

Research on the Application of Student Award System in Project-based Teaching

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Abstract

Project-based teaching activities are carried out around the project and involve all aspects of production and life practice. Students act as project planners, managers and implementers in simulated real work scenes to complete the systematic connection of literacy, knowledge and skills, which is conducive to the cultivation of students' professional core literacy, Lay a solid foundation for students' career development and sustainable development. The core of project-based teaching is the choice of cases. Choosing cases that can be applied by both teachers and students will contribute to the development of project-based teaching. Teachers have independently developed the school award system, which is an important measure for ordinary higher education institutions in China to encourage students to study hard, devote themselves to scientific research, be brave in innovation and forge ahead according to the educational policy of the party and the state. The system realizes the routine work of higher vocational colleges, which is very familiar to both teachers and students. The system has been applied in the project-based teaching of software technology specialty to promote students to actively participate in the whole process of project course teaching, cultivate professional ethics, professional consciousness and professional ability in perception, practice and experience, and promote students' development.

Keywords

Student award system; Project-based teaching; Software technology; Practical teaching.

1. Introduction

There are no less than 10 professional core courses in higher vocational colleges. After three years of study, students should have strong professional and technical ability and can meet the requirements of employers when they graduate. In fact, the vast majority of students simply cannot meet the needs of enterprises. When they graduate, they only know the theoretical knowledge in books and cannot apply what they have learned. The fundamental reason is that teachers pay attention to the explanation of theoretical knowledge and despise the cultivation of students' practical ability. Engineering courses are seriously theorized, and many practical courses do not let students master excellent practical operation ability, Finally, students master scattered knowledge points, which cannot realize the creative application of knowledge. Project-based teaching can greatly improve students' practical ability, and also enable students to meet the requirements of employers at the fastest speed after graduation, which lays a foundation for the zero-distance transformation from college students to enterprise technical employees [1-2].

The teaching methods of practical courses have been discussed at home and abroad. For practical courses, American teachers will arrange a large number of preview assignments, let

students design projects, carry out them in groups, and pay attention to fully verifying and understanding the theory in practice [3]. The UK adopts a combination of centralized teaching, small seminars and personal counseling, and emphasizes pre class preview, focusing on cultivating students' ability to analyze and solve problems [4]. Some domestic scholars put forward that engineering practice courses should choose project-based teaching. Almost all high vocational teachers know that practice courses are highly applicable and cannot focus on theoretical teaching. Practical teaching should be strengthened. The use of project-based teaching can greatly stimulate students' learning enthusiasm. However, project-based teaching has high requirements for teachers, Teachers need to have strong hands-on operation ability and practical guidance ability [5-6]. In the early stage of project-based teaching, teachers need to pay several times the workload of conventional teaching, but major universities currently have no guidance and corresponding incentive measures. Therefore, specific to each university, few or even no teachers are willing to adopt project-based teaching. Another reason why practical courses fail to adopt project-based teaching is that there are too few ready-made teaching cases in China. Based on the student award system developed by teachers for schools, this paper adopts different levels of project-based teaching to improve students' performance assessment methods, so as to provide reference for professional project-based reform.

2. General Idea of Project-based Teaching Reform

In order to meet the new needs of social development and enterprise innovation for software technology skilled talents and high-quality workers, adhere to the school running policy of service-oriented, employment oriented and ability-based, face the talent needs of industries and enterprises, reconstruct the curriculum system, update the teaching content, reform the teaching methods, and apply the Internet, big data Cloud computing, artificial intelligence and other technologies, build an intelligent learning platform, and explore the comprehensive reform of project-based talent training for software technology majors.

The basic idea takes systematization of work process as the basic idea to carry out vocational education curriculum reform and adapt to social development.

Curriculum system breaks the traditional discipline curriculum system, build the curriculum system according to the actual work system, and design the curriculum structure according to the actual work structure.

Course content is developed by colleges and universities cooperate with industrial enterprises. It breaks the teaching content of traditional subject-based courses with subject knowledge logic as the main line and professional theoretical knowledge as the main body, and organize and design teaching contents according to the needs of practical work tasks, professional activities as the main line and professional ability training as the standard.

Teaching methods are effectively designed to the situational teaching method integrating teaching, learning and doing. It breaks the single learning mode and classroom teaching environment, create a teaching environment as close as possible to the working environment, and realize the organic integration of school environment and working environment, campus culture and enterprise culture.

Teaching means are flexible and diverse, can effectively apply modern information technology for simulation teaching, break the implementation mode of subject-based curriculum, which mainly carries out knowledge indoctrination, students' passive acceptance, and the disconnection between practice and theory, and form an implementation mode that mainly carries out task implementation, students' active construction, and the integration of practice and theory.

Assessment methods are flexible and appropriate to ensure the consistency between students' On-campus learning and actual work, combine on-campus performance assessment with enterprise practice assessment, and explore the integration of classroom and practice location.

3. Application of Student Award System in Project-based Teaching

Project based teaching takes the student evaluation system as the carrier, and the technology applied in the project runs through the curriculum system of software technology, cloud computing technology, big data technology and other majors through technology decomposition and technology iteration.

3.1. Student Award System

According to the educational policy of the party and the state, the evaluation of awards and excellence is an important measure to encourage students to study hard, devote themselves to scientific research, have the courage to innovate and forge ahead. It is not only one of the routine works of the school, but also a very key link. It is an important means to strengthen the construction of campus civilization. Generally, at the beginning of each academic year, the student office of the college organizes students of each class to conduct comprehensive evaluation and ranking according to the student manual. The school publishes the specific quantifiable evaluation standards and rules of each award or honor. The college gives the preliminary review results of each award or honor compared with the comprehensive evaluation and quantitative standards of students and reports them to the academic affairs office of the college. The academic affairs office will publicize the audit results in the whole department. After there is no objection to the publicity, the corresponding certificates and bonuses will be officially issued. The main functions of the system are shown in Figure 1.

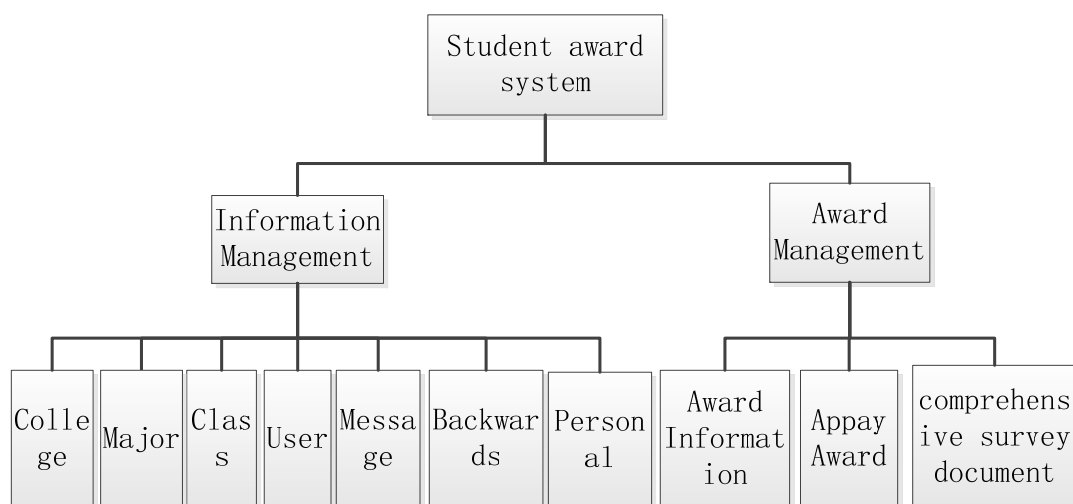


Figure 1. The function module diagram of student evaluation system

The development of the student evaluation system adopts the mainstream front-end and back-end separation technology, the back-end adopts Spring Boot + MyBatis + Redis, the front-end adopts Vue + Bootstrap + JQuery + Layerui, the mobile end adopts mixed development + wechat applet mode, and the database adopts MySQL [7]. This technical route is the mainstream development route adopted by software enterprises to develop medium-sized and above scale. The software technology specialty takes students' completion of the project as the training goal, and runs through the training of knowledge, skills and literacy in the process of students' project realization, so as to truly learn by doing and do by learning.

3.2. Application of Project-based Teaching

The single skill technology involved in the student award system involves programming, database application technology and web page programming technology. These three basic technologies will run through the professional group platform courses. The system award system is developed iteratively according to the small-scale project development technology (traditional java web development method), small and medium-sized project development technology (framework development method), medium and large scale development technology (micro service development method). Through the iterative method, students can gradually master the development method of the system.

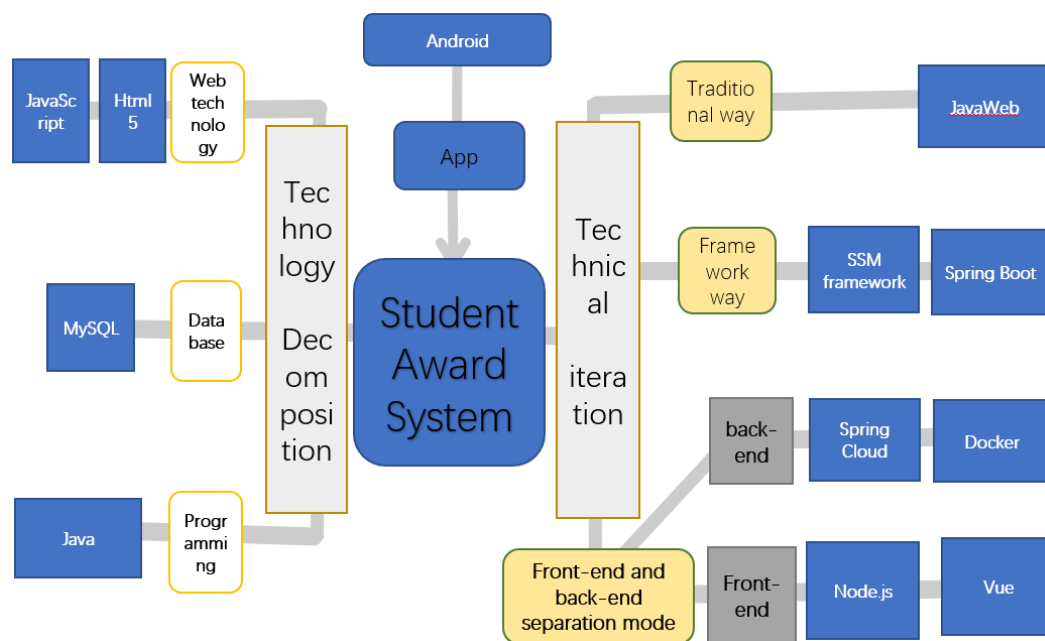


Figure 2. Application diagram of Project-based Teaching

In the technical explanation of traditional development methods, the enterprise workbench of student award system is taken as a case (small scale) throughout the course. The workbench includes 10 modules. The 10 modules are divided into four stages to gradually learn in the form of breakthrough, including follow-up stage, blank filling stage, independent programming stage and extracurricular expansion stage. The follow-up phase aims at the realization of two modules and integrates the basic knowledge points of the project. The teacher completes these two projects in class, and the students follow the teacher to complete the project. The blank filling stage aims at the realization of three modules. At this stage, the teacher gives the basic ideas and main codes for the realization, and allows the students to fill in some core codes. The independent programming stage aims at the realization of two modules. In this stage, teachers give the basic ideas of realization, and students complete the realization of these two functional modules independently. The remaining three modules, as extracurricular expansion, are designed by students themselves and implemented independently. If students can complete independently and pass the teacher's reply, they can be exempted from the examination

4. Conclusion

Higher vocational colleges should pay attention to the cultivation of students' application abilities, which need to be realized with the help of practical courses. The traditional practical curriculum reform is a complex systematic project, which can not be achieved overnight. It should be reformed differently, but it must adopt the practical teaching method similar to

project-based teaching. The project-based teaching of practical courses in higher vocational colleges can effectively improve the teaching effect, improve students' interest in learning, enable students to master the skills they should have mastered in the University, greatly improve students' classroom participation, and enable students to "learn and use" to the greatest extent. In this paper, the project developed by teachers is applied to the project-based teaching method to form an easy to popularize case. Combined with 1 + X certificate, students will be more able to meet the requirements of enterprises.

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