

# *Exploration of Improving College Students' Initiative in Classroom Learning*

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**Abstract:** At present, the insufficient learning initiative of college students is a common problem in Chinese, and it affects the improvement of university teaching quality and the overall quality of students. This article focuses on this problem and explores suitable teaching methods. By introducing the PBL teaching method into classroom teaching, a new teaching model was established with four procedures: proposition establishment, team discussion, team reporting, and teacher commentary. This teaching model was evaluated by means of teachers' assessments and students' questionnaire surveys. The evaluation results show that this teaching model has a very good role in promoting students' initiative in classroom learning.

## 1. Introduction

In the course of university teaching, more and more teachers feel the problem of insufficient initiative generally reflected by students in the learning process[1,2]. As college teachers, the authors also have a deep understanding of this. Today college students' learning initiative will be affected by their own and family conditions, social environment, school learning atmosphere and classroom teaching and other aspects[3]. Classroom teaching is an important part of student learning, and its content and methods directly affect the learning initiative of students. This article starts with classroom teaching and improves the teaching method and content by introducing the PBL teaching method in order to achieve the purpose of improving students' classroom learning initiative.

For a long time, the teaching method in university is mainly indoctrination teaching. However, with the popularization of information technology, the ways and methods for students to acquire knowledge have become more and more diverse and attractive. Therefore, this single, duck-filled teaching method is not conducive to improving students' learning initiative.

PBL (problem-based learning) teaching method is based on problems, guide students to analyze actively, and design and complete proposition content through problem solving, so as to improve students' learning initiative and develop students' ability to think and solve practical problems. This

article introduces the PBL teaching method into the classroom teaching, with a view to changing the disadvantages of the traditional experimental teaching methods, such as obsolete content, method deadlock, etc., and improving the enthusiasm and initiative of students.

## **2. Classroom Implementation of PBL Teaching Method**

49 students from a certain major were selected to form a PBL teaching class, and part of the classes were taught using the PBL teaching method. The implementation process of the PBL teaching model is divided into the following 4 steps [4].

### **2.1. Propositions Setting**

This program is to integrate teaching contents and set up targeted propositions according to teaching requirements. The contents are led out in the form of propositions, so that students can learn and master this part of the contents in the process of completing the propositions. The setting of propositions should be combined with practical applications as much as possible to increase the attractiveness and interest in learning. At the same time, it is necessary to clear specific learning goals for students through questions and avoid empty or obscure mission questions. For example, in the course "Basic Principles of Chemical Engineering Processes", for the "flow resistance of fluids" section, we can set the proposition as "a factory needs to draw water from the reservoir to the workshop. According to the principle of flow resistance, design a water pipeline scheme that saves transportation costs." This proposition can guide students to start from learning the flow resistance formula, find the method to reduce the resistance loss through the influencing factors in the formula, and then through economic accounting, finally determine the method to reduce the transportation cost.

Propositions can set guiding questions for students according to the expected effect, difficulty level and scope of knowledge involved to ensure that students understand and apply the contents.

### **2.2. Team Discussion**

Teachers can help students form a team of 4-5 people to complete the proposition in the form of a team. The team needs to collect and discuss relevant information on the proposition, and research to find the solution to the problem and the idea to complete the proposition. In this process, teachers need to guide the direction of student discussions and answer necessary questions. The form of team discussions can promote the personal input of students in a group atmosphere, especially for students with relatively low initiative. Through the division of labor, cooperation and mutual exchange among the group members, it can promote the students to actively search for and obtain relevant knowledge, and at the same time it can greatly increase the accuracy of the conclusions and promote the improvement of learning interest.

### **2.3. Reporting in Writing or on Site**

After the team discussion is over, a written report or on-site presentation is required, which will be evaluated and scored by the teacher accordingly. The teacher summarizes the corresponding knowledge according to the students' completion of the proposition. The form of reports and presentations will enable students to acquire knowledge more systematically and comprehensively, and to consolidate again when they listen to other teams' presentations. The use of grades can further promote the intensity of student participation and learning, and improve learning motivation.

In this process, the teacher can easily and accurately understand the students' mastery of the course content, so that the teacher will explain more targeted, and at the same time achieve good teaching results.

## 2.4. Systematic Explanation of Course Content

According to the completion status of the students' propositions, the teachers explain the course content in a targeted manner. Since the discussion and reporting process of propositions will take up class time, teachers should plan the content and time of class explanations on this basis. This also requires consideration of the coordination of teaching time and teaching content in the proposition setting.

## 3. Evaluation of the Teaching model

The PBL teaching model is evaluated by the results of teaching effects and questionnaire surveys from students [4].

### 3.1. Evaluation of Teaching Effect

In the process of implementing this teaching model, teachers believe that students' learning initiative in the course has been significantly improved, specifically in the following aspects:

- The attendance rate of students in classes has increased significantly to 95%;
- The class atmosphere is active, the interactions between teachers and students increased and the number of student participating has also generally increased;
- There has been a marked increase in the number of students who have done well in their homework;
- The teaching effect was much better, and students understand more quickly than before.

The disadvantages of PBL teaching mode include: the workload of teachers will be increased correspondingly, and the teaching time in class will be shortened. But with the establishment and improvement of PBL teaching method curriculum system, these problems will be solved gradually.

### 3.2. Questionnaire Surveys from Students

A questionnaire survey was conducted among 49 students in PBL class by anonymous method. The recovery rate of the questionnaire was 100%. The results are shown in Table 1.

Table 1: The results of the PBL teaching effect questionnaire survey.

Comparison with traditional teaching methods	Better	Similar	Worse
Improving classroom learning initiative	96%	4%	-
Developing the ability to analyze and solve problems	90%	10%	-
Improving the effect of extracurricular self-study	94%	2%	4%
Consolidating and deepening theoretical knowledge	100%	-	-
Strengthening the mastery of the knowledge structure	92%	2%	6%
Improving language ability	80%	12%	8%

The survey shows that students generally believe that PBL teaching mode has a good teaching effect. Among them, more than 96% of the students think that PBL teaching mode has a good effect on improving classroom learning initiative and consolidating and deepening theoretical knowledge.

In addition, judging from the examination results of PBL students, most students have good performance, the average score of the class has improved, especially the number of students with low score is significantly reduced. This is because under the influence of PBL teaching mode, the students whose scores are in the middle and later stages of the class have improved their learning enthusiasm and energy input compared with before, thus achieving better test results.

#### 4. Conclusions

From the results of the above evaluation methods, it can be concluded that the application of PBL teaching mode in classroom teaching process can improve students' learning initiative. The improvement of learning initiative will directly affect students' course performance, the depth and breadth of knowledge mastery, learning ability and problem-solving ability. This also has a greater impact on improving the quality of college students. Therefore, this teaching mode has a certain promotion value in the teaching process of colleges and universities.

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