under the new form, the new demand of Education

Education needs to take advantage of the Internet plus new style of Dongfeng to break through the waves. With the rapid development of information technology and technology, Internet plus mode has been applied more and more widely in various fields. It has provided an opportunity for the development of enterprises, provided vitality and source for the progress of the industry, and increased the power and guarantee for the prosperity of the market. Whether it is progress in industry or agriculture, the "Internet plus" mode can bring great value. With the help of this strong east wind, education needs to realize transformation, truly take students as the main body, mobilize educational resources most widely and train talents to the greatest extent. Break the traditional educational pattern and seek new breakthroughs. Education has experienced various stages from books as the core, to teaching materials as the core, and then to counseling and cases as the core^[2]. These are teacher led education models. The school allocates teachers, students accept passively, and all knowledge and information depend on Teachers' indoctrination. Give full play to students' subjective initiative, let students become the leader of learning and become the direction sought by educators. In the era of information, intelligence and data, the application of cloud computing, the generation of data sharing and the popularity of video websites bring the ideal into reality. Education should make full use of shared resources, stimulate students' potential, take students as the core, teach by learning and teach according to their aptitude. Education needs to pay attention to the exchange of resources, promote educational equity and promote educational modernization. Follow the trend and cultivate innovative talents. Education should play a key role in "mass entrepreneurship and innovation". "Internet plus education" provides a platform and means for the exploration and Realization of educational innovation. Education should not only cultivate all-round development talents with ideology, realm, wisdom and responsibility, but also cultivate talents with

high IQ, high technology, high innovation and high application, increase the output rate of talents and improve the contribution rate of talents^[3]. Under the new situation of "Internet plus education", education can more effectively regulate resources and innovate teaching models, drawing on advanced experience at home and abroad, enriching classroom contents, enriching classroom experience and creating innovative talents in all aspects.

3.2 New development of SPOC under "Internet" mode

SPOC is the product of the Internet era and the evolution and innovation of MOOC. The popularity of video websites and the promotion of big data have brought a wave of MOOC. It advocates "delivering the world's best educational resources to the most remote corners of the earth", which makes many people place their hopes for open classroom, high-quality teaching and fair education. He makes use of the advantages of wide audience, fast communication speed and strong promotion to develop innovative courses. The number of visits and platform services have surpassed the previous open education resources^[4]. However, MOOC has also fallen into some difficulties due to its characteristics of unrestricted access identity, little restriction and complete online learning, which are mainly reflected in business operation, combination of practice and education, student participation, high dropout rate and student education management. The generation of SPOC makes up for the deficiency of MOOC. SPOC (small private online course) is a small-scale restricted online course, which is different from the nationwide opening of MOOC. It is a special course learning platform specially opened for students. It has strong pertinence, wired number of students, high participation, more convenient management and more conducive to teaching. SPOC is the inheritance, development and innovation of MOOC. It uses Mo in a relatively private environment OC resources, guided by teachers, carry out curriculum design and teaching planning, and realize the change and innovation of teaching process and teaching mode.

3.3 Advantages of SPOC in Teaching

SPOC and MOOC have their own advantages, but taken together, SPOC is better in many aspects. MOOC (large open online course) it is open to the world's interested people free of charge. In addition to the platforms established or jointly established by the world's top MOOC operators such as coursera, EDX and udacity, all regions and countries have their own course resource platforms, which have wide radiation, lower threshold and wider popularity^[5]. SPOC is based on MOOC and adopts the form of MOOC + classroom. For the private broadcast courses offered by the entity teaching form to the minority, because most of the students are fixed members, the teachers pay more attention to each student, can set up personalized classroom and teaching modes according to the students' ability, adaptability and reception methods, supervise the students' attendance and course completion, and can arrange the course content and progress in close combination with the courses taught. At the same time, the limited number of students will make students have a sense of importance and a certain sense of superiority, and it is easier to motivate themselves to complete their homework. SPOC's own curriculum design and the full play of teachers' guiding role are more conducive to create a personalized teaching model, better complete the "personality" training of students, improve the flexibility and effectiveness of teaching, and cultivate innovative talents. In addition, SPOC plays a role under the choice of schools, the supervision of teachers and the cooperation of students. It is more conducive to mobilize students' enthusiasm, enhance the motivation and sense of urgency of learning, improve the interaction and participation of teachers and students, improve the flexibility and effectiveness of teaching, facilitate the innovation of teaching process and mode, and finally improve the quality of learning and teaching(Figure 2).



Figure 2 SPOC and MOOC teaching mode

4. Construction of SPOC application system under the new situation of "Internet plus education"

4.1 Technical construction

SPOC mainly adopts "online" courses combined with "offline" teaching. Therefore, at the technical level, it should also consider "online" and "offline", and the two aspects should coordinate and help each other. The technical aspects required for "online" mainly include the establishment of database, the construction of professional development team and the operation of professional maintenance team^[6]. The technical level required for "offline" mainly includes the composition of teachers' professional quality, the establishment of training system, as well as the construction of teaching methods and system. "Online" teachers need to have a complete and sophisticated database so that users can have sufficient and high-quality choices. "Offline" teachers need to have an open vision and professional quality for accurate selection. Moreover, teachers are also providers and revisers of the database and need to upload high-quality teaching materials, We also need to feed back the problems encountered in teaching and the problems existing in network materials in time, so that the maintenance personnel can make adjustments in time. "Online" needs professional development team and maintenance team, so as to follow up network resources, develop new applications, adjust network resource allocation, etc. according to the teaching needs at any time. Teachers are specific practitioners, who can judge the effectiveness of applications, or put forward new needs according to the teaching situation to promote the development work. Therefore, attention should be paid to the technical cooperation and coordination of "online" and "offline".

4.2 Design and application of teaching mode

Internet plus teaching benefits teachers as well as students. SPOC can adopt an "double main body" teaching mode to enable teachers and students to interact and complement each other, and to promote teaching and learning together, and truly establish a learning community. Under the background of "Internet plus education", taking the cyber source as the public knowledge, teachers and students are the main body, teachers become the designers and arranger of curriculum process, observe and grasp the characteristics of each student, design their own training programs for every student, stimulate students' potential, and actively learn knowledge and actively think about them. Put forward problems and seek solutions by yourself, find suitable learning methods through interaction with teachers, correct learning attitude and cultivate learning habits. In the benign interactive communication, let teachers and students grow together. SPOC can help break the limitations of time and space and build a remote synchronous teaching model^[7]. Remote synchronous teaching mainly refers to carrying out the same teaching form in two different regions, making full and rational use of famous school resources, so that more students in different regions can be exposed to high-quality educational resources at the same time. SPOC can effectively

achieve the goal of perfecting the first mock exam, and playing the same course in famous universities or other institutions. The teachers in various classes interact with each other in live broadcast. Teachers from all over the country organize and assist in communication, so that although students are in a room, they can hear and touch more thoughts and spiritual pursuits.

4.3 Perfect evaluation system

Under the new Internet plus education mode, SPOC can apply a more perfect evaluation system, and make reasonable cooperation between online and offline departments, and implement a double scoring system. Before class, check the students' basic information and conduct a simple knowledge test. Use the big data and cloud technology in the Internet to establish an educational resource system, comprehensively test the students' intelligence level, personality characteristics, learning ability and other basic situation memory system, automatically establish a set of intelligent personality difference files for each student, and put forward corresponding educational means and suggestions for teachers' reference^[8]; Conduct a simple test on the knowledge points of students' Preview in advance, and feed back the answer results to teachers, so that teachers can master students' Preview in time. In class, teachers organize students to conduct practical tests, evaluate students according to the problems and specific steps encountered in practical operation, test students' application of knowledge points and master their actual operation level. After class, organize students to conduct periodic tests on the network to help students check and make up for deficiencies, and make supplementary explanations for the key contents that still have problems, so as to achieve the purpose of mastering and leaving no omissions.

5. Conclusion

As a teaching mode formed by the rapid development of information technology, SPOC has realized the education reform of "taking students as the main body", and fully considered the individual differences existing in students' acquisition of knowledge. Compared with the traditional teaching mode, SPOC is more in line with the educational concept and form of today's society. It is of great value and significance to study and explore the application of SPOC teaching mode.

Acknowledgments

Fund Project: The Planning Project of Humanities and Social Sciences Research of Chongqing Education Commission in 2019: Research on the Construction and Application of SPOC Teaching Mode from the Perspective of "Internet + Education"(19SKGH240)

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