Research on the Application of SPOC Online and Offline
Hybrid Teaching Mode in College English Curriculum

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Abstract. The reason why top universities pursue SPOC is that it perfectly adapts to the exclusiveness and high achievement values of elite universities, and helps universities achieve their goal of improving teaching quality. SPOC is the real value of online education in university campus.

Keywords: Application of SPOC, Offline Hybrid Teaching Mode, College English Curriculum

1. Introduction
The concept of SPOC (small private online course) was first proposed and used by Professor Armand Fox of the University of California, Berkeley. Small and private are relative to the mass and open in MOOC. Small refers to the number of students, generally from dozens to hundreds. Private refers to setting restrictive access conditions for students, so applicants who meet the requirements can be included in SPOC courses. The current SPOC teaching cases are mainly set up for college students and students in school within the enclosure. The former is a hybrid learning mode combining classroom teaching and online teaching. In the university campus classroom, MOOC lecture video (or its online evaluation function) is used to implement flipped classroom teaching. The basic process is that the teacher arranges these video materials as homework for the students, and then answers the students' questions in the physical classroom teaching, to understand what knowledge the students have absorbed and what hasn't been absorbed, and to handle the homework or other tasks with the students in the class [1]. In general, teachers can freely set up and control the progress, rhythm and scoring system of the course according to their own preferences and students' needs. The latter is to select a certain scale (usually 500 people) of learners from the global applicants to be included in the SPOC course according to the set application conditions. The candidates must ensure the learning time and intensity, participate in online discussions, and complete the specified Homework, exams, etc. the winner will receive a certificate of completion of the course. However, unsuccessful learners can register for online courses as spectators, such as watching lecture videos, learning assigned course materials at their own pace, doing homework, participating in online discussions, etc., but they cannot accept the guidance and interaction of the teaching team, and will not be granted any certificate at the
end of the course [2].

2. Application cases of SPOC

2.1. SPOC experiment of Harvard University

In 2013, Harvard University conducted SPOC experiments on three courses. The first is the "copyright" course offered by the law school on the EDX platform, which imitates the traditional Harvard law class and divides students into project groups with less than 25 students. The TA organizes discussions among members of each project group. At the end of the course, online students, like traditional Harvard law school students, take a three-hour long exam, and the winner gets a certificate of completion and a written evaluation. Due to the good response, the course will be launched again in 2014.

The second course is "central challenges of American national security, strategy and the press: An Introduction". Students are required to watch videos after class, read about 75 pages of literature every week, complete all assignments, participate in thematic discussions organized by teaching assistants, and participate in Online student discussion and Harvard campus student discussion. At the end of the course, students who meet the requirements of the course are awarded a Harvard x certificate. The third is the "the architectural imagination" SPOC course offered by the school of design for its new graduate students, which is expected to open to more people in the future. As Figure 1

![Figure 1](image)

**Figure 1.** the mixed teaching design based on SPOC

2.2. SPOC experiment and promotion at the University of California, Berkeley

"Software engineering" is a brand course of University of California, Berkeley, which is set up by Professor fox on EDX platform and provided to students on Berkeley campus in SPOC mode. The key feature of this SPOC course is its automatic scoring function. Students who submit complete programming assignments or configure complete applications in the cloud can immediately get detailed scores and more granular feedback. In addition, the automatic scoring function allows students to submit assignments multiple times, which improves their knowledge and skills while obtaining higher scores [3].

Due to the significant results, in spring 2013, fox team moved its SPOC model to four other universities (see the table below). According to the survey of four teachers, all the teachers watched the MOOC video of Berkeley before class, three teachers used the MOOC test questions, and two teachers used the MOOC automatic scoring homework. A teacher flipped the class and asked the...
students to watch MOOC video after class for discussion in class. After one semester, the SPOC courses of four universities have achieved remarkable results:

1. The function of automatic scoring reduces the burden of teachers and strengthens the concept of "test driven development" in software engineering curriculum;

2. The information content of the lecture video is rich and dense. Students can pause and review any knowledge point, so it is a very efficient way of information transmission;

3. Students are excited about their access to the latest technologies and cutting-edge development methods of software engineering;

4. This course brings challenges to excellent students that are not available in other classes;

5. Students receive world-class teaching (via lecture videos) and are challenged by the same courses offered by Berkeley's top computer science program.

2.3 Apply MOOC course of MIT to SPOC experiment

MOOC has been questioned that it will weaken the diversity of teaching methods. In this regard, fox said that even if one or several courses occupy a dominant position in the whole curriculum field, teachers can adapt MOOC as a curriculum resource to use SPOC model in campus curriculum. San Jose State University in Silicon Valley, California, and Bunker Hill Community College in Boston have respectively conducted SPOC teaching experiments using the courses of MIT on EDX platform, and achieved preliminary results.[4]

3. Development of SPOC in China

3.1 Zhejiang University

Mr. Weng Kai, from the school of computer science and technology of Zhejiang University, started to use SPOC as a supplementary course in September 2014. At 18:30 on December 20, 2014, in room 209, teaching building 12, Tianjin University, Jiang Shan and Xu Jian, associate professors of the school of machinery, were teaching the course of engineering graphics. More than 100 students from all majors of Tianda University and more than 2500 students from 32 universities in 21 cities across the country studied the course synchronously through their own video classrooms. This course is a project of "Research on teaching mode of higher education supported by information technology" of the Ministry of education. It is the first SPOC course (small-scale restricted online course) of Tianda. It has been tested in famous universities such as Harvard University.

3.2. Tsinghua University

Tsinghua MBA SPOC breaks through the conservative teaching mode. After 20 years of continuous development, China's MBA Business Education is developing rapidly, and Tsinghua University School of economics and management is also constantly pursuing innovation. When most business schools started to enter the school, Tsinghua MBA 2014 freshmen had already started the final examination of two courses, management economics and China's world and economy. To this end, Mr. Li Jinliang said: "due to the update of technology, the Tsinghua can carry out substantive learning in advance, under the guidance of teachers, and then interact with teachers and teaching assistants online. Only after passing the examination can they enter the flipped classroom study of management economics. "Three courses are open for them in the new semester, DMB data accuracy and analysis, financial statement analysis and elective courses (presented online)."

4. Summary

By limiting the admission conditions and student scale of the course, SPOC can customize the course for these specially selected students, provide them with differentiated and stronger professional support, improve the students' complete experience of the course, avoid the high dropout rate and low
completion rate of MOOC, and make it easier to obtain the certificate. The SPOC experiment further shows that compared with the traditional classroom, the MOOC video used by SPOC can attract students to prepare carefully and stimulate their participation, especially for those students with insufficient learning motivation. Compared with pure MOOC, SPOC makes online learning beyond the stage of copying classroom courses, and produces more effective learning effect. SPOC model makes full use of the important characteristics of MOOC, including obtaining high-quality course materials and quickly feedback to students through automatic scoring, so as to maximize the effectiveness of scarce resources.

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