Construction and Research of "Pbl+Cm" Teaching Mode

Yi Qu

Xi'an Eurasian University, Xi'an, China

Keywords: Case teaching cm, Project teaching pbl, Inquiry learning

Abstract: Project-Based Learning (PBL)+ Case-Based Teaching Method (CM) teaching mode is a new type of teaching mode, which combines project-based learning and case-based teaching method in depth. The teaching mode takes case as carrier, project as clue, motivates students to carry out self-inquiry and team cooperation learning through task, and completes teaching activities to construct course knowledge system. Based on the analysis of CM teaching method and PBL teaching method, this paper studies the basis and feasibility of combining the two methods, and constructs an application teaching mode which realizes the combination of the two methods.

1. Introduction

In recent years, with the rapid development of our country's economy, the new technology and industrial revolution are imminent, the social problems are becoming more and more complex, people have gradually discovered that the single subject knowledge can not solve the complex problems, the overall thinking and cross-border learning become the a consensus, the PBL teaching method and CM teaching method is the two most popular teaching modes in the world, which can effectively promote students' ability of inquiry learning, team cooperation, solve practical problems, and meet the requirements of students' ability and quality in the current era. Based on the analysis of CM teaching method and PBL teaching method, this paper studies the basis and feasibility of combining the two methods, and designs the combined application teaching mode of the two.

2. Pbl Teaching Method

PBL refers to project-based learning, that is, to investigate, observe, research, express, display, and share around a specific learning project, and solving a series of interrelated problems within a certain time, to obtain a more complete and specific knowledge, form specialized skills and fully developed learning. [1]

The PBL teaching method must focus on the learning project which are derived from pratical problems, and then produce the social benefit works, to form visual learning result. Through the study of the practical problems, students can use the interdisciplinary knowledge, use various cognitive tools and information resources, and cooperate with teachers and students in their learning activities. The purpose of this teaching method is to integrate students into the process of accomplishing meaningful tasks, to enable students to study actively and construct knowledge autonomously, to take the knowledge generated by realistic students and the ability cultivated as the highest achievement goal, and pay more attention to the learning process, not just the learning result when evaluating the learning effect. [2]

3. Cm Teaching Method

CM, the case-based teaching Method, is one of the best teaching methods in business teaching. As the forerunner of case teaching, Harvard Business School defines case teaching as a teaching method in which teachers and students are directly involved in the discussion of business management cases or difficult problems. These cases are often presented in writing and are derived from actual business management scenarios. On the basis of self-reading, research and discussion, students conduct a class discussion through the guidance of teachers [3]. Therefore, CM teaching

  DOI: 10.25236/isaete.2021.073

method is a teaching process of improving students' comprehensive ability by studying typical events.

The CM teaching method has the characteristics of contextuality, enlightenment, and interaction. First of all, CM teaching method is based on typical real events, case shows the evolution process of events, especially highlighting the contradictions, opposites, conflicts and other content in the events that can cause discussion and learning. Secondly, the aim of CM teaching method is to cultivate students' creative ability and practical problem-solving ability through teachers'guidance, focusing on the future, not just learning the fixed laws and truths. Third, CM teaching emphasizes that students are the main body, through teacher-student seminars and peer learning, to analyze cases and propose solutions. The teaching process can not only arouse students' learning enthusiasm, but also show students' own ability. [4]

4. The Design of “Pbl+Cm” Teaching Mode

Both PBL teaching method and CM teaching method advocate students to study independently, focus on real problems from reality, stimulate students' learning motivation, organize learning activities in various forms, such as research, discussion, sharing and expression, to improve students'creative ability, learning ability and practical problem- solving ability. At the same time, there are obvious differences between the two teaching methods. The CM teaching method takes the written case as the presentation form, the case can be big or small. Choose different cases according to students' situation, learning content, teacher's ability, resource allocation, etc., and organize seminars of different scales, which can not only solve comprehensive practical problems, but also allow students to gain knowledge in the process of solving problems. CM teaching method has the advantages of flexibility, controllable implementation and low requirement for resources. However, seminars are the main learning activity, which is relatively simple. The PBL teaching method is to develop teaching design around a variety of projects, the project generally integrates multi-subject knowledge, rich content, and at least one week of exploration time is required. At the same time, the teaching method also needs to build learning scenes, formulate activities plan, design research, interviews, field visits and other more diverse learning activities. Therefore, its design and implementation is more complex, which requires higher teacher abilities and resource requirements. If we can combine the two to construct “PBL+CM” teaching mode and carry out teaching activities, we will get better teaching effect.

Based on the above analysis, “PBL+CM” teaching mode is a new teaching mode which combines project-based learning and case-based teaching method deeply. Through case study and design, the project theme is determined, and various learning activities such as investigation, interview and field visit are added. This teaching mode needs teachers to connect the knowledge points to be learned around the project, take the case as the carrier, present a clear learning clue for the students, motivate the students to do self-inquiry and team cooperation learning through the project, and realize the construction of the curriculum knowledge system by completing the relevant teaching activities[endnote Ref:5]. The teaching mode studied in this paper is shown in Figure 1:[5]

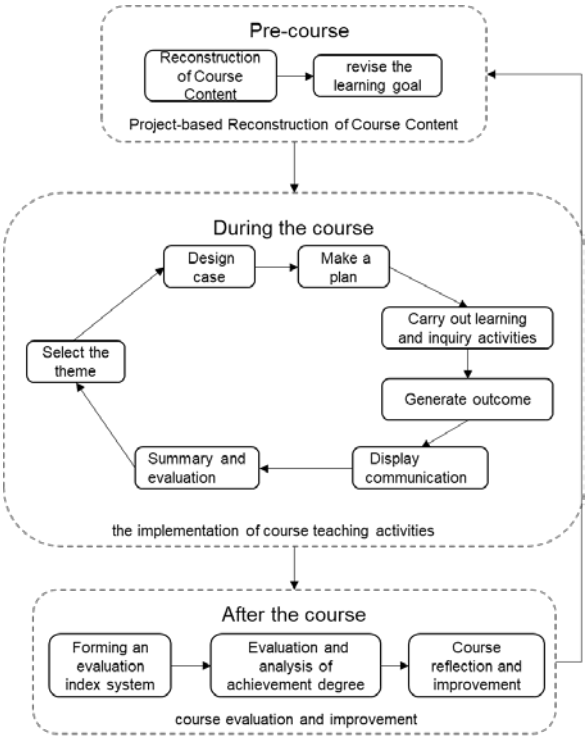

Fig.1 : “Pbl+Cm” Teaching Mode

4.1 Pre-Course: Project-Based Reconstruction of Course Content

In the”PBL+CM”teaching mode, it is necessary for teachers to reconstruct the course content by project, that is the process of transforming the course content into a project-based course. First of all, the textbook, reference bibliography and other course contents are combed, the key knowledge points are summarized, the relatively scattered knowledge points are subject-oriented transformation, covering relevant subject knowledge, strengthening the links between disciplines. Secondly, the application scope of key knowledge points is analyzed, and the application domain set of discipline knowledge is formed. The application domain set is based on the real situation and the specific event. Thirdly, the combination of key knowledge points and application domain sets is transformed into project problems and tasks that can be carried out. In this process, the project-based combination of subject knowledge is completed according to the complexity of knowledge, the characteristics of students and the connotation of project-based learning. It should be emphasized that the project-based combination of subject knowledge can be carried out either around the knowledge of a course or a project topic covering multiple courses across disciplines, while project learning can be either a large project for the entire course or a small project with some core knowledge as a topic. [6]

Finally, in the process of reconstruction of project-based course content, it is necessary to fully integrate the basic goals such as improving students' information processing ability and promoting students'critical thinking development, that is, on the basis of the original course learning goal, forming “multi-dimensional learning goal” and task design based on learning object, so as to stimulate students'learning motivation, reconstruct the course content and revise the learning goal, and further elaborate the teaching activities in the course.

4.2 During the Course: the Implementation of Course Teaching Activities

The key link of “PBL+CM” teaching mode is the implementation of course teaching activities. Specifically, it includes six steps:selecting project, designing case, making plan, studying inquiry, displaying result and summarizing evaluation. The implementation of this teaching activity is repetitive, which can be carried out in the thematic project of core knowledge learning or in the large project covering the whole course.

4.2.1 Select the Theme

The selected theme is the starting point of the “PBL+CM” teaching mode. Teachers need to design challenging and interesting project topics based on course objectives and content, combined with students'cognitive and learning abilities. The theme of the project is relevant to the students'actual situation and reflects the practical problems. The theme can be selected as a comprehensive theme or a thematic theme according to the content.

4.2.2 Design Case

According to the project theme, teachers make full use of various teaching methods to create problem scenarios, design cases carefully, stimulate students'interest in learning and exploring, confirm students'understanding of the cases, grasp students'learning needs, guide students into the situation, and thus lead to driving problems or tasks. In this process, the teacher should act as a guide to let students perceive the problem in the case, clarify the task, and look up materials and understand the information through independent learning, so as to make sufficient preparations for the following study.

4.2.3 Make a Plan

Students work in study groups to receive tasks assigned by teachers, conduct further analysis, discuss and summarize the key issues that need to be solved, and start brainstorming around key issues, actively discuss and even debate, to conceive feasible solutions. In this process, teachers should help students identify problems, define boundaries, encourage students to refine solutions, form activity designs and event arrangements, and make plans. Through peer learning, students can improve their ability to innovate, cultivate critical thinking, and improve decision-making and overall planning skills in the process of planning [7].

4.2.4 Carry out Learning and Inquiry Activities

According to the above plan, the learning group conducts learning inquiry activities, collects the information and the data through the research, the investigation, the field visits, and iterates on the basis of existing research materials to finally form a solution. This step can cultivate and promote students'design thinking, through the field research activities to enable students to master the situation of professional knowledge. In this process, teachers should provide students with various forms of learning resources, including micro-lessons, reading materials, and provide personalized learning guidance according to students' learning conditions and project implementation.

4.2.5 Generate Outcome

Through the learning inquiry activity, the learning group uses the existing knowledge and newly acquired knowledge and skills in the learning inquiry activities to complete the project and generate the results. As the result of inquiry learning, the form is more diverse and the content is not unique. This step can cultivate students' creativity, improve students' ability of teamwork and strengthen the ability of transferring knowledge. In this process, teachers should provide a variety of technical tools to help students generate results, and eliminate interference, encourage students to create as innovative as possible.

4.2.6 Display Communication

It is very important to show communication link, which can cultivate students' ability of expression, enhance students' self-confidence, broaden students' knowledge, make students experience the sense of achievement in learning, and further stimulate students' interest in learning. In this step, students use PPT, situational drama and other methods to show learning results, including project results, learning experience, cooperation and other content. At the same time, each learning group learns from each other, fully communicates with each other about the learning results, further optimizes the project results, and forms the final results that can be submitted for evaluation. In this process, teachers should organize and guide students to report learning results, especially the perceptual experience of learning, and give comprehensive comment and valuable opinions after reports.

4.2.7 Summary and Evaluation

Scientific and objective evaluation is helpful to promote students' enthusiasm for participation and self-confidence in follow-up learning. In this process, teachers should design multi-evaluation. Firstly, the evaluators should be diversified. Teachers can organize students to conduct self-evaluation, mutual evaluation between groups, and evaluation by participating teachers. Multi-dimensional evaluation helps students exercise their objective judgment and also makes the evaluation more scientific. Secondly, the content of evaluation is diversified, besides the evaluation of project results, the learning process, learning experience, cooperation and other content should be evaluated. Third, the evaluation methods are diversified, both qualitative and quantitative evaluation methods should be used. Through multidimensional evaluation, the result of individual project-based learning evaluation is formed according to students' different ability development and learning effect. The comprehensive evaluation results from teachers will help students summarize and reflect.

The seven steps of course teaching activities are a cyclical process. In the process of course content reconstruction before class, a large project covering the whole course can be designed according to the course content, and small special projects can be designed for each key knowledge point. In the process of course implementation, In the course of course implementation, the seven steps of the previous design are continuously implemented in a loop, and finally the learning goal of the course is reached.

4.3 After the Course: Course Evaluation and Improvement

In the “PBL+CM” teaching mode, course evaluation focuses on the learning effect that students achieve through the course, not just the knowledge taught by teachers, the content required by the syllabus. The purpose of course evaluation is to improve the course, not to grade it. Therefore, the purpose of this link is to obtain information about students' learning effects through course evaluation to provide a basis for course reflection and improvement, and to further improve the quality of the course.

4.3.1 Multi-Dimensional Learning Objects Evaluation

Through the implementation of teaching activities and the evaluation of students' learning achievement, it is possible to assess whether the multidimensional learning goal is scientific and reasonable. Through teachers' self-evaluation, experts' evaluation and students' evaluation, it is possible to determine that the learning goal reflects the content of the course, meets the needs of society and enterprises, and is suitable for students' learning ability.

4.3.2 Forming an Evaluation Index System

The formation of evaluation index system is based on multi-dimensional learning objectives, combining the specific content of course, and considering the comprehensive formation of evaluation mode. Each course has a system of evaluation indicators, including evaluation of whether the subject corresponds to the learning goal, whether the case reflects the real problem, stimulates the student's interest, and whether the task design is compatible with student's cognitive level and other indicators.

4.3.3 Evaluation and Analysis of Achievement Degree

In the process of course evaluation, the effect of students' learning is evaluated first. On the premise of ensuring that both the students'process evaluation and the result evaluation revolve around the learning goal, the achievement degree of learning goal is judged according to the result of students'project learning evaluation. Secondly, we design the questionnaire according to the evaluation index system, and the evaluation is completed through the three angles of teacher self-evaluation questionnaire, expert evaluation questionnaire, and student questionnaire survey, and finally the survey results are formed.

4.3.4 Course Reflection and Improvement

Course reflection and improvement is the summary and promotion stage of course evaluation, and it is the main form of teachers'self-evaluation reflection. Based on the data, this paper analyzes the course and puts forward some improvement schemes, such as revising and perfecting the learning objects, adjusting the project themes, writing more suitable cases for students, providing more network learning resources, etc.

5. Conclusions

Whether it is PBL teaching method or CM teaching method, the basic process is the interactive process of teaching in the context. Through the “PBL+CM” mode, we can fuse the two teaching methods deeply, take the project as the clue, take the case as the carrier, stimulate the students' learning motivation, and realize the construction of the course knowledge system through the students' self-study, team study and teacher teaching. Unfortunately, this paper does not introduce the application case of “PBL+CM” teaching mode in practical teaching. In the following work, we will apply the “PBL+CM” teaching mode to business teaching practice, and make continuous improvements based on the feedback effects of practice, so as to form a more reliable and effective mode.

References

[1] Liu Jingfu,Zhong Zhixian.Research on Project-Based Learning (PBL)[J]. Studies in Foreign Education.2002 (11).
[2] Gao Zhijun,Tao Yufeng.Application of Project-Based Learning (PBL)in Teaching [J]. e-Education Research.2009 (12).
[3] Leenders,M.R.and Erskine,J.A.,Case Research:the Writ-ing Process,1978,pp.14,15.
[4] Wang Qingmei,Zhaoge. A Review of Case Teaching Method at Home and Abroad [J].Journal of Ningbo University (Educational Science Edition). 2009 (6).
[5] Liu Hongmei. Construction and application of task driven case teaching method [J]. Jiangsu Higher Education.2016 (04).
[6] Zhang Wenlan,Zhang Siqi,Lin Junfen,Wu Qiong,Chen Shulan.,Research on the design and practice of project-based learning based on the concept of curriculum reconstruction under the network environment [J]. e-Education Research.2016,37 (02).
[7] Dong YAN,Sun Wei. Research on the Production-based Learning (DoPBL) Model for Promoting Interdisciplinary Learning:Based on the Integrated Perspective of Problem-based Learning and Project-based Learning [J]. Journal of Distance Education. 2019. 37 (02).