

Study on the Diversified Reform of Mechanical Engineering Graduation Design under the Concept of Entrepreneurship Education

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Abstract

Graduation design, as an the last and importance university practice teaching process, plays an irreplaceable role in improving students' knowledge level and practical ability. The effective integration of entrepreneurship education concept into all aspects of graduation is of great significance for enhancing students' innovative thinking and creative ability, enhancing competitiveness and realizing students' lifelong entrepreneurship concept. According to the basic situation of students' employment, this paper puts forward the concrete measures for the diversification reform of graduation design under the concept of entrepreneurship education.

Keywords

Entrepreneurship education; Graduation project;Reform.

1. Introduction

With the more and more serious situation, especially non-top schools, the employment situation of college graduates, is becoming more and more severe. The social demand for college students has reached saturation level [1]. The rising annual rate of postgraduate examination, civil servants hot prove this problem. How to improve the competitiveness of students in the talent market is an unavoidable problem which universities and students have to face. Therefore, college students must master the concept and ability of lifelong entrepreneurship.

The concept of entrepreneurship requires students to be out of their comfort zone at any time, the consciousness of starting a business at any time. The cores of entrepreneurial education in university education are the cultivation of essential human power and the shaping of subjectivity[2]. How to cultivate students' entrepreneurial ability, the state and governments provide a variety of support and protection for college students' innovative entrepreneurship. Among which how to enhance students' innovative, entrepreneurial ability is the core problem [3]. However, the cultivation of innovative talents should follow the law of education, the law of talent growth to do some substantive work, innovation and entrepreneurship into the existing teaching system[4].

2. The Inevitability of Innovation in Graduation Design

Graduation design can not only comprehensively test the effect and level of students' study in the phase of college but also expand and deepen the existing teaching processes. It is also a touchstone for testing and exerting students' creativity and carrying out innovative activities. At the same time, graduate project is a comprehensive test of students' comprehensive quality and training effect. However, the time-efficient of our professional graduation project is low, and its examination pays one-sided attention to the integrity of the data academic, ignoring the practicality and application. This trend strengthens the tendency of teaching out of practice and

affects the improvement of students' practical ability which does not fully meet the needs of social development and the concept of entrepreneurship education. In this case, the concept of entrepreneurship education is introduced, the graduation design link is reformed, the graduation project topic is centred on entrepreneurship. The students takes the team as the completion unit to improve the students' comprehensive practical ability and entrepreneurial quality in the graduate process. Teamwork fits the existing employment system. With the rapid development of entrepreneurship education, the introduction of the entrepreneurship education concept to graduation project stage is indispensable, which can realize the diversified reform of graduation design under the guidance of entrepreneurship education concept.

3. Implementing innovation theory in graduation

3.1. Strengthen on the relationship between entrepreneurship education concept and graduation design

In addition to the requirements of professional foundation, we should also improve the awareness of entrepreneurship education concept foundation, effectively realize the connection between entrepreneurship education concept and graduation design, and improve students' entrepreneurial concept and entrepreneurial consciousness in the process of graduation design. The influence of entrepreneurship education concept on students' graduation design is the whole process, from the initial topic selection, the opening question, the design process to the final defence evaluation. The concept of entrepreneurship education should be joined in each step.

3.2. Improved guidance for teachers on graduation projects

In the graduate project portion, the teacher should give more guidance to the students. The guidance of teachers is divided into two meanings: one is the guidance of professional knowledge, the other is the guidance of entrepreneurship education that including the theory of entrepreneurship education and the guidance of entrepreneurship practice. Under the concept of entrepreneurship education, the guiding role of the latter is particularly vital. When students encounter difficulties or doubts in the process of graduation design practice, the guidance role of the tutor at this time is very important, especially the specific practical operation type of graduation design, the tutor can provide very effective suggestions and solutions to ensure that students complete the graduation project efficiently and with high quality. Through the proper control and guidance of the tutor to the topic selection, the monitoring and guidance of the process should be strengthened, so that the graduation thesis (design) can truly achieve the purpose of training and will not become a mere formality. According to the characteristics of mechanical engineering major and the quality of different students, different methods are adopted to guide teachers in graduation design.

3.3. Adjustment of teaching methods and content of the study

The internal comprehensive reforms of course contains mostly two aspects. One is to combine professional education with entrepreneurship education effectively, the other is to adjust the teaching content and method on the basis of the former. The main purpose is to adopt the graduation design type which is more suitable for the development of the speciality according to the characteristics of mechanical engineering major.

4. Research programmes and implementation measures

4.1. The Basic Principles for the Selection of Topics for Entrepreneurial Graduation Design

Occupational orientation: many students have determined the future employment units and possible posts in the stage of graduation design, so they have fully solicited the opinions of the students before the topic is considered. Try to choose topics related to students' future employment or directly select practical topics from employment units.

Diversification of graduation design is not reduce the standard of graduation segment, but rather to solve current problems existing in the graduation link, that can give full play of the role of graduation segment in the applied talents training. The direction of employment determines the content of graduation design. What kind of direction of employment should have the corresponding graduation design topic. At present, in addition to the original graduation design, engineering specialized graduation segment can supply the graduation design forms according to the form of innovation and students' future career planning . For example, the students employed in technical posts can obtain the special operator's operation certificate through the innovation competition, patent and invention examination, successful business case analysis, project management plan and so on. There is no doubt that the above content can also reflect the academic level in the graduation practice. Students admitted to the upper level graduate school can participate in product development, project initiation or project research and complete certain work by publishing academic papers and practical professional works of academic quality.

As bachelor graduate, most graduates are employed in non-innovative parts. Therefore, teachers should implement the syllabus of graduation section. The selected topics should not pursue the frontier and innovation of the topics, but should be implemented on the students' ability to master the skills needed in the future employment or entrepreneurial work.

4.2. Establishment of a comprehensive graduation design laboratory

To provide students with advanced graduation design environment integration and allocation of teaching resources, set up a dedicated graduation design laboratory, to provide students with an advanced and perfect graduation design environment. Graduate employment units generally reflect the engineering practice ability is weak. Our lab have some of the most basic operating mechanical equipment. Students can do related operations in the school laboratory . Students' practical operation can improve their professional skills, not only to meet the needs of the student individuality, but also cultivate the practice ability of students. It has proved that the graduation design with the help of professional innovation experimental platform is an effective way to cultivate practical innovative talents and improve the quality of graduation design.

4.3. Improvements in the question-and-answer session

The traditional graduation project achievement evaluation is mainly decided by the teachers. Now, some engineers and senior managers with rich engineering experience in factories and enterprises are invited to take their opinions and evaluations as important reference opinions for the evaluation of graduation project defense scores, and to send these opinions and evaluations to the students who are about to join the enterprise or the instructor for further study.

In the new evaluation system, the evaluation ratio of other graduation works has been greatly increased, such as a variety of academic articles, patents, operation certificates, innovative schemes, or the real objects of graduation design.

5. Conclusion

The content and form of graduation design should be guided by the needs of the society, adopt the form of diversified and pluralistic graduation design to meet the needs of the concept of entrepreneurship education, and cultivate more innovative talents to meet the need.

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