

Exploration and Research on the Cultivation Mode of Innovation and Entrepreneurship of Engineering Students in Colleges and Universities

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Abstract: Due to the difference of engineering and humanities and social science professional personnel training, engineering students for the status of technology industry to understand deeply, but the lack of training and training in the humanities and business management capabilities, combined with engineering innovation and entrepreneurship education students teaching ability advantages and weak part, suggestions from the revision of personnel training for the cultivation of innovative talents mechanism, build innovation and entrepreneurship education curriculum education system, improve the innovative practice education system to carry out innovation and entrepreneurship training.

Keywords: Engineering major, Innovation and entrepreneurship, Personnel training

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1. Introduction

Engineering specialty and the humanities and social sciences, engineering major is to focus on the accumulation of professional knowledge and skills, the cultivation of the specialty, so the engineering students' innovation of entrepreneurial relatively, easier to carry out the project of high technical content. Engineering students' for information technology at the same time due to the technological frontier dynamic compared with humanities and social sciences students sharp degree is high, so the deeper understanding about the present situation of the skills of industry technology, the technology innovation is more likely to line with the market demand. But as a result of humanities and social sciences and engineering majors students knowledge structure and culture

of different education mode, engineering major in the humanities accomplishment and ability in business management, lack of training and cultivate the accomplishment and ability of entrepreneurship and innovation are very necessary, such as the team leader ability, language expression ability, organization ability, interpersonal skills, etc. In combination with the advantages and disadvantages of innovation and entrepreneurship education teaching ability of engineering students, it is suggested that innovative entrepreneurial ability should be developed from the following aspects.

2. Revision of Personnel Training Programmes

1) Implementation of "perfecting the talents cultivation

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quality standards", to invite related departments, research institutes, enterprises to participate in the industry, combining with the school running orientation and service oriented, complete set at the end of 2017 (revised) in civil engineering, architecture, engineering cost, construction engineering technology specialty teaching quality standards and the talent training scheme, teaching quality standard to achieve undergraduate class teaching quality standards of the state, the higher vocational teaching, integrating industry enterprise of professional evaluation standards.

2) According to the positioning of talent fostering and the innovation entrepreneurship education goals and objectives, to professional education and innovative entrepreneurship education organic fusion, add engineering expertise and knowledge of combining the course of economic management, such as "engineering economics"; An engineering innovation design course based on project learning is added. For example, "architectural design and specification", "structural design and specification" and other courses.

3) Deepen the experiment link, strengthen practice engineering professional practice, the link in the talent training scheme is more, but the traditional experiment link most is some validation and demonstration experiment, this for to cultivate students' innovative ability is far insufficient, so want to add some comprehensive, innovative design and research, the zetetic experiments, such as civil engineering material design experiments, comprehensive experiments, the structure model of engineering structure concept and experimental courses. At the same time, we should strengthen the practice link and combine the practice teaching link with the production practice so that the students can study in the actual production environment. To give full play to the important role of experimental teaching in cultivating students' innovation ability.

3. Innovative Personnel Training Mechanism

Deepen the cultivation mode of cooperative education. Innovation and entrepreneurship should have a strong practical ability, and can use the professional knowledge to solve real social problems creatively. Therefore, to cultivate students' innovative and entrepreneurial ability, they must combine with industry and enterprises and combine with economic and social development. In order to achieve this, they must adopt cooperative education mode. Students in school learn professional knowledge,

through learning in the industry, enterprise, professional knowledge is further strengthened, at the same time also can learn to recognize and found problems in the process of practice, learn to innovate the application of knowledge in problem solving. Therefore, we should continue to deepen the existing training mode of coordination and education, and carry out as many schools as possible to carry out the linkage of school, school and school enterprises to promote the construction of cooperative education base.

4. Build the Education Class Education System for Innovation and Entrepreneurship

Heuristic, exploratory, discussion-based and case teaching way of teaching, reform the curriculum evaluation way, change is given priority to with the examination paper evaluation way of single evaluation methods, establishing diversified evaluation methods: such as paper + big job, study, work and study, and other forms.

Teachers in the classroom teaching to introduce the current industry of new technology in time in the classroom, as a complementary to the student extracurricular knowledge, let students understand the technology innovation and development, inspire the student to develop innovation.

Encouraged to engineering, research, and other forms of innovation to carry out the professional course teaching, students are encouraged to team up, collected through topic selection, planning, process information, activities, exploration, production work, communication and other series of activities, to cultivate students' autonomous learning, active thinking, practical innovation, teamwork, leadership decision-making, problem solving, etc. Series of ability and quality.

5. Improve the Education System for Innovation and Entrepreneurship

To promote the combination of curriculum teaching and project practice, the teacher research project is divided into several small projects to attract students to participate in the practice, and the teaching of scientific research projects is introduced into the course teaching.

Take an active part in all kinds of the second curriculum practice, the departments at all levels have organized all kinds of innovative entrepreneurship competition, innovation, entrepreneurship training, community activities and social practice as an important part of innovation

entrepreneurship education practice platform, through the innovation of the diversification of the second classroom entrepreneurship practice, combined with the first course of professional and technical knowledge, professional skills into the third course industry enterprise practice, the organic fusion will be the first, second and third class synergy cultivate students' innovative ability.

Create a structure design competition as the college double-create competition brand. Structure design competition can stimulate student's study enthusiasm, enhancing the innovative ability of students, improve the students' experiment ability, strengthen computer application level, cultivate team spirit, and enhance interpersonal communication skills, even the ability of students to the interdisciplinary research. Students participate in the structural design competition, which can effectively enhance the ability of double innovation through theoretical learning, scheme design, program analysis, test piece production, loading test and writing report. Later can on the basis of the competition, to study the innovation as the goal, encouraging students to go up the open experimental platform to set up all kinds of innovative research projects, such as waste materials structures, combined removal of

structure, the structure of the intelligent control, green energy structure, and so on.

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