Research on SPOC Hybrid Teaching mode of "Landscape Design" Course in Colleges and Universities

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Abstract: With the rapid development of Internet technology, “Internet+Education” provides new ideas and new ways for teaching reform in colleges and universities. Education teaching as an important field to cultivate new talents and promote social progress should also keep pace with the times. This paper analyses the difficulties and problems faced by the "Landscape Design" course in colleges and universities, and combines the advantages of the SPOC hybrid teaching mode to put forward the teaching framework of the "Landscape Design" course based on this mode, and is committed to improving the teaching effect and classroom efficiency of the course through the construction of the SPOC hybrid teaching mode and to improve the degree of participation and interaction of students’ learning in order to deepen students' understanding of the basic knowledge of the profession and to cultivate students' independent learning and collaborative communication. Cultivate students’ ability of independent learning and collaborative communication.

Keywords: Landscape design course, SPOC hybrid model, Instructional design, Instructional evaluation.

1. Introduction

Landscape Architecture is a discipline that coordinates human activities, nature and culture through the design and planning of urban and regional environments to create a harmonious external space. Therefore, the knowledge of "Landscape Design" course covers a wide range, which is an artistic embodiment based on in-depth exploration and understanding of the environment, plants, architectural engineering, history and culture. However, at present, the teaching space and research scale of "Landscape Design" course in domestic colleges and universities are not large enough, and the content still stays in the basic framework of environmental design, and the limitations of the course itself are not enough to promote the full development of the abilities of students in the direction of landscape design. How to make the landscape design course to achieve a balance between theory and practice, how to improve the teaching effect of the landscape design course through the innovation of teaching mode design, need to be more in-depth thinking.

2. Explanation of Relevant Concepts and Advantages of Blended Learning

2.1 Concept of SPOC Teaching Model

In 2012, people used the connectivity of the Internet in teaching and learning, which set off a new trend of online education; MOOC is the product of this background, people use the Internet to break the time and space limitations of teaching and learning through the MOOC platform, so that teachers and students can have discussions and interactions at any time and any place. However, MOOC as a kind of unconditional, zero-cost teaching resources, resulting in differences in the level of students is not conducive to personalised learning, which to a certain extent, undermined the self-confidence of students learning, and "no burden" learning also led to the problem of high enrolment rate and low completion rate. Zhu Zhiting pointed out that "the advent of the 'post-MOOC era', that is, the initial stage of MOOC advocated independent online learning is gradually evolving to blended learning, experiential learning, project-based learning[2].

In 2013, the concept of SPOC was put forward by Professor Armando Fox on the basis of this background, which refers to the hybrid teaching mode for small-scale specific groups of people, which can reduce the burden of teachers' teaching, reduce students' learning costs and thus improve the quality of teaching and learning effects. In a sense, SPOC teaching mode is an extension of MOOC, a typical course paradigm in the "post-MOOC era", with the characteristics of niche, restriction and resource intensification, etc. which can promote the in-depth integration of MOOC and traditional classroom teaching[3].

2.2 Advantages of SPOC Blended Teaching Model

SPOC hybrid teaching mode is carried out under the premise of the rapid development of digitalisation, which draws on the characteristics of MOOC with high-quality resources and educational innovation as well as integrates the characteristics of control and infectiousness in the traditional teaching mode, and reasonably brings into play the advantages of both.

2.2.1 Strong relevance and enhancement of the quality of teaching and learning

MOOC has a wider audience than SPOC hybrid teaching mode, and there is great ambiguity and openness in both learning and management when MOOC is used for teaching activities, which requires learners to have strong independent learning ability, while in SPOC hybrid teaching mode, teachers need to analyse the learning object and then organise the teaching activities, which can make the development of the teaching work and the organisation of learning activities more targeted and improve the quality of teaching and
learning results. This can make the teaching work and learning activities more targeted, and also improve the quality of teaching and learning effects.

2.2.2 Pedagogical innovations for resource utilisation

The learning of basic theoretical knowledge in SPOC blended teaching mode is usually done online, and the online resources are often high-quality contents after mutual exchanges and comparisons, so both the quality of the courses and the innovation of the learning mode can increase the learning efficiency of the students on the basis of reducing the working time of the teachers, which is conducive to the cultivation of the students' sense of autonomy in learning and giving full play to the highest effectiveness of the teachers' teaching. On the other hand, the diversity of teaching activities and teaching evaluation can also enhance students' interest in learning, promote the rational use of teaching resources, and meet the needs of efficient learning.

2.2.3 Lower cost and improved teaching efficiency

SPOC blended teaching does not require the production of course resources for a broad social surface, and the model is less costly than MOOC teaching. Moreover, online learning can promote students' understanding of basic knowledge and reduce teachers' working time, so that teachers have more energy to devote to the planning and innovation of the curriculum, which facilitates the smooth development of the later teaching sessions, and to a large extent, improves teaching efficiency.

3. Dilemmas Facing the Teaching of Landscape Architecture Courses in Higher Education

Landscape design course is one of the core courses of environmental design majors, which not only requires students to carry out the theoretical knowledge of multidisciplinary cross-disciplinary learning, but also more importantly, the transfer and application of knowledge, i.e., the cultivation of practical ability. Due to the complexity of the teaching content and the difficulty of the teaching objectives of the course, there are many hindering factors in the teaching process of the landscape design course.

3.1 Insufficient Amount of Courses at a Given Time

Landscape Design is a multidisciplinary subject with a wide range of knowledge, which aims to cultivate comprehensive talents related to aesthetics, design, environment, engineering and humanities, etc. Therefore, the content of the course is relatively large, which makes it difficult to give equal importance to theoretical knowledge and social practice. On the other hand, the total number of class hours is fixed, so if the traditional way of teaching is used, the amount of content in each class is very limited, which will easily affect the construction of the macro-knowledge system.

3.2 Teaching Methods are Relatively Homogenous

The learning activities in the traditional teaching model are rather homogenous in form. Most of the time in the course is dominated by the lecture method. Simply instilling knowledge will make students feel tired in the classroom, and it is difficult to stimulate students' interest in learning and enthusiasm in the classroom. Compared with the traditional mode, teaching through MOOC is only a conversion of the learning environment, and there is no greater breakthrough in the teaching method. Both of them will eventually produce the same problem: prolonging individual learning time triggers students' burnout and leads to low learning efficiency.

3.3 Lack of Certain Linkages in the Programme Content

The landscape design industry was created in the historical context of market, city, business and socialisation, so landscape designers will not only have to deal with the issue of comprehensive land use mechanism, but will also be faced with the safety and health of the land, human beings, the city, and all life, as well as the ability to achieve the major policy issues of adhering to sustainable development as put forward by the state(6) . It can be seen that landscape design courses need the knowledge of multiple specialisations to support them, and it is difficult for the traditional teaching mode to link the knowledge of various specialisations fluently. On the other hand, the situation of multiple professional knowledge will not only bring pressure on teachers to prepare lessons but also make it difficult for students to digest and form their own knowledge reserves in a short period of time.

4. SPOC Blended Instructional Design for Landscape Architecture Course

In view of the current problems in the education of the "Landscape Design" course in colleges and universities, firstly, the use of online high-quality video resources can solve the dilemma of insufficient teaching resources and the lack of knowledge connectivity; secondly, diversified learning activities are more likely to bring students a sense of freshness as a means of stimulating students' motivation to learn, and can also be used to plan the practical sessions according to the needs to enhance the students' comprehensive ability. Finally, teachers organise suitable teaching activities according to the learning objectives, which are usually carried out in a combination of online and offline, and conduct multiple evaluations and summaries in the process. Based on the above analysis, the author summarises four aspects of the SPOC hybrid teaching model for the Landscape Architecture course: pre-analysis, pre-course guidance, in-class research and learning, and post-course summary.

4.1 Pre-analysis

Pre-analysis is an important measure to ensure the rationality and scientificity of teaching. It mainly refers to a preparatory work before the teacher carries out teaching, which aims to strengthen the teacher's understanding of the basic situation, and then make the teaching plan of the course according to the results of the analysis. The specific content is shown in Figure 1:
Learning objects, as the subject of the teaching and learning activities, are the part of the teaching and learning process that needs to be focused on. In order for the design of teaching activities to contribute to the effective learning of the subjects, it is necessary to take into account the differences between the subjects and the approximate level of the subjects in general. Learning content analysis is the main basis for the development of teaching strategies and activities, and it is through this step that reasonable teaching methods, environments, and activities can be selected. Learning environment analysis is to make full use of the facilities and equipment of the surrounding environment on the basis of clarifying the above, and to help create a suitable learning environment by combining the teaching objectives and contents of Landscape Architecture, the characteristics of the subject, the conditions of the school and other factors.

4.2 Teaching Resources and Activity Design

The design of teaching resources and activities is a preparatory process based on a pre-analysis to sort out the sequence of teaching activities and the use of teaching resources, as well as to consider what environmental support is needed for the smooth running of teaching and learning. The design of teaching resources includes the use of smart classrooms, the selection of online platforms and the commissioning of network coverage. In the process of teaching preparation, resources such as websites, microcourses, courseware and documents can also be provided according to the course content and learning needs.

Learning activities refer to the sum of operations carried out by learners in order to achieve specific learning objectives. In this mode, the design of learning activities should make full use of the intensive characteristics of the online platform, and the teacher should select appropriate quality resources according to the basic theory of the Landscape Architecture course and arrange students to carry out independent learning. Offline learning should focus on the combination of theory and practice of the "Landscape Architecture" course to make up for the lack of practical learning experience on the online platform. Therefore, in blended teaching, learning activities include independent learning, classroom lectures, group discussions and other types.

4.3 Framework for the Teaching and Learning Process

The curriculum of Landscape Design in colleges and universities is a complex field covering architecture, biology, urbanism, economics, psychology and other disciplines due to the special nature of interdisciplinary, which contains different dimensions of knowledge exploration. Therefore, it is necessary to focus on the diversity of methods in the teaching process, and consider cultivating students' abilities of design practice, cooperation and communication, and collaborative innovation. The whole teaching process is a practical application built on the basis of preanalysis and elements such as resources and learning activity design, which relates to the teaching effect of the whole lesson. Details of the specific content are shown in Figure 2:

![Figure 1: Pre-analysis flowchart](image1)

![Figure 2: Teaching and learning framework based on SPOC blended learning model](image2)
work in a cooperative way, so it is necessary to pay attention to the cultivation of learning and communication ability, and the learning method is good to promote the social nature of students and enhance the students’ ability of co-operation and communication. The specific process is as follows: 1) grouping; 2) determining group objectives; 3) discussing and exchanging; 4) practising; 5) teacher inspecting and guiding; 6) presenting group results; 7) summarising.

The collection of information usually arises in the independent learning part of the teaching and learning process, and this activity requires students to obtain relevant information through some channels independently in response to the target problem, which develops the ability of students to act in a division of labour and integrate information. The current Internet technology makes the process of collecting information easy, so the teacher in this activity asks questions according to the needs, plans a certain scope of study for the students or applies keywords to help students collect precisely. The specific process is as follows: 1) Setting goals; 2) Refining the scope of collection; 3) Providing methods; 4) Summarising and submitting information.

According to Zhanren Wang, "Cases are generally a reflection of the real situation, and case discussions should be conducted both to analyse the problems and to propose corresponding solutions as far as possible"[3]. Case study is a necessary learning activity for environmental design students, in the process of analysing and exploring the excellent landscape design cases, it can stimulate students' design inspiration and improve their problem solving ability. The general flow of case study activity is as follows: 1) case presentation; 2) overview of the main content; 3) inquiry and reflection; 4) analysis of key points; 5) discussion and exchange; 6) refinement and summary.

Discussion and communication has the characteristic of openness in the teaching process, and the activity expands the students' understanding of the breadth and depth of knowledge through self-expression, which can be used in the brainstorming stage of project design in the course of Landscape Design, and has the function of brainstorming. The specific process of this activity is as follows: 1) Define the theme; 2) Communicate; 3) Guide the discussion; 4) Summarise and present; 5) Put forward the evaluation.

Problem solving is often a process of consolidating and implementing knowledge. In the course of "Landscape Design", the activity is often carried out in the form of a group, which is conducive to cultivating students' ability to transform theory into practice, and the specific process is as follows: 1) create a situation; 2) set objectives; 3) discuss cooperatively; 4) solve problems; 5) submit a proposal.

Summarising and reflecting is a process in which individuals take the initiative to revise themselves and rethink their past knowledge and experience in order to improve them further. This activity develops students’ logical thinking skills and helps teachers to improve their own teaching skills.

5. Evaluation of teaching and learning

Teaching evaluation is a mechanism to assess and feedback on students' learning performance, learning behaviour and learning attitude, with the purpose of motivating students' learning initiative and improving teachers' teaching quality through such reasonable feedback. In the SPOC hybrid teaching mode, teaching evaluation should be carried out throughout the whole teaching process, so the mode focuses on process evaluation. At the same time, the learning analysis function in the online platform provides the possibility of multiple evaluations, which are mainly process evaluations, i.e., evaluations of students' performance in the learning process, such as video watching, self-test completion, discussion and speech performance, and collaborative learning.

The course Landscape Architecture requires the use of both summative assessment and process assessment for students. In order to promote students' learning enthusiasm and encourage students' innovative development. Therefore, the author divides the total grade evaluation of this course into three major parts: online learning performance, project design report, and offline final assignment. The specific evaluation content is detailed in Table 1:

<table>
<thead>
<tr>
<th>Total course grades</th>
<th>Evaluation methods</th>
<th>Evaluation content</th>
<th>Purpose of evaluation</th>
</tr>
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<tbody>
<tr>
<td>30 per cent performance in online learning</td>
<td>Mutual assessment, teacher assessment</td>
<td>Online course learning progress, pre-test performance, prep reports</td>
<td>Constructing a multi-dimensional teaching evaluation system, focusing on process evaluation and diversified evaluation methods to enhance teaching effectiveness and students' quality and cultivate comprehensive talents with all-round development.</td>
</tr>
<tr>
<td>20 per cent of project design reports</td>
<td>Self-assessment, mutual assessment, teacher assessment</td>
<td>Project design, hands-on practice, reporting performance</td>
<td></td>
</tr>
<tr>
<td>50 per cent of offline end-of-course assignments</td>
<td>Mutual assessment, teacher assessment</td>
<td>Design performance, design literacy, project integrity, design concepts</td>
<td></td>
</tr>
</tbody>
</table>

Online learning performance is counted through the learning points acquired by students. Points are tallied based on learning in terms of student self-tests, video progress, and platform discussion board activity, etc. A student's online performance = Test Points + Speaking Points, with each student receiving a maximum of twenty Test Points and ten Discussion Board Speaking Points, for a total of up to thirty points. The project design report grade refers to the fact that when the Landscape Design course is in progress, students act in small groups, collaborate to complete the preliminary design of an actual project and report back to the class for a summary. A final grade of up to twenty points is calculated for each student. The offline final assignment is the end of the course when students are required to participate in the design of the actual project proposal and finally submit the final assignment for a maximum of 100 points, which is folded into an overall grade of 50 points.

6. Conclusion

With the development and progress of the digital age, the forms of education are becoming more and more diverse. The purpose of this paper is to analyse and use the advantages of
SPOC to study the new model as a way to solve the problems that arise in the Landscape Design course in universities, so as to guide and organise teaching. Firstly, teachers choose teaching resources and design learning activities through analysis, and students consolidate their basic knowledge in landscape design through online quality resources to promote their understanding of the course. Secondly, various teaching methods in blended teaching are used to improve students' learning initiative and arouse their interest in learning, and then learning activities such as discussion, data collection, and collaborative project design are carried out in a cooperative manner to cultivate students' innovative consciousness and collaborative spirit, and to stimulate their interest in the landscape design course. Finally, this study constructs a SPOC hybrid teaching model, focusing on a diversified evaluation system. In summary, this model has an improving effect on enhancing teaching efficiency, promoting learning quality, and cultivating students' abilities in all aspects, with a view to providing reference and reference significance for future teaching research.

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