Research on teaching, research, creation and integration teaching mode

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Abstract

Guided by the cultivation of new technology application ability, this paper explores the talent cultivation mode of the organic integration of Wenzhou's business double creativity spirit and professional education, establishes the curriculum system of the integration of innovation consciousness and entrepreneurship spirit, constructs the practice teaching mode of the integration of "training, research and creation", moves enterprises into the campus, and builds the integration of "training, research and creation" across specialties. Training platform, cooperation with industry and enterprises, pilot apprenticeship system, construction of high-quality off-campus practice base, the establishment of business management professional teaching resource pool and the use of mobile Internet technology, to carry out "smart classroom" teaching, create innovative entrepreneurial awareness and team spirit of think tank teaching team for Wenzhou Small and medium-sized enterprises provide management support and talent support. For students, schools, society and local eventually built in the cultivation of students, teachers, local small and medium-sized enterprises to serve the cluster and other aspects of the province and even the whole country famous brand specialty, has far-reaching practical significance.

Keywords

Teaching; innovate; teaching method; Research.

1. Purpose and significance of project research

Nowadays, with the rapid development of the world economy, new problems and new technologies are constantly emerging, and people are facing new situations every day. It is one of the aims of university education reform to cultivate students'insight, imagination and creativity so that when they go out of school to engage in practical work, they will use the knowledge they have learnt and creative thinking to analyze and solve problems so as to improve economic and social benefits. The teaching reform and experiment, as well as the training and competition, which are carried out around the research and creation mode, have achieved successive results. The purpose of this project is to build a teaching, research and innovation integration, relying on the five pillar industries in Wenzhou and the small and medium-sized enterprise clusters in modern service industry, and grasping the opportunity of Wenzhou SMEs'upgrading to "specialization and innovation"

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2. Project implementation plan

2.1 Construction objectives

Relying on the clusters of small and medium-sized enterprises in five pillar industries and modern service industries in Wenzhou, we should construct an integrated practical teaching mode of "training, research and creation", build a think tank teaching team with innovative and entrepreneurial consciousness and team spirit, provide management support and talent support for small and medium-sized enterprises in Wenzhou, and finally build up a place for students'training and service. SME clusters and other aspects of the province and even the country's well-known brand characteristics.

2.2 Important work and initiatives

(1) Explore the talent training mode of Wenzhou business creation and professional education.

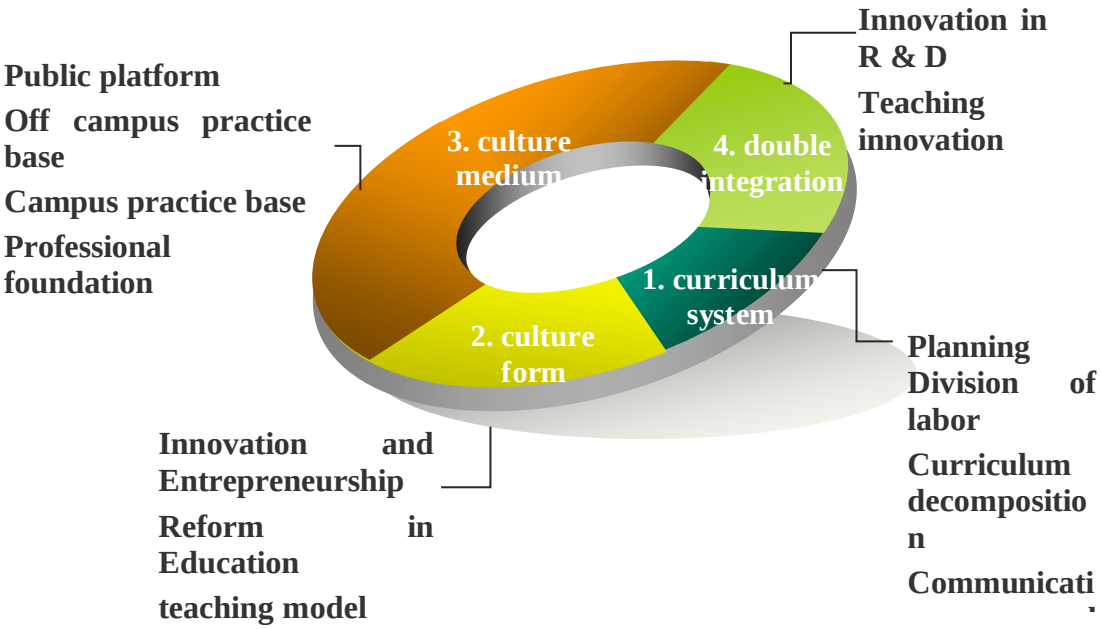


Fig. 1 talent cultivation mode of organic integration of double creative spirit and professional education

Relying on the advantageous resources of College entrepreneurship education, grasping the opportunity of building an innovative and entrepreneurial campus, flexibly utilizing the resources of Wenzhou local society, colleges, brothers, departments and teachers, etc., we will organically integrate innovative and entrepreneurial education with professional education and carry out the practice of cultivating innovative and entrepreneurial talents in the form of professional courses. To explore the talent training mode of integrating innovation and entrepreneurship education with professional education.

(2) Establish a Wenzhou business innovation and entrepreneurship integration curriculum system.

Focusing on the cultivation of innovative spirit and entrepreneurial consciousness, the cultivation of comprehensive quality and professionalism, the formation of professional skills, according to the dynamic needs of training personnel objectives, to create one-to-one corresponding curriculum packages, the establishment of Wenzhou commercial spirit and dual-creative ability into the curriculum system.

Designing curriculum content with professional consciousness, frontier consciousness and market consciousness, combining humanities curriculum, comprehensive basic curriculum module of Vocational quality, basic curriculum module, core curriculum and skills curriculum of different professional directions, and Wenzhou business spirit, EQ management and innovation and entrepreneurship management curriculum module to realize the spirit of innovation Integrating with the education resources of entrepreneurship awareness, professional spirit, comprehensive quality and professional skill training, the integrated basic knowledge, professional foundation and technical knowledge and double-creative management knowledge will form an organic whole. After comprehensive training and skill assessment, the "in-school and out-of-class" skill training certificate will be issued to improve students'professional quality and skill level.

(3) Constructing an integrated practice teaching mode of "training, research and creation".

Through "doing in training", "training in research", "research in innovation", the formation of "training in innovation" integration of training forms. To cooperate with enterprises to build Wenzhou Business Entrepreneurship Experience Center and improve the quality of

students'professional training; to train students' professional quality through comprehensive training programs, summer practice, graduation comprehensive practice programs and so on; to enhance students'vocational skills through research and development service platform, with tutors + projects + graduation comprehensive practice programs. Team mode, carry out "training in research" to serve the local economy; through skills competition, innovative entrepreneurship project development, the implementation of "research in innovation", incubate small and micro enterprises, to solve practical problems in enterprise management, personnel training and high-quality employment zero-distance docking.

(4) Building an integrated practice teaching base of "training, research and creation"

We should move the enterprises into the campus and build an interdisciplinary training platform. Fusion of resources, attracting enterprises to build Wenzhou Business Entrepreneurship Experience Center and other cross-disciplinary practice platform, so that professional experience and skills training "visible", "touch", "understand", "learn" and "create" to move enterprises into the campus, forming a cross-disciplinary "training and research" integrated training platform.

(5) Construction of characteristic teaching resources

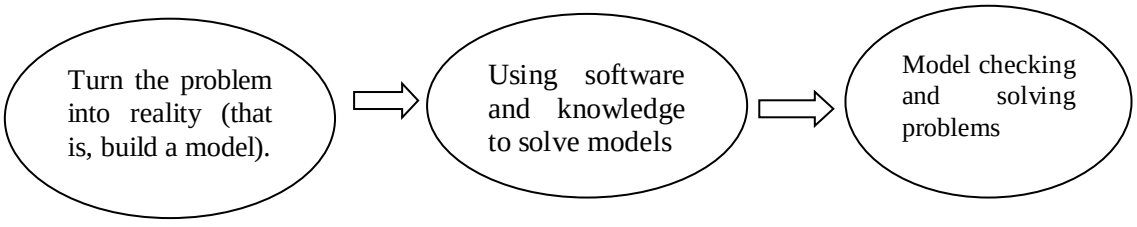
To construct the network classroom of all core and backbone courses, including teaching courseware, exercise database, test database, curriculum standards and other teaching resources; to complete the integration planning and construction of professional practice materials, including competition projects, curriculum teaching projects, comprehensive practice projects, post practice projects and other practical teaching resources; In order to meet the needs of local and industrial enterprises for their professional qualities and abilities, the mode of "college + industry association + backbone enterprise" is adopted to formulate professional qualification standards and jointly construct core curriculum standards.

(6) Teacher development

Relying on the three major projects of the college, it is necessary to guide the professional teachers' teams to develop towards different levels and improve them hierarchically. Relying on the young teachers'growth project, the backbone teachers' promotion project, and the famous teachers'cultivation project, we can give full play to the exemplary role of famous teachers, promote the continuous growth of young teachers and teams, and guide teachers to develop in different directions and promote in different levels.

3. Reform objectives:

Elements of innovation and innovation



First, strive to create the "research and innovation model" course as an excellent course.

Transition from Wenzhou Vocational and Technical College to Wenzhou to Zhejiang.

Two, docking with local enterprises in Wenzhou to help enterprises complete part of the technological transformation.

Three, solve the practical problems of social welfare in Wenzhou area

It mainly includes environmental protection, waste disposal and transportation, energy optimization and conservation, urban traffic layout, social engineering design, financial management and company personnel system development.

1) Training

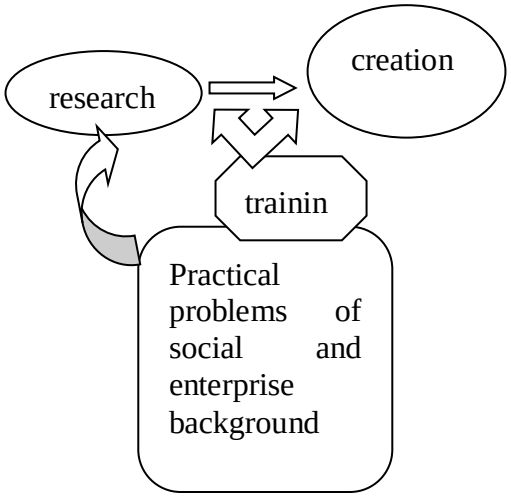
Through training and competitions, college students are encouraged to use the knowledge they have learned to solve the practical problems they are facing, to stimulate their enthusiasm to study and create, to improve their comprehensive ability to establish research and create models and to solve practical problems by using computer technology, and to encourage them to actively participate in scientific and technological activities, to develop their knowledge and to cultivate them. The innovative spirit and the sense of teamwork promote the reform of teaching system, teaching content and methods of research and creation in Higher Vocational colleges.

2) Research

The basic methods and models of linear, nonlinear and convex optimization are used to solve the practical problems of waste disposal and transportation, energy saving, urban traffic layout, social engineering design, financial management and personnel system development.

3) Creation

To a certain extent, cultivate and improve students' innovative ability.



From the left-hand diagram, we can easily see that the practical problems with social and business background are the combination of training, research and innovation. The research takes practical problems as the object of study and solves problems on the basis of basic operational research optimization model and innovation improvement. This process itself is an innovation, in which "training" is "research and innovation". "Provide the foundation. The "Creation" in the drawing can also be interpreted as setting up an entrepreneurial team with modeling applications as the entrepreneurial direction, opening the way to entrepreneurship, mainly involved in railway transportation, highway transportation, logistics management, enterprise production and sales related fields of modeling and model solutions, consulting services.

The teaching process of "pre-class + in-class + after-class" based on the network sharing platform is adopted to realize the transformation from teaching-oriented to learning-oriented and from classroom teaching-oriented to the combination of in-class and out-of-class teaching.

Before class, the knowledge self-study is completed on the basis of the network sharing platform, which is divided into three stages: 1) Teachers select some easy-to-understand and easy-to-master teaching contents, make their teaching process into teaching video, with corresponding self-study homework, and upload the teaching plan and courseware to the network sharing platform; 2) Students from the network; The sharing platform downloads materials, group self-learning related knowledge, and complete the homework; 3) students and students, students and teachers in the process of self-learning to maintain interactive exchanges, facilitate teacher-student, student-student problem discussion, and teachers to understand the students'mastery of self-learning knowledge points.

In class, based on the knowledge internalization of classroom teaching, there are seven stages: 1) according to the situation of students'self-study before class, teachers choose the difficult knowledge of self-study before class and comment on self-study homework before class; 2) teachers propose project-based teaching tasks; 3) students discuss teaching tasks in groups, turn practical problems into problems, and establish models. Type 4: Teachers and students learn the relevant knowledge of problem solving and software solving commands; 5) students use the knowledge learned, combined with software independent inquiry to complete the task; 6) student results display; 5. Teachers and students to summarize and evaluate the relevant results.

After class, knowledge remedies based on network sharing platform. It is divided into three stages: 1) Teachers collect and organize classroom dynamic resources and students'task reports, upload students' excellent task reports to a shared platform for students to review after class; 2) Students learn excellent reports, complete homework after class; 3) Teachers give the direction of knowledge development and reflection after class, students carry out after-class review. Knowledge introspection and self knowledge development.

Preliminary results: The project team recorded 15 5-10 minute pre-class self-study videos, produced 15 Teaching ppts, gave 15 pre-and post-class self-test assignments, and related references and bibliographies for the development of after-class knowledge development, so as to facilitate the implementation of the integrated teaching model.

4. Next direction of reform

Improve the relevant information of the existing 15 projects, and for the new "project" teaching content, provide new pre-class self-learning video, teaching ppt, pre-and post-class homework and knowledge development related information.

4.1 Textbook reform

There is a great difference between the teaching content, teaching method and the traditional teaching mode when the teaching mode based on the network sharing platform is adopted. Most of the existing related textbooks are suitable for undergraduate teaching, and basically inclined to theoretical discussion, for the actual problem is still unable to solve, so in order to facilitate the development of teaching, project team members compile the relevant textbooks to adapt to our higher vocational teaching.

The next step of the reform direction: on the basis of the existing lectures, to update and improve the existing projects, while increasing the statistical analysis of large data related projects, the development of teaching materials or handouts.

4.2 Reform of teaching methods

On the basis of the traditional teaching methods, the pre-class knowledge self-study and after-class knowledge remedy based on the network sharing platform are added, and the in-class teaching and extra-curricular teaching are combined to enhance the students'learning initiative.

(1) Preliminary results

In the early stage of teaching, teachers distribute pre-class self-study videos, teaching ppt, pre-class and after-class homework, and after-class expanded learning materials to students by means of U-disk copy, which is easy to cause the loss and incompleteness of students'data.

(2) The next step of reform.

On the basis of the shared resource database of the institute, the members of the research group will build the teaching resource database, upload the existing teaching materials such as pre-class self-study video, teaching ppt, pre-class and after-class homework, and after-class expanding learning materials to the shared resource database, which can be used for students to download and study indefinitely, and develop the interaction of online question answering and online testing. Dynamic communication learning links.

4.3 Reform of evaluation methods

The comprehensive evaluation model of "grouping evaluation + individual evaluation" is adopted, which reflects the cooperation and individual division of labor and performance within the group. The evaluation model is shown in Table 2.

Grouping evaluation - reflects the "grouping teaching" within the group cooperation, including pre-class grouping completed homework, accounting for 10%; in-class group discussion report, accounting for 10%; after-class grouping completed knowledge development, accounting for 10%.

Individual evaluation - reflecting the "group teaching" of the individual division of labor and performance, including in-class attendance, accounting for 10%, in-class independent inquiry research report, accounting for 30%, after-school test questions completed, accounting for 10%, the final personal comprehensive assessment, accounting for 20%.

Table 1 comprehensive evaluation mode

Group evaluation (30%)			personal evaluation (70%)			
Before class Self-study homework	In classGroup discussion	after class Knowledge expansion	In classCheck work attendance	In classIndependent inquiry	after classTest questions	End of the term Comprehensive assessme
10%	10%	10%	10%	30%	10%	20%

4.4 Objectives of reform

(1) Reform results

1) Sharing online learning platform 2) teaching materials (or lecture notes)

3) Pre class teaching video 4) project teaching case

5) Unit design, lesson plan, courseware 6) homework before class and after class.

(2) Reform objectives

1) Developing a network learning platform to facilitate teachers to use this platform for teaching, while facilitating students'pre-class self-learning and after-class knowledge recovery;

2) Compiling teaching materials (or lecture notes) that correspond to the integrated teaching mode both inside and outside the classroom, so as to facilitate the development of teaching.

3) Updating relevant teaching resources, such as teaching cases, unit design, teaching plans, courseware, pre-class self-learning video, pre-class and post-class assignment sets, on the basis of existing achievements and network learning platform;

4) In the classroom teaching of relevant specialties, we should carry out the integrated teaching mode both in and out of class based on the network learning platform, and popularize the classroom teaching method of this course to other basic and professional courses on the basis of mature experience.

5. Summary

Actively select professional students to participate in research and development services for the government, enterprises and society, to enhance professional skills and high-quality employment. Promote inter-school communication and teacher-student training, enhance professional radiation capacity, and demonstrate the leading role. Teachers are encouraged to participate in the training of domestic teachers and share the same schools in China.

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