Exploration on Innovation of Entrepreneurship Education Mode Under the Visual Threshold of Engineering Education Specialty Authentication

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In order to adapt to the rapid development of engineering education and the goal of the 13th Five-Year Plan, the cultivation of innovation and entrepreneurship ability, practical ability and quality has become the core content of engineering education professional certification. This paper probes into the train of thought and evaluation mechanism of innovation and entrepreneurship ability, expounds the reform direction of innovation and entrepreneurship education mode, and has certain significance for promoting innovation and entrepreneurship education in colleges and universities of our country at the present stage.

Keywords: innovation and entrepreneurship education, engineering education, professional certification, talent training model reform

Introduction

At present, the role of science and technology in promoting the rapid development of economy and society is increasingly obvious, and innovation is the key driving force of the development of science and technology. Therefore, colleges and universities attach great importance to the cultivation of innovation and entrepreneurship talents (Wang, 2018). The traditional mode of engineering education has been out of step with the development of modern science and technology and the social demand (Fan, 2018). In essence, the purpose of engineering education certification is to improve students’ innovative and entrepreneurial ability. At present, the development of innovation and entrepreneurship education in most colleges and universities is not mature enough to meet the needs of the society for innovative talents, which not only affects the characteristic development of colleges and universities, but also restricts the further implementation of engineering education. Therefore, it is necessary to explore the new mode of innovation and entrepreneurship education around all aspects of talent training.

Train Objective

The cultivation of innovation and entrepreneurship professionals includes the cultivation of elite quality and ability, innovation ability, engineering practice ability, and international competition ability. Therefore, the general education with quality training as the core and the elite education with entrepreneur training as the core...
are not the complete innovation and entrepreneurship education. The goal of innovation and entrepreneurship education is to train the students’ practical ability and the innovation ability (Wang, 2015).

**Train of Thought**

Innovation and entrepreneurship is not only the aim and means of engineering education, but also the development trend of higher education and the inevitable requirement of educational reform. Therefore, we should conform to the trend of development of the times, innovate the traditional training mode of talents, actively explore new ways and methods of innovation and entrepreneurship education, and devote ourselves to cultivate engineering and technical talents with strong professional foundation, strong practical ability, and high professional quality (Xu, 2018). Therefore, we need to discuss in the following several aspects.

**Educational Idea and Curriculum System**

The concept of innovation and entrepreneurship education should be incorporated into every link of engineering teaching, and the implementation platform for innovation and entrepreneurship education should be provided. The principle of “all members, whole process, various measures, all aspects” should be taken as the principle, and the goal is to improve the students’ ability to innovate and start an undertaking. The idea of innovation and entrepreneurship education is integrated into the whole process of cultivating engineering specialty talents, and a set of innovation and entrepreneurship education system suitable for the law of engineering education is explored.

Under the background of engineering education nowadays, the curriculum system of engineering specialty needs to be reformed deeply, and the reform direction should be emphasized on the cultivation of students’ ability of innovation and entrepreneurship and the development of students themselves, so as to make it more flexible, inclusive, and reasonable. It has the characteristics of elasticity and diversification. In the form of elective courses, basic courses, compulsory courses, experimental courses and apprenticeships, and so on, we should follow up the students’ study in the whole process of innovation and entrepreneurship education, and constantly integrate and optimize the curriculum system, to realize the deep integration of professional courses and innovation-entrepreneurship education courses. In the process of teaching, we should incorporate enterprise cases, train students’ ability of practical analysis and problem-solving, arrange students to go to relevant enterprises, institutions, practice, or develop new curriculum resources in the form of cooperation between colleges and enterprises.

**Model of Instruction and Teachers’ Construction**

Teachers, as the implementers of innovation and entrepreneurship education, should strengthen their own ability and quality construction. However, most teachers are relatively deficient in this respect (Xu, 2018). In view of this, college teachers should first cultivate the consciousness of innovation and entrepreneurship education, adjust their teaching and scientific research according to the development of society and science and technology, break through the limitation of subject, and carry out interdisciplinary research. Secondly, it is necessary to change the traditional teaching mode, carry out teaching reform and practice boldly, make full use of heuristic, discussion, participatory, and other teaching methods, and increase the use of new teaching forms, such as micro-lessons, admiration classes, flipping classes, etc. Make teacher’s leading and student’s initiative combine effectively. Finally, it is necessary to reform the form of examination, focus on process assessment, release students’ thoughts from examination-oriented mode in various ways, and stimulate their consciousness
of innovation and entrepreneurship.

At present, college teachers are generally lack of industry experience or entrepreneurial experience, and are not familiar with the process of technology use, product development, and enterprise operation (Yang, 2018). Therefore, it is necessary to encourage teachers to “go out”, take part in innovation and entrepreneurship training, go to college-enterprise cooperation units or practical teaching bases outside the school to learn on the job, or even work on the spot, and really understand the real working processes and technological frontiers of the industry. Improve their own ability of innovation and entrepreneurship. On the other hand, it is necessary to persist in “bringing in”, inviting fraternal colleges and universities, government departments or institutions, cooperative enterprises or successful alumni to give lectures on innovation and entrepreneurship, and employ them as guidance teachers, to carry on the omni-directional instruction to the student’s innovation and pioneering activity.

Teaching Platform and Educational Resources

Innovation and entrepreneurship education needs to attach importance to experimental teaching links and improve the ability of knowledge application. Therefore, it is necessary to strengthen the construction of practical teaching platform, strengthen the cooperation between colleges and enterprises, vigorously promote the construction of practical teaching bases, and strive to cover all the employment directions of students. Organize student practical training regularly. Teachers and students are encouraged to participate in various projects or to carry out innovation and entrepreneurship practices, increasing special funds for innovation and entrepreneurship, to provide financial support for teachers and students who carry out innovation and entrepreneurship training programs.

Traditional engineering education resources cannot adapt to the development of innovation and entrepreneurship education, so it is necessary to integrate high quality resources inside and outside the college. In the college, we should strengthen the exchange of experiences with other departments, and encourage teachers and students to carry out interdisciplinary and inter-departmental cooperation. Outside the college, we should strengthen the cooperation between colleges and enterprises, and use enterprise resources and experiences to carry out innovation and entrepreneurship education. At the same time, strive for government policies and financial support, the integration of colleges, enterprises, local government tripartite resources, to participate in talent training.

Excitation Mechanism and Cultural Construction

Teachers and students are encouraged to carry out innovation and entrepreneurship practices and to establish an incentive mechanism for innovation and entrepreneurship according to their own reality. The special activity fund for teachers’ innovation and entrepreneurship should be set up for scientific research and practice, and students should be encouraged to participate in all kinds of innovation and entrepreneurship competitions and innovative training programs for college students, and give them full guidance and financial support.

Set up a special organization, coordinate management, provide guidance services, set up innovation and entrepreneurship associations or interest groups, regularly carry out related activities to expand the impact. Experts, entrepreneurs, and successful alumni are regularly invited to conduct reports and lectures on innovation and entrepreneurship to enhance their confidence and determination. Actively encourage, organize, and help students to participate in innovation and entrepreneurship training projects and other types, all levels
of competition, to promote the students’ innovation and entrepreneurship ability.

**Evaluation Mechanism**

Reasonable evaluation mechanism can guide education to develop in the right direction. Aiming at the deficiency of students’ active feedback and introspection ability at present, teachers pay less attention to innovation and entrepreneurship, and establish a perfect evaluation mechanism. It is beneficial to improve the ability of teachers and students to innovate and set up new businesses (Wang, 2017).

**Multiple Evaluation Subject**

It is a systematic and complex project to measure the innovation and entrepreneurship ability of engineering students. In order to objectively reflect its true level, it is necessary to establish diversified evaluation subjects, including entrepreneurs, teachers, colleges, and students, etc. To ensure the authenticity and professionalism of the evaluation. The evaluation team determines its evaluation proportion according to its professional level and evaluation function. In the daily evaluation of students, we should not only consider their innovation-entrepreneurship ability, but also pay attention to their learning initiative, interest, and learning methods. The evaluation of teachers includes teachers’ professional qualities and students’ education. Multi-element evaluation of innovation-entrepreneurship activities in the process of security measures.

**Personalized Evaluation System**

Assess students’ ability to innovate and start a business in terms of professional ethics, teamwork, practical skills, communication and expression, and leadership. To set up the individualized evaluation index system, to construct the corresponding index system from the aspects of teaching background, demand resources, the comparative analysis of the implementation scheme, the process evaluation and the degree of achievement of the goal, etc. To measure the effect of each index on cultivating students’ ability of innovation and entrepreneurship, and to carry out feedback evaluation of the index system through multiple channels to realize comprehensive, inclusive, and dynamic scientific evaluation. The assessment standard is further refined, through the establishment of specific standard teaching plan, process implementation and feedback mechanism, the innovation and entrepreneurship education as the core, to measure the pertinence, adaptability, feasibility, and effectiveness of teaching design.

**Developmental Evaluation Method**

Establish a comprehensive developmental evaluation system and pay attention to the overall effect of students’ innovation and entrepreneurship. First of all, we can measure their innovation-entrepreneurship ability from explicit results, such as the continuous summary of students’ achievements in the subject skills contest and the acquisition of relevant qualifications. With the guidance of graduation thesis, the application ability of students’ professional knowledge is evaluated according to the subject selection and the quality of the thesis, the economic value realized through the transformation of achievements, and the quality of innovative entrepreneurial activities. To establish a dynamic long-term tracking system to track the industry relevance, employment rate, and career development track of students’ employment, and to study and judge the cultivation of their innovation-entrepreneurship ability. Secondly, according to the recessive achievements, analyze the effect of innovation-entrepreneurship education implementation, such as whether the development of innovative entrepreneurial activities is conducive to the cultivation of students’ interest in learning, the impaction on their hands-on ability, enthusiasm, and initiative in learning, the participation degree of practical
activities, and the influence on the people around, and break through the evaluation of single dimension in order to evaluate the effect of innovative entrepreneurship education more objectively.

**Conclusion**

In the rapid development of engineering education today, innovative entrepreneurship education is more urgent. Further Popularizing the education of innovative entrepreneurship, promoting students’ learning knowledge and cultivating students’ consciousness of innovation through practical means, improving students’ comprehensive ability. The innovation-entrepreneurship education model needs to be combined with local society, college environment, professional characteristics, comprehensive reform of traditional engineering education, only in this way, the innovation-entrepreneurship education can be put into practice and the quality of talent training can be improved.

**References**


