

# The application of project-based learning in university finance teaching

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**Abstract:** *Cultivating qualified compound talents suitable for the needs of the future financial industry has become an important task for the construction of finance major in colleges and universities. PBL (project-based learning) is an inquiry learning based on project activities, which is a teaching activity carried out by teachers and students through the joint implementation of a complete project. The project here is mainly designed for a certain teaching content, which can be independently completed by students and can receive good teaching results. The application of PBL in the teaching of finance major is conducive to consolidating students' theoretical foundation and cultivating students' comprehensive ability. It not only conforms to the teaching characteristics of this subject, but also meets the requirements of vocational education. This teaching mode is in line with the teaching objectives of secondary vocational education, and appropriately solves the problem of students' employment difficulties. PBL plays a positive role in the teaching of finance major.*

**Keywords:** *Project-based learning; Finance teaching; Project*

## 1. Introduction

With the continuous expansion of the connotation and extension of the financial category, the role of finance in the modern economy has become increasingly apparent, and the teaching content of financial major in colleges and universities in China has also undergone great changes. If you want to stand out in the application process, besides having basic literacy and professional knowledge, it is more important to meet the requirements of employers for job skills [1-2].

The teaching content of finance is characterized by abstraction, profundity and complexity. The current mainstream teaching method of finance major in China is classroom teaching method. As an open country, China needs to integrate into the global economic environment, and the integration of its financial industry with that of the world is an indispensable condition [3]. Therefore, cultivating qualified compound talents suitable for the future needs of the financial industry has become an important task for the construction of finance major in colleges and universities. Under the influence of this situation, universities must speed up the educational reform, actively introduce the new ideas, new technologies and new methods of PBL (project-based learning), so as to create a good growth environment for students and make them more competitive in the complicated market environment.

## 2. Meaning of PBL

PBL, an inquiry learning based on project activities, is a teaching activity carried out by teachers and students through the joint implementation of a complete project. The project here is mainly designed for a certain teaching content, and can be independently completed by students, which can achieve good teaching results [4-5]. The whole process activities are real, students' learning is targeted and practical, and they have learned the skills necessary for future employment, including practical ability, ability to analyze and respond to emergencies, ability to unite and cooperate, and ability to solve practical problems.

Traditional receptive learning overemphasizes acceptance and mastery, neglecting discovery and inquiry. Teachers often understand teaching as explaining knowledge, skills and principles. Students often understand learning as reciting, imitating and doing problems, ignoring the cultivation of students' independent thinking ability. Project-based learning focuses on cultivating students' awareness of problems, the habit of critical thinking, the ability to generate new knowledge, the ability to learn independently and the quality of teamwork. Emphasize that the nature of the learning process is inquiry, not

cramming preaching [6]. In the process of learning, learners are required to participate subjectively, rather than accept passively, and the whole learning process is carried out in problem situations. The ultimate goal of project-based learning is to cultivate innovative talents who learn consciously, have good self-directed ability and take responsibility for their own lives.

Traditional teaching strategies and methods often focus on verbal-linguistic intelligence and logical-mathematical intelligence, which makes many students who do not adapt to traditional learning methods suffer great setbacks. Teaching allows all kinds of teaching and learning strategies to be integrated into the planning and implementation of the project, helping students to develop all kinds of intelligence. PBL creates a real environment for students' cooperative learning, enables students to experience interactive cooperative learning outside the classroom, and enriches students' communication ability, teamwork ability and cooperative learning ability.

### 3. There are some problems in the teaching of college finance major

#### 3.1 Lack of cultivation of students' ability

Teachers write handouts and lectures according to textbooks and syllabuses, pay attention to cultivating students' awareness of respect and compliance with knowledge and authority, pay attention to the accumulation and inheritance of knowledge and the construction of knowledge system in class, and seek common ground without seeking differences in thinking methods. Students are used to passive listening [7]. The phenomenon that students "learn what they take exams", teaching "only exams are foresight". The main task of students in class is to carry the notes on the blackboard or slide. At the end of a class, all students gain is notes, and their minds are empty.

#### 3.2 The utilization rate of teaching resources is low

Projects should be practical problems that may arise in students' lives. If you want to formulate solutions, you must go through scientific and rigorous practical activities. PBL highlights the practicality and practicability of learning activities, and it has a large application space for subjects with strong practicability such as science and engineering. However, due to the characteristics of English, teachers often make mistakes when choosing projects, which makes the projects deviate from the teaching objectives and get twice the result with half the effort.

Most students are still used to learning in the traditional way, and rely heavily on face-to-face instruction from teachers, which leads to the unsatisfactory utilization rate of teaching resources. The interest and usability of multimedia resources need to be improved; however, due to the limited carrying capacity of the school network, it is difficult for many students who use the campus network to watch it online. And this can only depend on the improvement of the objective environment, which requires a process [8-9].

### 4. Application steps of PBL in college finance teaching

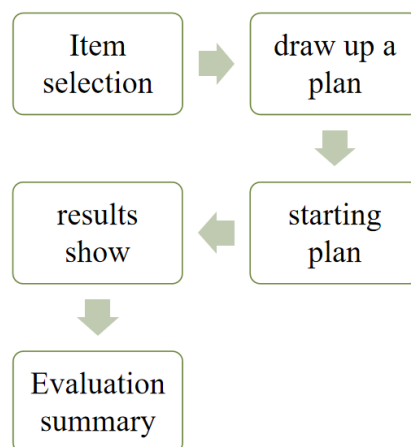


Figure 1: General process of PBL

From a systematic point of view, there are many elements in PBL teaching. It is of great significance to analyze the elements and find the relationship among them for better PBL teaching. The general process of PBL includes five steps: project selection, plan formulation, implementation plan, achievement display and evaluation summary. As shown in Figure 1:

The experimental purpose of this subject is to explore a teaching mode suitable for finance major in Chinese universities by applying PBL in finance major courses, whether it can improve the teaching effect of finance major classes in Chinese universities, and its influence on students' interest and attitude in improving students' grades and learning computers.

#### ***4.1 Determine the project***

Project design is the foundation and premise of PBL application in finance teaching. University teachers should adhere to the principle of ability-based and teaching students in accordance with their aptitude, make clear their learning objectives and tasks, and accurately convey them to students to ensure that the project implementation is on the right course. At the same time, teachers should also make clear the rules of PBL activities, formulate working steps and procedures, and divide students into groups reasonably according to their individual characteristics, and refine the responsibilities and obligations of each post, so as to ensure the orderly implementation of PBL in financial majors.

Although financial teaching emphasizes the training of students' design and practice ability, it is limited to the learning stage of students. Even senior students' high probability of mastering professional knowledge and skills is incomplete and shallow. In the process of practice, the unsatisfactory progress makes students feel powerless, which leads to the weakening of enthusiasm. Therefore, when introducing enterprise design projects into the teaching environment, it is necessary to consider comprehensively. Teachers should analyze and pre-process the enterprise projects, appropriately split the design tasks contained in the projects, and then select appropriate modules for students to practice.

#### ***4.2 Development process***

After the project plan is made, next, the group leader will organize each group to carry out learning activities, find reference materials, discuss web content, design scheme, etc. All these activities of students are not carried out in class, but in their spare time, they learn independently. Help students broaden their thinking, help them enter the learning state, and increase their interest in learning, instead of directly participating in students' specific activities.

Most of students' knowledge and skills are completed in this process. It is a process of students' direct in-depth field investigation and research, which constitutes an inquiry through activities, so as to achieve students' knowledge goals, ability goals and emotional goals. In the process of inquiry, students can constantly find problems, ask questions, and seek solutions to them. So as to construct and perfect one's own knowledge system.

In order to promote students' all-round development and enable them to master more vocational skills, PBL should also introduce the rotation system, in which students take turns to play different roles and provide a platform for them to show themselves in all directions. In this process, teachers should give full play to their guiding function, pay close attention to the implementation of financial professional teaching projects, answer questions in time, give timely and appropriate guidance, promote project progress, and improve PBL efficiency and quality.

#### ***4.3 Results show***

After the project is completed, each group will display the project results. Teachers can help students choose different contents and different ways, and purposefully display the whole process and results of the project [10]. The display of results not only helps to check the project, but also provides opportunities for students to communicate, and at the same time improves students' oral expression ability. It also enables students to express their knowledge while having a sense of accomplishment, and learn from each other's experiences.

Making works is a typical feature of project-based learning, which is different from general activity teaching. In the process of making works, students use the knowledge and skills they have learned in the learning process to complete the production of works. Works can take various forms. Students can describe their projects and show their research results. At this stage, students exchange their experience

and experience in the learning process, and share the success and joy of the production of works. As can be seen from the works displayed by students, each group of works has its own bright spots, and of course there are also shortcomings.

#### 4.4 Project appraisal

According to the students' participation degree, cooperation ability and achievement display in the process of project implementation, a comprehensive evaluation is made. The forms of evaluation are flexible and diverse, such as self-evaluation by students in the group, mutual evaluation among groups, and grading by teachers and students outside. Through this important stage, let students know the problems in the project work, so as to improve the future project practice.

The completion of the whole project also means that the whole process of PBL is coming to an end. During the whole teaching process, the teacher first put forward the project requirements, and then taught the relevant theoretical knowledge. Then students analyze the project by themselves, determine the project theme, and then work together to form a complete planning book. According to the actual implementation, each group made some adjustments to the planning book, and finally the planning book handed in was an important basis for the comprehensive achievement of this course.

### 5. Evaluation of PBL application effect

In order to evaluate the application effect of PBL in finance teaching, a quasi-experiment was designed to measure it. 50 students were randomly selected from four classes of freshmen, and randomly assigned into two groups, one group was the control group, and the traditional teaching method was adopted to study. The other group is the experimental group, which is taught by PBL. The learning contents of the two groups are linear regression analysis, and they are the same teachers.

Self-efficacy reflects students' self-belief in their ability to understand and perform statistical tasks. Students' self-evaluation and confidence in performing regression analysis tasks were measured by using the Likert Scale of Level 5 with 14 items. The total score of self-efficacy ranges from 14 to 70. The higher the score, the higher the self-efficacy, and the corresponding Cronbach  $\alpha$  coefficient is 0.92.

Using multivariate analysis of variance model, three evaluation indexes of PBL effect are analyzed by using two factors: group and mathematical level. Figure 2 shows the group comparison results of self-efficacy.

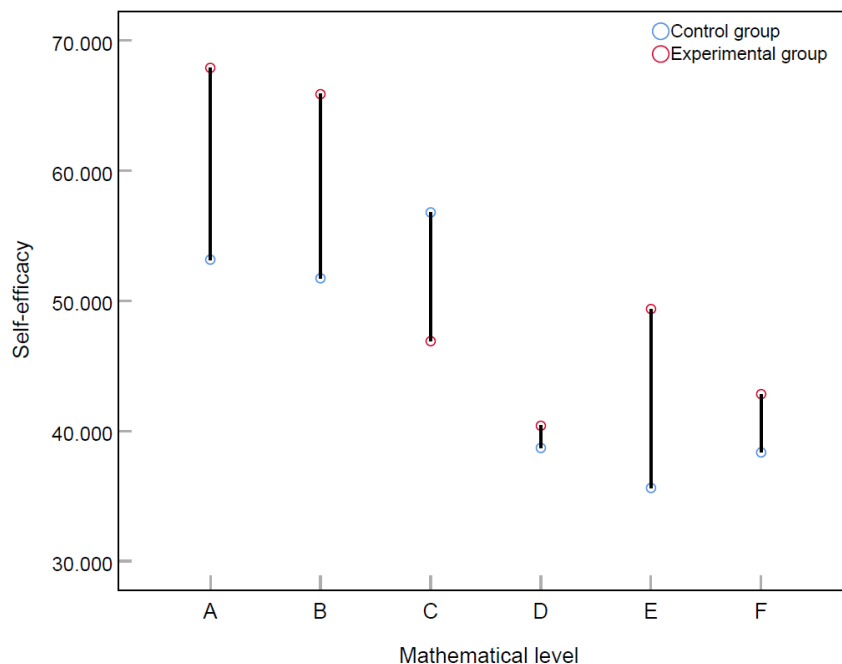


Figure 2: Group comparison between mathematical level and self-efficacy

Group, math level and the interaction between group and math level have significant effects on self-efficacy, which indicates that compared with traditional teaching methods, PBL is helpful to improve

students' self-efficacy. As can be seen from Figure 3, PBL can significantly enhance students' self-efficacy in completing statistical tasks for students whose math level is B and C.

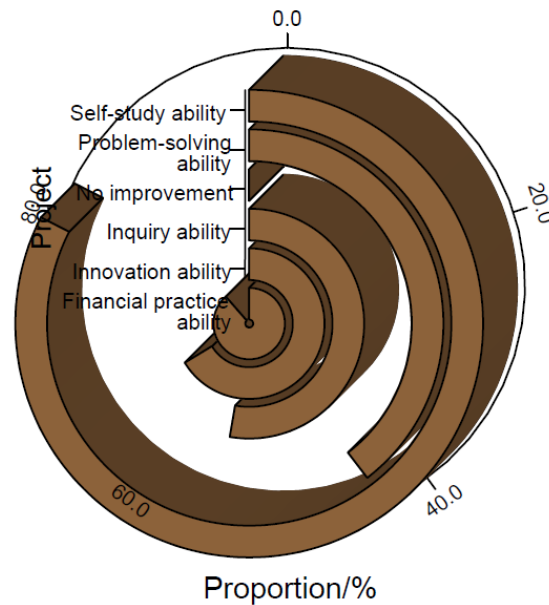


Figure 3: Statistics on improvement of experimental students' abilities

Through the investigation of the experimental group, most students think that PBL can improve their abilities. As can be seen from Figure 3, 66.3% of the whole class think that innovation ability can be improved; 82.5% of the whole class think that they can improve their self-study ability; That can improve the ability to analyze and solve problems accounted for 39.6% of the class; 52.7% of the whole class think that they can improve their inquiry ability; Through group cooperative learning, the ability of communication and communication is enhanced. Finally, through the presentation of works, students' self-confidence and pride are enhanced, and their innovative ability is cultivated. This is also the original intention of PBL.

When selecting a project, we should grasp the difficulty according to the actual situation of students, so as to ensure that students can complete the task through independent and collaborative learning in a limited time. Students of different ages, even students of the same age, often have great differences in their ability to accept knowledge. The content of the project can be based on disciplines or designed across disciplines. However, it's more about choosing events, problems or projects from real life and social practice, as the content of study and research. You can't arbitrarily make up projects that are divorced from reality. Choosing practical projects can help students better realize the leap from theoretical study to practice.

## 6. Conclusion

The teaching content of finance is characterized by abstraction, profundity and complexity. The current mainstream teaching method of finance major in China is classroom teaching method. As an open country, China's financial industry is an indispensable condition for its integration into the global economic environment. Different from the traditional teaching method, PBL emphasizes the combination of curriculum with students' life experience and social practice, and carries out teaching in the form of projects, so as to cultivate students' ability of knowledge transfer and application, thinking and solving problems. Make use of the advantages of PBL to combine with life practice and teachers' actual operation, teaching attitude, writing on the blackboard and adaptability. This not only makes up for the deficiency of traditional teaching methods, but also won't affect the emotional communication between teachers and students in the classroom, students' dominant position and teachers' leading role in classroom teaching, which is more in line with students' cognitive law.

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