



# **Application of Problem-based Learning Method in Civil Engineering Teaching**

**Mingfei Li**

Mechanical Engineering College, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China.

**Abstract:** The civil engineering major requires students to not only be proficient in basic knowledge, but also possess comprehensive skills such as communication skills, independent learning ability, social knowledge and innovative thinking. Therefore, in order to enable students to develop more comprehensively, teachers should break through the imprisonment of outdated teaching concepts when conducting teaching work, and can actively find teaching methods that can mobilize students' learning motivation to achieve the purpose of establishing efficient civil engineering classes. Therefore, this article mainly studies how to effectively apply the problem learning method to the civil engineering classroom teaching activities.

**Keywords:** Civil engineering classroom; Comprehensive ability; Problem-based learning; Teaching skills

With the continuous improvement of people's aesthetic needs and living standards, the new technologies, new structures, new processes and new difficulties required by modern engineering all put forward higher requirements for civil engineering talents. Many teachers simply guide students to complete the basic knowledge during the teaching work, and encourage students to enter the construction site to practice, but ignore the boring teaching method is difficult to cause students to learn motivation, and then its learning efficiency is low 3. The lack of knowledge is seriously affecting the smooth development of practical training activities. This requires teachers to effectively innovate classroom teaching activities and establish classrooms that can better stimulate students' enthusiasm for learning. Only in the process of effective teacher-student interaction can both achieve the purpose of improving students' learning effectiveness and ensure teaching reform. Smoothly.

## **1. The value of problem-based learning methods**

PBL, also known as problem-based learning, mainly refers to the teacher's careful design of the teaching link and the patient's guidance during the teaching process to encourage students to explore through various problems that highlight real life. Mobilize the motivation to learn, and then achieve the purpose of training students' thinking consciousness and improving their problem-solving skills. Therefore, the problem learning method can effectively extend the students' innovative ability and thinking consciousness, so that they can gradually establish the value concept of lifelong learning in the process of continuous exploration and solution of problems. use.

Compared with the traditional classrooms with teachers as the teaching center in the past, the problem-based learning method is obviously contrary to its teaching concept. Life-oriented problems mobilize students' enthusiasm for solving problems and exploring problems, so that they can fully master knowledge and skills while ensuring high-quality completion of classroom teaching activities. Therefore, the teacher introduces the problem-based learning method in the civil engineering classroom. According to the actual teaching content and teaching objectives, combined with the student's learning situation and learning needs, do a good job in the design of classroom problems, so that students can learn through group cooperation Methods, with the guidance of teachers and the help of team members, jointly master the knowledge. Therefore, problem-based learning methods can effectively improve the effectiveness of classroom teaching.

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## **2. Specific ways to introduce problem-based learning methods in civil engineering classrooms**

### **2.1 Reasonable design issues**

Because the problem-based learning method focuses on scientifically designed classroom discussion questions, teachers need to analyze and integrate the teaching objectives and key teaching contents to integrate the knowledge points required by students into classroom questions. In this way, when students are exploring the problem, they can get rid of cocoons and achieve the purpose of learning knowledge. However, it is worth noting that teachers need to design classroom problems that are related to real life and have a close relationship with the current status of the civil engineering industry, so that students can fully mobilize their enthusiasm for learning and discuss the future in the process of discussing problems. The employment work has aspired to ensure its future better development.

### **2.2 Reasonable division of study groups**

Because the classroom questions designed by teachers need to ensure their own rigor and authenticity, students are often required to work together to complete the inquiry of knowledge in the form of group cooperation. Therefore, teachers need to divide the class students into several groups according to their personality characteristics, knowledge acceptance ability, learning situation and other aspects, and arrange corresponding tasks for each classmate. Learning group members need to establish a responsibility mechanism that belongs to the group to ensure that each learner can fully demonstrate themselves when participating in the inquiry and discussion of the problem, and actively complete the inquiry of knowledge. In addition, teachers must also participate in students when they think about problems in groups, and strive to be able to disturb the students in time when they have deviations in the thinking process. Anyway, they can help them find the right way of inquiry to ensure the quality of classroom teaching. Rise.

### **2.3 Do a good job in evaluation after class**

After the students participate in the discussion of classroom problems, they need to report the results of the classroom in small groups. And what the teacher needs to do at this time is to do a good job of after-class evaluation. According to the actual performance and learning results of the team members, a decisive and encouraging evaluation is carried out to ensure that the students can better stimulate the enthusiasm of participating in knowledge learning under the guidance of teachers. Since the civil engineering major has high requirements for students' practical ability, after the completion of this lesson, teachers can arrange design themes for students, encouraging students to continue to practice on the structure, appearance and reception of buildings. Make reasonable analysis and design. After the work is completed, the teacher can hold a work evaluation contest to select the work with the best design concept in the way of teacher selection and group selection, so as to ensure that students' enthusiasm for learning is better stimulated.

## **3. Conclusion**

If the school wants to cultivate high-quality civil engineering talents that are more in line with the actual needs of society, it is necessary for teachers to be aware of the impediment of backward teaching methods to students' thinking consciousness during the teaching process, and then to maintain a good interactive relationship with students To effectively introduce the problem-based learning method into teaching activities. In this way, the communication between teachers and students is not only greatly increased, but it is also easier to change the bad habits of students relying on teachers to learn knowledge. Students' learning enthusiasm is not only unprecedented, but also easier to complete the exploration of knowledge through the play and extension of their own thinking consciousness, and then to achieve more comprehensive development under the guidance and guidance of teachers.

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