

Practical Research on Business Data Analysis Course Based on Project Curriculum Reform

Jing Chen

*School of Economics and Management, Jiangsu Maritime Vocational College, Nanjing 210000,
China*

Keywords: Project, Immersion teaching, Practice, Professional courses

Abstract: The teaching of professional courses in domestic colleges and universities mostly focuses on the teaching of theoretical knowledge, and there is still a lot of room to improve students' practical ability, ability to analyze and solve practical problems and innovation ability. Most of the professional courses in many colleges and universities are cases formed by manual sorting or over processing, which are quite different from the actual project situation. Aiming at the problem that the traditional professional course teaching is out of touch with the practical application ability of enterprises, this paper explores the curriculum reform method of immersing real projects in the teaching process, which is oriented to the needs of enterprises. This study analyzes the teaching background of data analysis courses, describes the content, process and problems of project immersion teaching.

1. Introduction

With the development of Vocational Education in China, the traditional curriculum teaching can not adapt to the development of society, and can not meet the needs of vocational education to cultivate application-oriented skilled talents. The action oriented project-based teaching mode, because of its significant effect on students' initiative, special skills and comprehensive post ability, has been gradually adopted. It is adopted by vocational education. However, in the practical application of project-based teaching method, different majors and courses need different implementation paths and contents. Only the project-based teaching method specially designed for the professional training objectives and course teaching needs, can we truly realize the needs of cultivating application-oriented skilled talents. This paper focuses on the application of project-based teaching method in business management course.

2. An Overview of Project Teaching Method

2.1 The Meaning of Project Teaching

Project based teaching method is a teaching activity carried out by teachers and students through the joint implementation of a complete project work. It is a typical representative of action oriented, reflecting the design idea of task driven and project led. It is a “theory practice integration” teaching

mode integrating teaching, learning and doing. Its implementation process is as follows: 1. Clear project tasks (teachers propose tasks, students discuss); 2. Make plans (students make, teachers review and give guidance); 3. Implement plans (students group, clear division of labor and cooperate to complete); 4. Check and evaluate (students self-evaluation, teachers' evaluation); 5. File or apply^[1].

2.2 Characteristics of Project Teaching

The first is practicality, which requires the theme of the project to be closely related to the real world; the second is autonomy, in which students can choose the content and display form according to their own interests, and can learn independently and freely, so as to effectively promote the development of creative ability; the third is development, in which long-term projects are combined with stage projects, including the whole cognitive process to achieve educational goals; the fourth is comprehensive Fifth, it is open, which is reflected in the diversity and selectivity of the ways and methods that students explore, display and evaluate around the theme. The evaluation characteristics of Project-based Teaching: the evaluation of project-based teaching focuses on the process of students' ability development in project activities, and the evaluation content includes the performance of students' participation in all aspects of activities and the quality of homework^[2].

3. The Theoretical Basis of Project Teaching Design

3.1 Jonathan's Teaching System Design Theory

American instructional design expert Dr. David Jonathan began to focus on the design of constructivist learning environment in the late 1980s. In his opinion, first of all, it is necessary to weaken the analysis of teaching objectives, emphasize that learning should solve the tasks in the real environment, and achieve the purpose of learning in solving the real tasks; secondly, it is necessary to strengthen the analysis of learning content, as well as the design of autonomous learning strategies and collaborative learning strategies. When designing tasks, it is necessary to embed the learning content into different elements of the constructivist learning environment according to the content and type of knowledge Thirdly, it emphasizes the analysis of learners' Non intelligence factors, and the non intelligence factors related to interest and motivation are more important than intelligence factors^[3]. Finally, it emphasizes the diversity of self-evaluation and evaluation methods, and learners are the best evaluators of their knowledge construction, so they should use less strengthening and behavior control tools. His constructivism has a profound influence on the field of educational technology.

3.2 The Origin and Application of Project Teaching Method

Project teaching method originated from work study education in Europe, such as project assignment in European architecture schools. In the 19th century, project teaching method was applied to handicraft training in American public schools. Since the 1980s, project teaching method has gradually become the mainstream of German Vocational Education and training reform, and has been accepted and respected by vocational educators all over the world. German vocational education is in the forefront of the world, relying on the dual system and project teaching method. Project teaching method is a new direction of vocational education reform in Germany, which focuses on cultivating students' professional ability and comprehensive quality. Project teaching method is an excellent teaching method in the field of Vocational Education in our country. It means that in the teaching process, taking each project as the carrier, integrating the relevant knowledge

points into each link of the project^[4]. According to the project work plan, students organize and arrange their own learning behavior, and use the new learning knowledge and skills to solve the practical problems encountered in the project. Broaden the breadth and depth of knowledge, so as to achieve the purpose of learning knowledge and cultivating ability. Project based teaching cultivates students' innovative ability, which is student-centered and in line with the “work study combination” talent training mode of higher vocational colleges.

3.3 Teaching Strategies in Working Process

The working process extended to teaching refers to “the procedural structure of the start, development, change and end of teaching activities in time”. The working process here refers to the teaching design based on each link of the actual work. The course, which takes the working process as the main line, is designed systematically with the working process as the reference frame. The content and order emphasize the important position of experience related to the working process, and attach importance to the self construction of students' ability to acquire knowledge in the learning process. The main characteristics of the work process systematization course are that the course content is a typical work task; the learning unit is composed of multiple learning situations in the same category; the course content is sequenced in a serial structure; the teaching environment reflects the real work elements; the teaching implementation is completed by full-time and part-time teachers; the teaching process experiences a complete work process structure. The curriculum design based on working process is based on “construction first” in teaching philosophy, that is, students actively exist and teachers react to exist, which is also the performance of “work study combination” talent training mode advocated by vocational education in teaching methods; its learning situation and task are “real existence”, or the simulation of real situation encountered in the vocational field, or even the simulation of real situation. It is a typical practical professional situation that is directly transplanted without processing.

4. Practical Research on Business Data Analysis Course Based on Project Curriculum Reform

4.1 Project Warm Up

The project start-up stage is of great significance for the development of project immersion teaching. After the end of professional knowledge learning, the previous projects done by the instructor can be sorted into cases and experimental instructions. The instructor can demonstrate the whole process of the project, highlight the problems in the process of the project and solve the key points. Then the data is provided to the students, and the students imitate the process of data analysis according to the key points of the experimental instruction. At this stage, students will encounter fewer problems, mainly familiar with data analysis project ideas^[5]. At this stage, enterprise experts can also provide project cases and relevant materials to inspire students to supplement the knowledge ignored in classroom teaching. Through the study and practice of project materials, students can preliminarily understand the common thinking methods and common problems in the process of data analysis project.

4.2 Project Implementation

Project implementation process is the most important link in the whole teaching. In this process, students have a deeper understanding of the knowledge they have mastered in practical problems. Also need to learn new knowledge and new tools encountered in the process of project analysis, which requires students to have strong learning ability. For example, in data analysis, students need

to choose the appropriate data analysis algorithm, establish the appropriate data analysis model, and constantly improve the results of the problem through comparative analysis. At this time, the tutor needs to guide the students to understand the problem, preprocess the data, optimize the modeling and evaluate according to the project experience. In the process of completing the project, students need to integrate the new knowledge and skills used in the project, build their own knowledge network, and deeply understand, consolidate and improve the actual project. For students, project implementation is a process of exploration. In the process of completing the project, students will encounter many practical problems, such as specific business, data preprocessing, more appropriate selection of analysis algorithm, and the solutions to these problems are not taught in class or books, or there is no clear answer at all. Students need to constantly explore and think. This process is to accumulate valuable practical experience and cultivate practical ability It's a process of change.

4.3 Project Summary

Project summary stage is an indispensable link, which plays the role of refining and strengthening skills and expanding knowledge system. This stage can help students summarize and review the whole project, clarify the process, highlight the problems encountered in the project and solutions, so as to serve as new cases and experimental materials^[6].

5. Conclusion

Project immersion teaching is a kind of teaching method to narrow the gap between enterprise analysis talent demand and university training. Through the guidance of instructors and enterprise tutors, the theoretical knowledge of classroom learning runs through the actual project, which can not only cultivate students' ability to apply knowledge, but also greatly reduce the time for students to adapt to the enterprise post after graduation.

References

- [1] Lu Qingwen, Cao Lei, Li Yuannian, et al. *The exploration of training compound excellent software engineers based on CDIO model [J]. Exploration of higher education, ol. 4, no. 1, pp. 71-76, 2013.*
- [2] Gu Xueyong. *CDIO linking theory and practice: an exploration of innovative engineering education in Tsinghua University [higher engineering education research, ol. 10, no. 1, pp. 11-23, 2009.*
- [3] Wang Yi. *On "project based" teaching method [J]. Education and teaching forum, vol. 14, no. 38, pp. 156-157, 2013.*
- [4] Yue G, Jinfeng L, Cheng J X. *Java teaching reform exploration based on the concept of CDIO engineering [C]//Proceedings of 7th International Conference on Information Technology in Medicine and Education (ITME). IEEE, pp. 488-491, 2015.*
- [5] Noraini I, Shahliza A H. *Generic framework design of project-oriented problem-based learning (POPBL) for software engineering courses [C]//Proceedings of Malaysian Software Engineering Conference (MySEC), Kuala Lumpur, pp. 360-364, 2014.*