

Exploration and Practice of Professional Core Ability Teaching Based on The Second Classroom

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Abstract

In order to meet the needs of students' technical skills growth and improve students' comprehensive professional ability, this project does the exploration and practice of the second classroom, and the "four modes" focusing on the core professional ability is proposed. This model includes skills training class, technology research class, innovation & entrepreneurship class and apprenticeship class. Students' four abilities are cultivated: skills practice, technology research, innovation & entrepreneurship, and job adaptation. Teaching and research ability of teachers and technical skills of students have been greatly improved through the second classroom teaching of this model.

Keywords

The second classroom; Professional core ability; Modern vocational education; Talent training.

1. Introduction

The traditional class teaching in higher vocational colleges has the several problems: unable to meet the needs of students' technical skills growth; teachers cannot satisfied the actual technical needs of enterprises, resulting in the lack of technical skills of students; students cannot effectively connect professional studies and professional activities in their spare time. Therefore, students' comprehensive professional abilities cannot be effectively cultivated and improved.

Domestic colleges and universities have carried out many related studies on the second classroom. Literature [1] and [2] studied the humanistic quality & second classroom and proposed corresponding construction strategies. Literature [3] and [4] mainly study in how to integrate the second classroom with ideological and political elements to improve the timeliness of ideological and political education. In view of the innovation and entrepreneurship capabilities, Literature [5] and [6] have summarized the role of the second classroom in the improvement of college students' comprehensive quality and innovation & entrepreneurship ability. The credit replacement in the second classroom is also explored and studied at the same time [7, 8]. Although the second classroom is widely researched, it mainly focuses on the quality training of students, innovation & entrepreneurial ability and other comprehensive qualities.

2. The "Four Modes" of the Second Classroom

This project focuses on the reform and practice of professional core ability training of second classroom. Taking the mechatronics technology major as an example, the teaching reform & practice of the "four modes" of the second classroom are constructed around the automatic production line technology.

(1) Deepening the integration of industry and education, school-enterprise cooperation, and transformation and upgrading in industry. Through theoretical exploration and practice, the teaching mode of the second classroom "four-mode" focusing on professional core ability is proposed and implement to the training of engineering craftsman talents.

(2) According to the principles of real project, real research, real exploration and real achievements, we have explored and practiced the training path of engineering craftsman talents in project-based teaching, and trained the students to solve their practical ability and innovation ability in the second classroom of professional characteristics.

(3) Based on students' ability training and relying on the "four modes" of the second classroom, students will be evaluated in terms of achievements and ability from four aspects which is training, research, innovation and production, to realize talent training in accordance with their aptitude.

The "four modes" of the second classroom includes skill training class, technology research & development class, innovation & entrepreneurship class and apprenticeship class, to cultivate students' four abilities: skill practice, technology research & development, innovation & entrepreneurship and post adaptation. The skill training class trains the skills of the assembly and maintenance through the skill master studio and the technology research and development center. Technology research and development class is in the technology research and development center, and the research mentor guides the students to participate in the enterprise technological reform research and development projects. Innovation and entrepreneurship class is in the innovation and entrepreneurship center, where entrepreneurship mentors guide new technology application and innovation and entrepreneurship projects. Apprenticeship class is in a school-enterprise collaborative education center, guided by enterprise mentors and trained in product skills and job skills.

2.1. Carry Out Project-based Teaching Based on the "Four Modes" of the Second Classroom

Project-based teaching around the second classroom into real enterprise projects, into the "professional quality, political literacy, craftsman spirit and labor spirit", through the combination of the "four modes" of the second classroom, realize the rapid growth of students' technical skills and meet the actual technical needs of the enterprise.

Skills training class includes new technical skills project, 1 + X skill project and skills competition project; technology research and development class includes enterprise technical transformation project and science and technology competition project; innovation and entrepreneurship class includes new technology application project and innovation and entrepreneurship competition; apprenticeship class includes job tasks and enterprise project.

2.2. Class Teaching Based on Real Projects, Improve the Ability of Teachers to Serve Enterprises

Relying on the skill master studio, competition and training center, technology research and development center, innovation and entrepreneurship studio and school-enterprise collaborative education center, we will carry out real project teaching related to product intelligence and production line intelligence. The teaching projects all come from mature teaching cases such as enterprise technical transformation projects and skills competition projects. Based on real projects, real research and exploration, based on new trends, new needs, new technologies and new products, and have achieved a series of real results.

2.3. The Project and the Course Are Combined with Each Other to Encourage All Students to Participate in the Second Classroom

Skills practice project, enterprise technical renovation project, new technology application project, enterprise production internship project and individual technology application course, comprehensive technology application courses, technology innovation application courses, students to participate in the project in the training scheme, using class, summer social practice, graduation design to carry out teaching practice, encourage students to participate in the second classroom.

3. Conclusion

With the deepening of the action plan to improve quality and improve excellent training, vocational education puts forward higher requirements for the quality of talent training. How to build a horizontal and integrated second classroom focusing on the professional core ability on the basis of the first class will be an important topic. The second classroom of "four modes" proposed in this study explores and practices the training path of engineering craftsman talents in project-based teaching, and relies on the second classroom of students' professional characteristics to cultivate their practical combat ability and innovation ability to solve the actual technical problems of enterprises.

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