

Research on Learning Evaluation Strategy in SPOC Teaching Mode

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Abstract: This The SPOC teaching mode is a new type of teaching method which is produced along with the development of information technology and teaching methods. In this teaching mode, environmental factors, learning factors, teaching factors and other factors affect each other and combine with each other. Firstly, the status quo of SPOC teaching mode is expounded, and then the problems of learning evaluation in SPOC teaching mode are analyzed from three aspects. Finally, from the three aspects of network teaching platform, process evaluation and diversification of evaluation subjects, the problem of learning evaluation in SPOC teaching mode is proposed.

1. Introduction

With the development of educational informatization, various online education teaching modes have had a huge impact on the traditional teaching mode. Online education puts higher and higher requirements on course types, teaching organizations and online learning systems. However, how to evaluate the online education reasonably and effectively is an urgent problem to be solved in this teaching mode.

As a typical online education model, SPOC draws on the advantages of traditional teaching mode and MOOC teaching mode and has been tried by more and more schools, educators and learners. However, due to the lack of a reasonable learning evaluation system in the SPOC teaching mode, the learners' online learning motivation is insufficient, the learning effect is not satisfactory, and the teaching staff cannot effectively control the teaching process. In the long run, it will have an impact on the learner's learning quality.

Therefore, no matter from theoretical or practical analysis, designing and developing a set of effective SPOC-based learning evaluation system will promote the effective use of teaching resources and have important theoretical and exploratory significance for ensuring learners' learning quality.

2. Research Status of SPOC Teaching Model

SPOC (Small Private Online Course) was proposed in 2013 by Professor Armando Fox, head of MOOC at the University of California, Berkeley. SPOC teaching is different from MOOC teaching. It limits the number of learners to a small range of tens to hundreds of people. It is a small-scale course type with specific learners. Therefore, compared with MOOC, SPOC teaching mode can improve the completion rate of the course, and its supporting platform and mechanism are simple to operate, which can reduce the teaching cost.

Through the analysis of the literature, it is found that the current research on SPOC teaching mode mainly focuses on the exploration, construction and teaching practice of this teaching mode. For example, in the literature [1], scholars discussed the MOOC teaching mode, and described its successes and existing problems, and analyzed the concept of SPOC, and introduced the use of SPOC in some foreign universities, and the advantages and disadvantages of MOOC and SPOC are compared and analyzed; In the literature [2], scholars focus on SPOC from the basic connotation and value orientation, and analyze the relationship between SPOC and MOOC, and put forward the

relationship structure of "time-space-learning form" based on SPOC. Finally, through the actual case, the development history of SPOC is analyzed; In the literature [3], scholars have pointed out that SPOC is a MOOC under mixed learning. They analyze the typical SPOC cases and point out that using SPOC can effectively transfer knowledge and promote learning, which is conducive to the transformation of teachers' roles; In the literature [4-6], scholars have constructed a practical and guiding SPOC teaching model. They have carried out SPOC teaching model construction research from different angles, such as creating SPOC hybrid flip classroom teaching model, constructing SPOC-based deep learning model, and building a multi-dimensional stereoscopic teaching mode that incorporates the flipping classroom and MOOC, including basic teaching, supplementary teaching and extended teaching; In the literature [7-11], scholars explored the SPOC teaching model from the MOOC-based SPOC teaching practice and achieved a series of results. As a new way of learning, SPOC teaching mode has been paid more and more attention and research. Although scholars have conducted a lot of research on SPOC, there are not many researches on the learning evaluation system in SPOC teaching mode. As a major part of the SPOC teaching process, a feasible, scientific and reasonable evaluation system must be designed for the SPOC teaching model.

3. Problems in Learning Evaluation in SPOC Teaching Mode

As a new teaching mode, SPOC has been applied to the teaching process of more and more teachers. However, due to the lack of scientific evaluation system for this teaching mode, this teaching mode is still mainly used as a supplementary form of teaching, used to assist the traditional teaching mode, does not really let the learner experience the important influence of this online teaching mode on his performance, resulting in a situation in which the learner is tired. Because the SPOC teaching mode is a teaching mode based on the combination of the traditional teaching mode and the online teaching mode, it is not possible to simply copy the evaluation system of the traditional teaching mode, nor can it directly evaluate the learners according to the online teaching evaluation mode. It is necessary to effectively evaluate the learners in combination with the characteristics of SPOC teaching.

At present, although some scholars have also proposed some SPOC learning evaluation systems. However, through the research of related materials, it is found that there are some problems in the evaluation based on SPOC.

3.1 Lack of Evaluation of the Network Teaching Platform.

Most of the researchers evaluated the SPOC from the perspective of the teacher or learner, but ignored the evaluation of the online teaching platform. As an interactive platform for teaching and learning, the online teaching platform plays an important role in the online teaching mode such as SPOC. Whether the teaching platform can provide high-quality teaching and education resources, whether it can provide convenient interactivity, how to effectively improve learners' self-control ability, whether it has good reliability, whether the page is beautiful and other factors will become important factors affecting learners. Therefore, whether to design and develop a complete and effective online teaching platform will have a great impact on teaching and learning effects.

3.2 Lack of Effective Evaluation of Learners' Learning Process.

For the evaluation of the learning process of SPOC courses, the traditional offline examination is still the main assessment method and online activities are the supplement, which is not consistent with the SPOC teaching mode. The SPOC teaching process emphasizes online self-learning. Moreover, for the evaluation of online activities, most of the instructors often pay attention to the time for learners to play videos, frequency of interactions, online test scores and submission of online assignments, etc., and often ignore the degree of concentration when learners watch videos, the quality of interactive communication, whether online testing is done independently and the quality of homework completion, etc., even when there are many students, only count the number of interactions and the number of homework completions and do not pay attention to the quality of these

learning processes, and there is no way to know the doubts and problems of the learners, thus making teaching and learning disconnected from each other. Such learning can make the learner unable to judge the quality of his or her own learning process and cannot give evaluation and feedback to the learner's learning process in time, so that the learner slowly loses the interest of learning and doesn't take online learning seriously.

3.3 Single Subject and Mode of Evaluation.

In the traditional teaching mode, the evaluation subject is the teacher and the student, and the evaluation method is also a one-way “teacher evaluates student” and “student evaluates teacher”. The single evaluation subject and evaluation method are often subject to the evaluation subject's feelings, evaluation methods and other factors, the evaluation cannot fully and fairly reflect the quality of learning. Influenced by the traditional teaching mode, in the evaluation subject and mode of the SPOC teaching mode, in addition to the one-way “teacher evaluates student” and “student evaluates teacher”, diversified evaluation subject such as teaching assistants, peer review and self-evaluation of learners are introduced. The evaluation method also introduces online testing and online interaction, etc. However, it is also difficult to comprehensively evaluate the learner's learning situation through these evaluation methods.

4. Learning Evaluation Strategy in SPOC Teaching Mode

As a kind of online and offline teaching mode, SPOC has a certain dependence on technology. The friendliness, ease of use, and applicability of the SPOC operation support platform are an essential factor in ensuring the effectiveness of teaching. For the teaching mode, the teaching methods used can vary widely, but it is still studied in different stages of learning, which is before, during, and after class. Combined with the research of SPOC teaching, the SPOC learning evaluation method should also be carried out in a combination of multiple evaluations.

4.1 Evaluation of the Network Teaching Platform.

Computer science and technology in network teaching only provides an efficient modern means for distance education. The implementation of teaching must conform to the general law of modern education. In the teaching process, the network teaching platform can not only be used to publish teaching materials, but more importantly, it is necessary to achieve full communication between teachers and students, students and students. To achieve this communication and to ensure the quality of teaching, a complete network teaching platform is needed. A complete network teaching platform should consist of four systems: network teaching support system, network course development tool, network educational management system and network teaching resource system. The specific evaluation criteria of each subsystem are shown in Table 1.

4.2 Process Evaluation of Learning.

In the traditional teaching mode, the evaluation of student learning tends to focus only on summative evaluation and evaluate the learning results through mid-term exams and final exams. Although there are some evaluations of the learning process, such as stage tests are required, they will basically be neglected, so that some students make temporary efforts to deal with exam, ignoring the true meaning of learning. In the SPOC-based teaching mode, the online teaching platform and face-to-face teaching can be used to pay attention to whether the learner meets the teaching objectives and requirements in real time, evaluate the learning process in time and find out the problems that the learners have in the learning process, and making corresponding teaching adjustments, constantly improving and perfecting learners' learning activities. As far as the evaluation of the learning process is concerned, the students' daily work has always been valued both in the past and in the present. This is mainly because the usual homework can not only help the learner to deepen the understanding of the concept in the learning process, but also help the learner to enhance the perceptual knowledge and improve the answering skills in the process of completing the homework. Therefore, the usual

homework plays a vital role in the teaching process, especially the educational model that emphasizes the characteristics of autonomous learning in online teaching.

The SPOC teaching platform provides a complete learning record and scoring record for student evaluation, which provides more basic data for process evaluation. In addition, the evaluation content is supplemented by student participation degree and sharing degree, especially the participation degree and quality of the discussion area, etc., in order to more comprehensively evaluate students.

Table 1 Composition and evaluation criteria of the network platform

Composition subsystem	Evaluation Criteria
Network teaching support system	Whether to support the "teaching", "learning" needs of teachers and students in the teaching process and the management and implementation of the teaching process; whether it can provide synchronous, asynchronous and real-time, non-real-time teaching environment; whether it can provide different forms of teaching for students of different abilities; whether to provide teacher-student interaction tools; whether to provide a test system to detect learning effects and teaching effects; whether to provide real-time answer tools for students, etc.
Network course development tool	Whether it can complete the content of network course production; whether it supports basic teaching logic design; whether it supports network multimedia development function; whether it can provide material library and material management software; whether it can provide network courseware template and guide library; whether it can support networked learning mode, etc.
Network educational management system	Whether students can save their personal files through the management system, get the latest information published by the teaching institutions in time, get help and guidance from the teachers, etc. Whether the teacher can set up the course and teaching plan through the management system, view the student's learning files and provide students with targeted help; whether the managers can manage teacher files, student files, post the latest information, manage and maintain the teaching system.
Network teaching resource system	Whether there are teaching resources including material library, test paper library, network courseware library, case library, etc.; whether the resources have their own index information for quick searching, browsing and access; whether the network teaching resource system can collect, manage, retrieve and utilize various types of teaching resources.

4.3 The Diversification of Evaluation Subjects.

In the traditional teaching mode, it is often based on the summative evaluation criteria. In the new teaching concepts such as constructivist teaching theory, the construction of the learner's own knowledge is taken as the main body of evaluation. At the same time, it is also necessary to transform the way in which teachers are the sole subject of evaluation into the pluralistic subject of evaluation, the personality development is promoted on the basis of unified evaluation, and the communication and negotiation between the evaluation subjects are emphasized. The diversification of evaluation subjects is the trend of the development of online teaching evaluation. According to the different evaluation subjects, the evaluation of students' learning effects should also be diversified in the SPOC teaching mode. In general, the evaluation subjects are the learner himself/herself, his/her peers and teachers.

4.3.1 Self-Evaluation

Self-evaluation is a kind of creative activity, a means to show learners' individualized learning and one of the important means for teachers to understand students' learning objectives and learning conditions. Through self-evaluation, students can reflect on their own learning process and provide teachers with an important reference for teaching and tutoring.

4.3.2 Peer Evaluation

Peer mutual evaluation is to establish an open and mutual trust evaluation mechanism among learners. This kind of evaluation is open, based on the full trust, mutual learning and mutual promotion among learners. It is an evaluation based on heuristics. Through this evaluation method, learners can play a subjective role, use a collaborative learning support platform in a good network environment to communicate, learn together, learn from each other, and exchange learning experiences, thereby improving the initiative and autonomy of learners. In the process of evaluation, learners can learn from each other and improve together.

4.3.3 Teacher Evaluation

In the SPOC teaching mode, the role of the teacher in the traditional sense has changed. He is both the instructor of knowledge, the organizer, the coordinator, the helper, the facilitator, the information feedback person of learning and the evaluator of the learning effect. Due to the virtual nature and trans-time-space characteristics of the SPOC learning model, the teacher only performs face-to-face teaching within a certain period of time and the tutoring of the learner is also limited by time. In this case, the teacher should give the learner timely and accurate evaluation, affirm the learner's achievements and point out the problems in the study according to the learner's learning progress, the quality of the homework completion and the results of various tests and exercises, so that learners continue to improve learning methods based on evaluation information and adjust learning strategies to achieve the desired learning results.

5. Summary

Compared with the traditional teaching mode, the SPOC teaching mode has a certain degree of change in the roles of teachers and students. In the SPOC-based model, teachers are more of a role as a learning leader, target setter, resource provider, learning facilitator, difficult helper, and effectiveness evaluator. More emphasis on students as the initiative of learning, spontaneous and active participation in the whole process of learning, under the guidance of teachers, step by step to complete their learning goals and gain learning outcomes. Teachers take the lead as the main task, and the students complete the learning tasks independently and with the help and guidance of the teachers.

In view of the existing SPOC teaching mode, this paper puts forward the evaluation strategy of SPOC teaching mode from three aspects: network teaching platform, process evaluation and evaluation subject. However, teaching evaluation is complex system engineering. This paper does not design and implement a systematic SPOC teaching evaluation model. Therefore, in the follow-up research, it is necessary to design a systematic evaluation index system based on the systematization of teaching evaluation.

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