

Research on the Design and Practice of Seminar Teaching

Ye Liu^{1,a}, Shuai Wang^{2,b}, Lun Liu^{2,c*}, Yuxin Chen^{2,d}

{^a18983149110@qq.com, ^bljqwxyzsb@sdu.edu.cn, ^c1009624465@qq.com, ^dcyxcyx1989@163.com }

¹ Chongqing College Of Architecture And Technology, Chongqing, China

² Army Logistics Academy, Chongqing, China

Abstract. In order to improve the quality and effectiveness of the "learning-centered" teaching mode, we summarize the problems and constraints to be solved by seminar teaching, and explore and propose the teaching strategies such as designing the seminar theme with the "six concerns", building a seminar framework to form a five-stage seminar teaching method, and creating a seminar situation to improve the students' seminar experience through a questionnaire survey. Based on the seminar practice#, we propose to design the seminar theme with "six concerns", build a seminar framework to form a five-phase seminar teaching method, create a seminar situation to improve students' seminar experience and other teaching strategies, and analyze the effect of the learning practice through a questionnaire survey and put forward the direction of future improvement.

Keywords: Seminar Teaching; Learning-Centered; Blended Learning Model.

1 Introduction

In the information age, the current speed of knowledge production and iteration is accelerating, both the total amount of knowledge and the incremental amount are increasing, and the means and ways of acquiring knowledge are also becoming more and more abundant, and "solving the problem of ignorance by imparting knowledge" is no longer the main task of the university, and the traditional teaching theory centered on the concepts of "teacher, textbook and classroom" is not the main task of the university. The traditional teaching theory centered on "teacher, textbook and classroom" is no longer appropriate [1]. Today, the world of higher education is taking place in a "student and learning-centered" profound change, subverting the prevalence of teacher-led since the industrial revolution, unified learning and knowledge-oriented education model, and turn to establish a student-centered, personalized, context-built talent training system. The system not only teaches "fish" but also "fishing", laying the foundation for lifelong learning in the future. In addition, the new era of nurturing content increases, from knowledge to nurture, from the teacher to the teacher, requiring teachers to change from teaching to education. Modern teaching methods such as seminar, case-based, heuristic, project-based, problem-based, and immersion have become important means to support learning-centered teaching. This paper combines the exploration of a professional course to carry out seminar teaching, the design of the seminar teaching process and methods, to lay the foundation for the development of blended teaching and flipped classroom.

2 Seminar teaching and its constraints

2.1 Characteristics of seminar teaching

Today's teaching emphasizes student-centeredness and the generation of students' abilities, and the cultivation of abilities has actually expanded from the traditional professional abilities to include other aspects of professional abilities, innovative abilities, learning abilities and collaborative abilities. Traditional didactic teaching mainly focuses on the process of knowledge transfer, which is actually a static input of systematized knowledge, and students need to further process it independently, and its testing and evaluation is mostly completed through the examination, which has the disadvantages of low participation of students, poor learning effect, and insufficient generation of competence.

Seminar teaching as an effective form of teaching, its predecessor first appeared in the early 19th century in the creation of the University of Berlin's curriculum, and in the 1950s Harvard University in order to promote new students to adapt to university life as soon as possible, the new student seminar class into the undergraduate curriculum, but also part of the United States reform of the undergraduate curriculum and teaching mode, undergraduate quality greatly improved [2], is a core of first-class undergraduate elements [3]. At the same time, seminar teaching is permeated with the concept of comprehensive development of students, which not only pays attention to the achievement of knowledge goals, but also pays attention to the cultivation of a variety of abilities, such as the ability to write written and oral expression, the ability to analyze and synthesize, the logical thinking ability of induction and deduction, and also pays attention to the healthy development of college student's personality and individuality.

Seminar teaching is a problem-solving-centered teaching methods, requiring the "guide" as the main, the teacher to create a problem situation & through the search for information, research, discussion, practice, explore, and put forward the solution to the problem [4]. Seminar teaching in the creation of the seminar situation, the transfer of knowledge to the knowledge to understand the analysis of the application of conversion, to solve the traditional didactic teaching learning level stays in the knowledge of memory reproduction of the surface stage, the lack of systematization of knowledge and structuring, can not do the migration of knowledge reprocessing and flexible application of the problem [5], the realization of the transmission of knowledge and the ability to build a combination of the ability to respect the subjective nature of learning, at the same time, from independent to cooperative learning, to solve the problem of traditional teaching and learning. learning to cooperative learning, to solve the problem of insufficient improvement of comprehensive ability in traditional teaching, not only limited to the traditional professional ability, but also cooperation ability and other invisible ability can be effectively improved, to promote the overall development of students and realize the intrinsic motivation of students. Through the development of seminar teaching, the classroom will be transformed into a learning room, with students as actors and teachers as directors, and students in an active state of questioning, thinking, exploring, and answering, so that students can go from "learning" to "learning", and satisfy the learning process put forward by constructivist teaching. The learning process is a process in which learners generate information and construct knowledge by virtue of their original knowledge and experience and through interaction with the outside world, effectively highlighting the subjectivity of students, emphasizing the process, application, experience and participation of the whole team.

2.2 Analysis of constraints

(1) Low willingness to participate in the seminar.

Before the class for the seminar class willingness to carry out research, before and after the seminar class anonymous questionnaires, a shift all returned questionnaires, follow-up data are from the above data. The research compares the three options of theoretical classes, practical classes and seminars, and the questions are set as single-choice, with practical classes as an important interference item, and the results of the questionnaire show that only 6.25% of the students chose seminars, and 18.75% of the students chose theoretical classes, which is a great challenge to carry out the seminar teaching in the theoretical teaching session. Comparative analysis of other dimensions shows that 56.25% of the students think that seminar teaching is "beneficial to the growth of competence and are willing to do it with teachers", but 8.33% of the students think that "it is a gimmick and does not have any meaning"; the other 35.42% of the students are willing to do it but think it is difficult to achieve. The other 35.42 per cent of the students were willing to do it but found it difficult to realize. Regarding the specific constraints, "the preparation of seminar teaching takes too long" and "the organization of the seminar is too laborious, so it is better to listen to the seminar directly" accounted for 72.9% of the students, while only 6.3% of the students thought that they were not interested in the seminar.

(2) Difficulty in setting seminar topics.

Teaching activities using the day of the teacher research, in summary of the difficulties, teachers generally believe that the seminar content that is the design of the seminar theme of its importance over how to seminar, how to interact with students and other issues, to become the focus of the seminar teaching and difficulties. On the one hand, it is necessary to expand the teaching content, not only to increase the connotation of teaching, but also to increase the extension of teaching; on the other hand, it is necessary to set up exploratory questions, which can attract students to start from the basic questions for higher-order thinking, and to prevent the emergence of standard answers, resulting in the phenomenon of "a question is dead, an answer is finished", and at the same time, it is necessary to increase the hierarchical nature of the questions, and to increase the participation of the whole group. At the same time, it is necessary to increase the level of questions, increase the participation of the whole group in teaching, so that "everyone can speak freely, everyone has the opportunity", so that the seminar really become a good medium from the knowledge transfer to the ability to generate.

(3) difficult to build the seminar environment.

Discussion needs atmosphere has become a consensus, the atmosphere of the construction of the atmosphere that the seminar situation has gradually become an important factor in the seminar objectives can be achieved. The construction of the seminar situation needs to create a democratic atmosphere of exchange, teachers become directors, students become actors, so that students can be immersed in teaching; seminar teaching needs to be supported by the seminar classroom to facilitate face-to-face exchanges among students, you can also set up a number of systematic activities as a seminar teaching "pump"), to facilitate the students to think of a warm-up, the subsequent brainstorming in the brainstorming. For the follow-up seminar teaching in the brainstorming as a pavement, mobilizing the participation of the main body of students.

3 Main strategies for teaching and learning in the seminar

3.1 Design the seminar theme with "six concerns".

Theme design is half of the success of the seminar, seminar teaching itself is a teaching method with a high level, to determine the theme of the seminar from the basic knowledge of the problem to the spirit of analysis and inspiration to the conversion of reflective issues, and further to the forefront of the discipline with the conversion of new research issues, so that the problem is worth thinking about, stand up to discussion. As shown by the survey of university seminars, firstly, the knowledge that students most want to get in small class seminars is the deepening of the content of large class lectures, followed by the frontier of the discipline [6]. In the process of teaching a professional course theory seminar, in order to prevent a question-and-answer type of seminar caused by the interruption of the seminar, it is difficult to achieve higher-order guidance, the need to carry out a multi-level seminar theme design. Basic seminar questions, cutting-edge technology questions and reflection questions and other multi-level topics as the main line, expanding one by one, to achieve the "six concerns", that is, focusing on the basic principles, basic phenomena, equipment characteristics, equipment applications, technology along, development trends, as follows: focus on the basic principles, starting from what it is, focusing on the interpretation and analysis; focus on the basic phenomena, starting from the phenomenon to the essence, focusing on the cause and effect of the analysis. Phenomenon to the essence, heavy cause and effect analysis; focus on equipment characteristics, starting from research and comparison, heavy comparative analysis; focus on equipment applications, starting from application analysis, heavy assumptions and deduction; focus on the technological frontier, starting from the study of new issues, heavy expansion of guidance; focus on the development trend, starting from how to change, heavy macro-control. After the design of the seminar theme is presented in the form of a seminar task book, and put forward the seminar requirements, guiding students to prepare within the specified time.

3.2 Building a seminar framework to form a five-stage seminar teaching method

Seminar teaching is completed by students in the classroom under the leadership of the teacher, however, in-class seminar is only one part of seminar teaching, before and after the class need some specific links to support the teaching of BOPPPS, for example, contains a structured introduction of the course[7], learning objectives, pre-course mapping, participatory learning, post-course quizzes, summaries and other six phases. Seminar teaching also requires a structured seminar process to support the design of the seminar framework according to the specific situation of the students.

The seminar process is divided into five stages: stage 1, student self-study before class. With the seminar task book as a guide, the formation of literature, background materials, traditional theory lectures PPT video resources and other learning resources to form a learning resources package, distributed to the students before the class so that they can prepare in advance, and complete the seminar report, the seminar teaching forward, giving students enough time to prepare, and feedback at any time on the problematic points. In the second stage, the teacher leads the learning. According to the students' feedback and the teacher's judgement and understanding of the knowledge and problems, the teacher will give a lecture at the beginning of the seminar to achieve the logical framework and guidance of the key points. The third stage, group seminar. Each group for each seminar problem one by one for group discussion, and on-site to improve their own seminar report; each group is organized by the leader of the group,

and another member is assigned to record the process of the seminar, according to the size of the students to increase the number of auxiliary teachers. The fourth stage, the centralized exchange and discernment[8]. All members of each group come to the front stage, randomly appointed by other members of the group to teach the understanding of the issue, the teacher can comment on the sublimation, other students can ask questions about the above issues, the teacher controls the process, and to add to the above issues. Fifth stage, post-class homework and test. Seminar class to knowledge as a guide[9], focusing on knowledge with the ability to finally land for the assessment of living knowledge, after class to complete the homework, and test in the form of questionnaires such as star, the test can be submitted to obtain scores, to understand the correct answer, to obtain timely feedback.

3.3 Create a seminar situation to enhance students' seminar experience

Seminar is a process in which teachers and students participate together and engage in advanced thinking activities. First of all, efforts to create the physical atmosphere of the seminar, seminar teaching needs to be carried out in the seminar classroom support, increase the group seminar to express the need for a blackboard, whiteboard, need to reflect the fair seminar tables and chairs with the change in the layout of the tables and chairs[10], reflecting the characteristics of the "sitting around", increase the portable whiteboard, issued by the group of each group of large-scale seminars on the whiteboard paper, to create the atmosphere of the seminar, let the blackboard and whiteboard, let the blackboard and whiteboard, to make the students experience the seminar. The atmosphere, so that the blackboard and whiteboard become the armrest of the seminar. At the same time, seminar teaching requires a discussion-based, relaxed and harmonious learning atmosphere. Before the seminar teaching, use individual attention, increase language wit, etc., to create a relaxed classroom atmosphere, encourage students to dare to question, positive thinking and equal discussion, so that they dare to think, dare to say, dare to ask, so that individual speech, try to say, imitation become one of the ways for students to experience success. At the same time, the seminar process is student-centered, pay attention to the role of teacher guidance, in the "five stages" of the seminar process, the teacher according to the specific circumstances of student learning at any time to intervene, targeted guidance to improve the effect of the seminar.

4 Analysis of the effectiveness of seminar teaching

4.1 Overall learning effect of the seminar

After the class, anonymous questionnaires on the pre-course questions were conducted by means of questionnaires, the proportion of students who thought that the seminar was "conducive to the growth of students' abilities and were willing to carry out the seminar with the teachers" increased from 56.3% to 67.5%, the proportion of students who had the willingness to conduct the seminar but thought that it was difficult to realize it decreased from 35.4% to 30%, and the overall satisfaction with the course reached 91.3%. 91.3%, indirectly evaluated by dozing frequency, 82.5% of the students gave less feedback. At the end of the course, students were surveyed anonymously, What do you think of the five phases of study that this course is preparing to pilot? 70% of students thought it was very good and about 2.5% disagreed. As the first exploration of seminar teaching, focusing on student learning throughout the learning cycle, the approach was generally well received. After the class, students gave feedback that the content of the course was vivid and effective, they had a better relationship with the teacher,

they gained more extracurricular knowledge, they were able to solve problems in a timely and effective manner, they were able to expand the students' ability to think actively, they were closer to real life, and they had adopted an innovative approach to seminar teaching and a broader scope of knowledge expansion.

4.2 Existing problems and future improvement directions

The problem of time-consuming seminars has not been effectively solved. Before the class started, a prediction was made on the question of whether the time available for study after class was sufficient, and 39.58% of the students thought it was sufficient, while 45.83% thought it was not sufficient. When the same question was asked after the seminar, the number of those who thought it was sufficient dropped to 20% and the number of those who thought it was insufficient increased to 70%, which is also reflected in the constraints of the seminar teaching barriers "Seminar preparation takes too much time" "Seminar organization is too exhausting, it is better to listen to it directly". The sum of the two accounts for 74.5 per cent of the total, far exceeding the 6.3 per cent of "not interested in the topic of the seminar". The series of sessions from preparing for the seminar, completing the report, preparing for the debriefing, the in-class seminar, to the post-test added to the students' learning load. Students reflected that the seminar format was very good, but it was too time-consuming, and in many cases, if it was too late to prepare adequately, the effect of the seminar was not satisfactory. In the future, we can consider the use of blended teaching, increase the online resources used in conjunction with seminar teaching, and at the same time strengthen the adaptive process of seminar teaching and enhance the effectiveness of the seminar. In addition, some students proposed to increase the time for practical courses and go to the workshop for internship. In the future, the seminar can be adjusted from "theory + seminar" to "combination of theory and practice seminar", and it is also a feasible way to carry out the seminar for the physical objects.

5 Conclusion

As a learning-centered effective teaching method, seminar teaching has been widely recognized for its effectiveness in enhancing students' comprehensive ability. According to the experience of conducting seminar teaching, summarized the seminar teaching and its constraints, for the low willingness to participate in the seminar, difficult to set up the seminar theme, difficult to construct the seminar situation and other specific problems, explored the proposed "six concerns" to design the seminar theme, set up the seminar framework to form a five-phase seminar teaching method, create a seminar situation to improve the students' seminar experience and other ways to effectively improve the seminar experience. The seminar teaching effect has been effectively improved by the way of seminar experience, and the students are generally positively agreeing with the attitude. In the future, in order to solve the problems of time-consuming seminars in seminar courses, we can integrate blended teaching and other ways to optimize and combine online resources to improve the efficiency of seminars.

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