

# Design and Implementation in Project Cost Management Course based on Blending Teaching Mode

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**Abstract:** With the continuous development of the global economy, China's economic system has gradually transformed from the original planned economic system to a socialist market economic system. Therefore, the importance of enterprise project management has also changed dramatically. Especially in the construction project management, the IT industry, or manufacturing, is being fully implemented and promoted. Cost management is the most important part of the field of project management knowledge. Therefore "Project Cost Management" is a core curriculum for engineering management majors. It should be continuously improved with the changes of the information age, the needs of society and the changes in education methods. This article analyzes the trends of blending teaching in recent years in China and abroad, sorted out the design ideas of the blending teaching model, focus on the idea of "student-centric", and apply the blending teaching design concept to the project cost management course.

## 1. Introduction

The "Project Cost Management" course is a core professional course for engineering management majors. Its training goal is to train students through this course, have proficiency in project cost management in actual engineering projects. The course is characterized by the content of the project management system of the American Project Management Association. As well as the characteristics of engineering management, the course is highly practical. In the dynamic teaching process, teaching content and teaching methods should keep pace with the times, adapt to the growing requirements of the "student ability matrix".

In recent years, the concept of blending teaching has emerged in the reform of university teaching and got good results. Blending teaching model has become an important educational reforms. Blending learning, also known as Hybrid learning, is a combination of the advantages of traditional teaching and learning and the advantages of E-Learning (that is, digital or networked learning). The leading role of the process must fully reflect students' initiative, enthusiasm and creativity as the subject of the learning process. Since 2018, Dalian Neusoft University has been advocating a blended teaching approach designed to enable teachers to master flexible and advanced teaching methods in this data age and enable students to use the Internet age to achieve autonomous learning and effective learning methods. Send talents with learning ability and application ability to the society.

## 2. Development Status in China and Abroad

### 2.1. Development and Situation Abroad

In 2002, American scholars were inspired by the e-learning network teaching method and proposed the concept of blended learning for the first time [1]. That is, online and offline mixing, that is, a blending mode of "E (e-learning) + C (classroom)". The concept of blended learning was originally called online and offline blending. When people realized that a single e-learning model could not achieve satisfactory results, we began to consider combining e-learning with traditional

classroom learning, and achieved good results through practice. However, online and offline blending is still in the narrow sense of blended learning. Broadly speaking, blended learning also includes more content and levels. The Horizon 2019 report lists blending teaching as an important short-term trend [2]. It can be seen that it is imperative to carry out teaching reforms on a global scale.

## 2.2. Development and Situation in China

Since the concept of blending teaching was put forward in the late 1990s, the development of blending teaching in China has been nearly 20 years. Nowadays, the reform of blending teaching has become an inevitable trend of teaching development in colleges and universities.

However, in the late 1990s, blending teaching was still in a combination of pure face-to-face teaching and pure online teaching. At this stage, blending teaching is mainly understood as a new way of learning. Emphasis is placed on the central role of technology in teaching. After 2007, with the development of research and practice, the definition of blending teaching gradually became clear.

On the one hand, the physical dimensions started trying to more clearly define the proportion of online and face to face, therefore, the blending teaching is really separated from pure face-to-face teaching and "pure online" teaching, and it is treated as an independent teaching mode, not a transitional teaching mode. On the other hand, at this stage of blended learning in defining characteristic dimension of teaching has been an important development. Scholars have started paying more attention to defining and blended learning, focus on teaching design blended learning environment combines online and face to face in terms of teaching strategies, teaching methods [3, 4].

## 3. Blended Course Design

In blending reform of the project cost management curriculum, firstly, the overall design of the blended teaching reform should be determined. The author uses mind mapping to design ideas, refer to Figure 1 for the overall design idea [5].

There are four steps to designing a blended curriculum for a curriculum: First, identify teaching objectives; second, reconstruction course content; third, instructional process design; finally, teaching evaluation design.

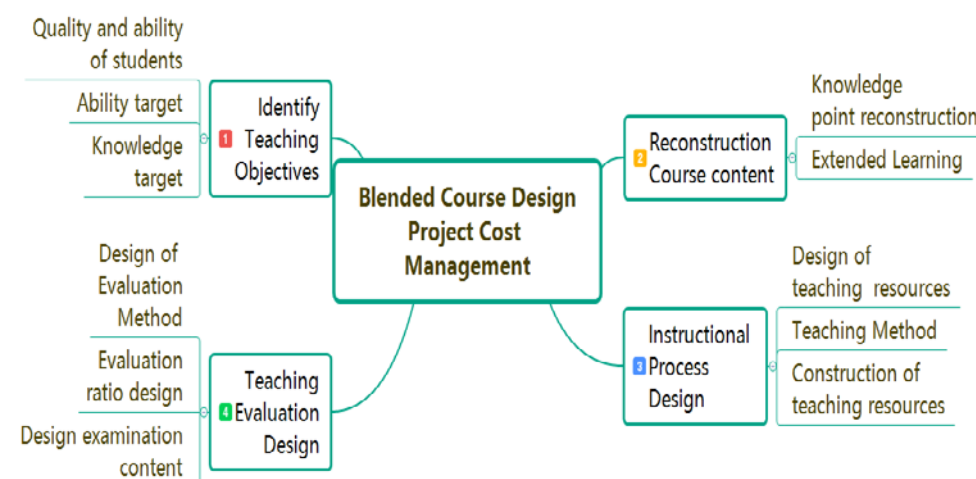


Figure 1. Blended course design.

## 4. Application of Curriculum Design in “Project Cost Management” Course

Before applying the curriculum design ideas to each course, designers should think fully in conjunction with this course. The author uses mind mapping to organize the course design, as shown in Figure 2 below.

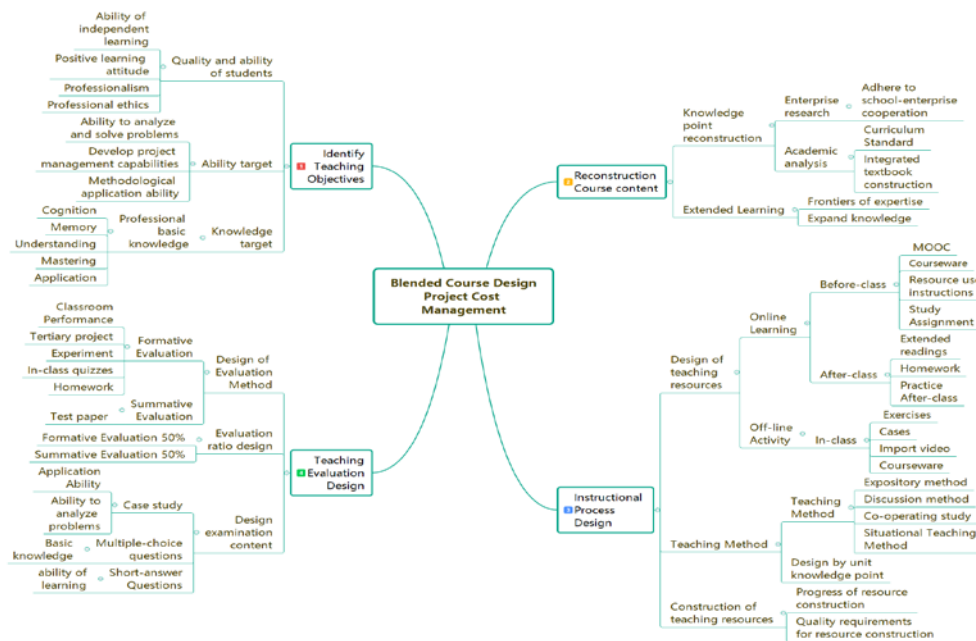


Figure 2. Blended course design developed.

When there was a clear outline of the curriculum design ideas, it would be teaching such a design by pressing the "Outline."

#### 4.1. Identify Teaching Objectives

During the design ideas in order, reform first need to clear the object. However, students cannot be regarded as the only object of reform. Because in the blending education, the teacher must change the inherent education method. Teachers teaching methods has been carried out in two ways, one is a single teaching, some teachers still continued traditional teaching methods, methods behind, dull, monotonous; the second is teaching methods of abuse. Some teachers mistakenly believe that changing the teaching method is to completely replace the traditional teaching method with a new teaching method. The reform direction of teachers' teaching methods is to change the single situation of teaching methods and realize the diversification of teaching methods. The transformation of teaching methods should be based on the teaching method. The transformation of teachers' teaching methods also needs certain guarantee measures to achieve.

Therefore, teachers and students are the targets of blending teaching. Teachers need to reform the teaching content, teaching methods, and teaching ideas, truly understand the concept of blending teaching, and correctly use the methods and methods of blending teaching. In this regard, the teachers of the project cost management course group have participated in on-campus and off-campus blending-teaching related conferences many times to discuss with teachers in the industry. For students, it is a change in learning methods and a change in learning thinking. However, how to make students take the initiative to actively make changes should be based on the students' learning motivation and learning interest. This requires teachers' active guidance and compulsory learning habits. This also requires teachers to think and design. Therefore, the improvement of teachers' ability in this area has become the primary condition of the goal. The target of blending teaching reform must be to hope that the student's ability will change, the teaching effect will increase, and the graduation rate and employment rate will increase.

Of course, students' ultimate goal is to serve the community, then we must first understand the social demand for professionals, and social demand, to develop the ability of students need to have, and this ability objectives include: knowledge of the target, the ability to target and quality objectives. Knowledge of the target, that is, the ability to grasp the theory and methods of professional skills, knowledge; Ability goal refers to the ability to apply skills methods in order to solve problems in practical work; Quality objectives, should focus on the development of intellectual potential of students, including self-learning ability, students' professionalism, reverse

thinking problem solving, logical thinking ability to consider the issue, and strong ability to summarize others and so on. To determine the above objectives can be carried out preliminary analysis of the data through questionnaires, including job demand survey, graduates feedback surveys and questionnaires to students. After teaching objectives to determine, the need to diversify the overall design of training paths.

Therefore, when determining the teaching goals of "Project Cost Management", the course team first formulated the expected learning effects and training methods. Through business research, social research, student questionnaires and academic analysis, etc., analysis and summary are conducted.

#### **4.2. Reconstruction Course Content**

Updating course content or the substance is not just to change the textbook curriculum reform. Reconstruction and previous course completely different curriculum is important.

In the previous stage, the teaching goals were determined and relevant questionnaires were conducted. Based on the needs of society and enterprises and the interests of students, the knowledge goals, quality goals and ability goals of enterprises and society for talents were determined. And students want to learn from the course the key knowledge and skills. Based on this, designing the content of the course, the focus of the knowledge, the difficulties and the effect of the preview are the most reasonable. Restructuring curriculum can address students' interest in course content is not high, the problem out of touch, out of touch theory and practical application between course content and duties. In practice, through adaptation curriculum system, the progressive realization of real-time, close links between the professional and the enterprise, absorbing not reflect the actual work of outdated course content and divorced from practice tasks. Focusing on the knowledge points that the students want to learn and be interested in, in the learning process, fully mobilize the enthusiasm of the students, stimulate their interest, and change the "teachers and parents want me to learn" to "I want to learn" "; The curriculum system closely combines theoretical knowledge, method skills and practice to achieve "learning while doing, learning while doing, and teaching while doing".

Reconstruction of course content should slowly explore specific work content in practice. First, adhere to school-enterprise cooperation. Share company resources with school resources; second, develop reasonable curriculum standards. Curriculum standards should conform to the basic concepts, methods and ideas of school curriculum design and development; Third, the construction of comprehensive teaching materials. According to the curriculum design, arrange teaching materials applicable to the content of the blending teaching curriculum so that students can learn better. Fourth, the arrangement and design of guiding and follow-up courses. These designs can provide better teaching methods and achieve better teaching results for courses and majors [6].

Reconstruct the content of knowledge points in the "Project Cost Management" course. Knowledge point reconstruction begins with the needs of companies and society for project cost management expertise. Through school-enterprise cooperation, discuss with enterprise managers to understand the professional knowledge requirements of enterprises for students. Break up the knowledge points by unit, and then arrange all the knowledge points in a logical order, adding the knowledge points that are not on the textbook, but the students must master. Combining the analysis of the test papers of the students for many years, the difficult points are summarized. In the design of the next stage of the teaching process, the emphasis and difficulty of each knowledge point of the course are designed separately. For example, at the beginning of the project cost course, students' understanding of projects and project management is not clear, so when designing knowledge points, they should expand their understanding of projects and project management. However, whether it is the way of teaching in the classroom, or the way of autonomous learning before class, or the combination of the two, will be considered in the next stage of "designing the teaching process".

#### **4.3. Instructional Process Design**

With the continuous advancement of digital and information development, students were born in such an era, exposed to information products from the time of urination, and used to the acceptance

of new things through information. With the combination of information and digitalization, students will naturally have less fun in learning. Therefore, the design of the teaching process must not only meet the teaching target, but also follow the principle of combining before-class, in-class, after-class, and online and offline.

How to effectively improve students' autonomous learning consciousness and stimulate their potential for learning, creation and reuse is also a problem that should be considered as an educator. Therefore, the author believes that learning before and after class should be an effective way to cultivate students' autonomous learning ability. Introduce students to gradually develop a good habit of autonomous learning through the online excellent mourning lessons provided by teachers, micro-lectures on knowledge points, and pre-learning materials prepared by teachers for students, and appropriately allow students to learn independently in the process of Get the fun and results of learning, which will greatly improve the learning ability of students.

Of course, it should be noted that not all resources can be casually threw the students to learn to build all course resources should be tightly designed around the curriculum of their own characteristics, as well as the important and difficult knowledge points. The contents of which should be confirmed independent learning, which is before class advance to preview the content, which should focus on explaining the lesson content, which should be compatible with the contents of the case under review and explain the content of courses. 64 hours and then design curriculum, lesson plans for each class. The general teaching process design method of the course is shown in Figure 3.

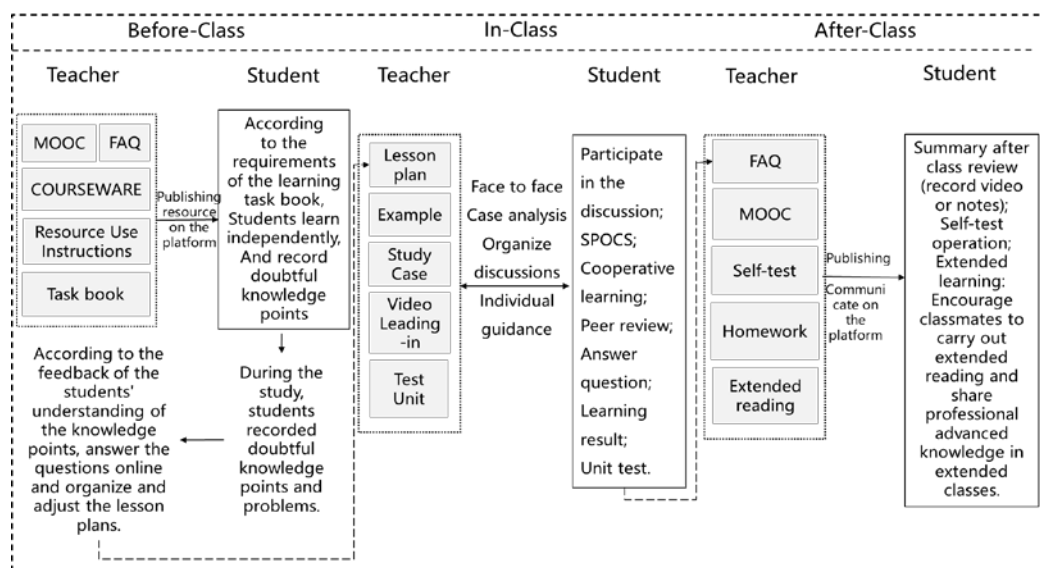


Figure 3. Teaching process design.

#### 4.4. Teaching Evaluation Design.

With the change of the teaching process, the proportion of evaluation and final assessment in the teaching process should also change, and the design of teaching evaluation should also be reformed. In the project cost management course assessment, the proportion of formative assessment results will be increased to 50%.

In the design of the assessment of the learning process, an online platform test is added. The advantages of this test are reflected in the automatic calculation of scores. Students get scores directly after answering. Teachers can also obtain statistics on students' answers on the teacher side. Learn where students have the most questions and need to focus on re-explaining; After the unit is completed, a unit test is conducted to understand the mastery of the students and promote their passion for learning. The score of this test will eventually be obtained as an average score, so that during the learning process, students ideologically urge themselves to continuously improve their learning ability; increase the score of the ultimate project, the third-level project is a reflection of the comprehensive ability Therefore, it is also the final evaluation design of students'

ability to apply project cost management techniques and methods, and the score accounts for 20% of the total score. Final assessment, the course assesses students in the form of closed-book exams. Increasing method application case questions, reducing memory type questions, and allowing students to analyze with project background. In order to achieve the purpose of assessment of application analysis ability.

## 5. Conclusion

The reform of blending teaching does not immediately see the effect, it can be immediately successful, and the cultivation of students' ability is not the effect in a short time. With regard to the design of the course, the following conclusions were drawn from continuous feedback and statistics. First of all, MOOC-based blending teaching plays a positive role in promoting the learning effectiveness of college students. Second, change the teachers' concept and role, and pay attention to the design and practice of blending curriculum. Traditional face-to-face teaching follows the principle of teacher-centered teaching. In the classroom, teachers' knowledge is the core of teaching. The new teaching mode under the guidance of blending thinking emphasizes the subject status of students in the learning process. "Learning", whether it is the design of the curriculum, the choice of teaching resources, or the arrangement of teaching activities, all embodies the principle of student-centered teaching. Third, students improve their self-efficacy, highlight the value of tasks, and inspire learning motivation. Learning motivation is the intrinsic motivation that pushes learners to complete learning tasks, and it is also an important factor in determining the benefits of blended learning. The classroom teaching mode under the guidance of the blended learning ideology has changed from "teaching before learning" to "learning before learning", and requires students to complete part of the online course learning on their own. In the process of online learning, due to the variety of learning content and learning resources, and the lack of teacher supervision and peer communication in traditional classrooms, learners need to be driven and maintained by high-level learning motivations to successfully complete the learning content.

## References

- [1] Ma Zhiqiang, Kong Lili, Zeng Ning, Analysis of Hotspots and Trends of Blended Learning Research at Home and Abroad——Based on Comparison of SSCI and CSSCI Journal Papers from 2005 to 2015, J. Remote Modern Education Research. 2016 (04) 49-57 +102.
- [2] Feng Xiaoying, Wang Ruixue, Wu Yijun, A Review of Research Status of Blended Teaching at Home and Abroad——Analysis Framework Based on Blended Teaching , J. Journal of Distance Education, 2018, 36 (03) 13-24.
- [3] Zhao Xiaoqiang, Rong Gang, Blending Scheduling under Uncertainty Based on Particle Swarm Optimization Algorithm, J. Chinese Journal of Chemical Engineering. 2005 (04) 535-541.
- [4] Wang Jingxin, Yuan Shuai, Zhao Guodong, Impact of Blended Teaching on College Students' Learning Effectiveness: An Empirical Study Based on the Application Effect of MOOC in First-Class Universities in China, J. Modern Distance Education. 2018 (05) 39-47.
- [5] Wencao Sun. The Study of College English Teaching in Internet Plus Era, C. Science and Engineering Research Center.Proceedings of 2016 International Conference on Communications, Information Management and Network Security (CIMNS2016).Science and Engineering Research Center:Science and Engineering Research Center,2016 135-137.
- [6] Zhao Jun, Wang Run, Ma Shiqi, Zhu Jing, Gao Caihua, Research on the innovation of hybrid teaching model based on curriculum reconstruction, J. China Education Informationization. 2018 (22) 36-39.