



Methodology Article

Study Framework on Integration Method of Entrepreneurship Education and Mechanical Specialty Education for College Student

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Abstract: The integration of College Students' entrepreneurship education and professional education is the inevitable requirement of the progress and development of Higher Education, which is of great significance to improve and promote the cultivation of creative talents in institutions of higher learning. Through the analysis of the integration between entrepreneurship education and professional education, combined with the characteristics of mechanical specialty education, the technical route and detailed strategy for the integration of entrepreneurship education and mechanical specialty education are worked out, including the construction of entrepreneurship education and the teaching of mechanical specialty integration mechanism, and to strengthen mechanical specialty entrepreneurship education teachers team construction, multi-channel professional entrepreneurship education mechanism. The research of this paper provides new methods and ideas for the integration of College Students' entrepreneurship education and professional education.

Keywords: Entrepreneurship Education, Professional Education, Mechanical Major, College Students, Integration Method

1. Introduction

The research and practice of entrepreneurship education abroad is originated from the amateur business activities carried out in the United States in 1919 [1]. In 1947, the Business School of Harvard University introduced the course of the new business management into the curriculum of university education for the first time in [2]. However, the research and practice of entrepreneurship education in China started in the late twentieth Century. In 1998, the first business plan competition was held in Tsinghua University, marking the first introduction of entrepreneurship education into higher education in Asia [3]. In 2002, the entrepreneurship education program was officially launched in Chinese universities, and the Ministry of education established 9 institutions such as Tsinghua University, Renmin University of China, Beihang University and other institutions of higher learning for entrepreneurship education institutions [2]. At present, China has set off a new wave of "mass entrepreneurship and innovation", and initiated the

implementation of college students lead project. The integration of College Students' entrepreneurship education and professional education is the inevitable requirement of the progress and development of Higher Education. It is great significance to improve and promote the cultivation of creative talents in institutions of higher learning, and also an urgent need to build an innovative country, promote the transformation of scientific and technological achievements, deepen the reform of higher education and promote the self-development of College Students [1-2].

For college students majoring in mechanical engineering entrepreneurship education, the education, training and exercise make the mechanical engineering students have the basic qualities starting a business and become the advanced talents meeting the social needs of the talents and economic construction service. First of all, professional education is the foundation of entrepreneurship education, and entrepreneurship is carried out in the professional field,

which need to have professional support, good professional education to lay the foundation for the day after the start. Secondly, entrepreneurship education plays a role in strengthening and promoting professional education, that is, through entrepreneurship education. On the one hand, it raises the consciousness and the psychological quality of the students' pioneering work. On the other hand, it urges the students to integrate theory with practice, apply the knowledge to practice, produce the actual needs of professional learning, further stimulate the interest of students' professional learning, increase the power of professional learning and strengthen professional education. Therefore, entrepreneurship education can be integrated into the existing professional teaching system. It takes the basic knowledge and the specialized knowledge classroom instruction as the implementation carrier. It permeates the consciousness of entrepreneurship in professional teaching. Entrepreneurship education can train students' comprehensive ability, improve their overall quality, and achieve the best effect of higher education.

2. Analysis of the Integration Problem Between Entrepreneurship Education and Professional Education

Entrepreneurship education and professional education are inseparable. The relationship between the two is interrelated, complementary, interpenetration and complement each other. However, through the analysis of the integration of College Students' entrepreneurship education and mechanical education, there are three problems as follows [4-9]:

(1) Entrepreneurship education is divorced from the specialized mechanical education. Entrepreneurship education with no mechanical specialty of students, entrepreneurship education and professional education without mutual integration, entrepreneurship education is the most extracurricular, through some extracurricular technology, competitions and other activities, with traces of elite education is very strong, just a handful of shows, most people just watching. In addition, mechanical engineering practice of entrepreneurship education is often limited to a single, independent operation level and skill level, which leads to entrepreneurship education and professional education and learning the basics of disjointed, misunderstanding of the knowledge and understanding of entrepreneurship education—entrepreneurship education seems to be independent of the professional education and professional education, little relationship.

(2) The entrepreneurship education of mechanical majors lacks of effective teaching system and pedagogy. In the Most universities, entrepreneurship education is mainly entrepreneurship lecture, instead of entrepreneurship education. There is also some supplementary content of

enterprise education in the employment guidance course, even with the entrepreneurship education courses, class hours rarely, lack of entrepreneurial knowledge, entrepreneurial innovation not high, which not only can't fully unscramble the nation related preferential policies for students on Vocational College Students', but also systematically teach entrepreneurship theory related. In terms of mechanical colleges and universities, entrepreneurship education emphasizes the cultivation of innovative awareness based on the training practical ability. However, the current entrepreneurship education lacks perfect practice conditions.

(3) The faculty of entrepreneurship education for mechanical majors is weak. Entrepreneurship education is implemented by teachers. And teachers are the key to the success of entrepreneurship education. But teachers' enthusiasm is not high, in the entrepreneurship education of current mechanical college. Because the teachers are lack of entrepreneurial experience, the enterprise operation routine knowledge, no practical ability and professional direction, teaching emphasis on theoretical knowledge, little attention to practical training courses. Mechanical Engineering College for entrepreneurship education did not develop teaching evaluation, and reward just to participate in the innovative activities of students, thus difficult to encourage teachers to explore the teaching content and methods of entrepreneurship education. In addition, entrepreneurship education courses have no experience to learn, lectures difficult, hours of teaching few, involving the vital interests of teachers.

3. Technical Line of the Integration of Entrepreneurship Education and Mechanical Specialty Education

Through the analysis of the integration of entrepreneurship education and professional education, the technical line of entrepreneurship education and mechanical specialty education are worked out, as shown in Figure 1. At the same time, the integration of entrepreneurship education and mechanical education needs to be closely related to the following points:

(1) based on social needs, constructing the talent training plan and education mode of the integration of entrepreneurship education and mechanical specialty education;

(2) deepening the reform of the teaching content and mode of mechanical specialty, and realizing the organic combination of professional theory teaching and practice teaching;

(3) With the curriculum system on the basis of "profession+ entrepreneurship", constructing the curriculum system of college students' entrepreneurship education and mechanical specialty education.

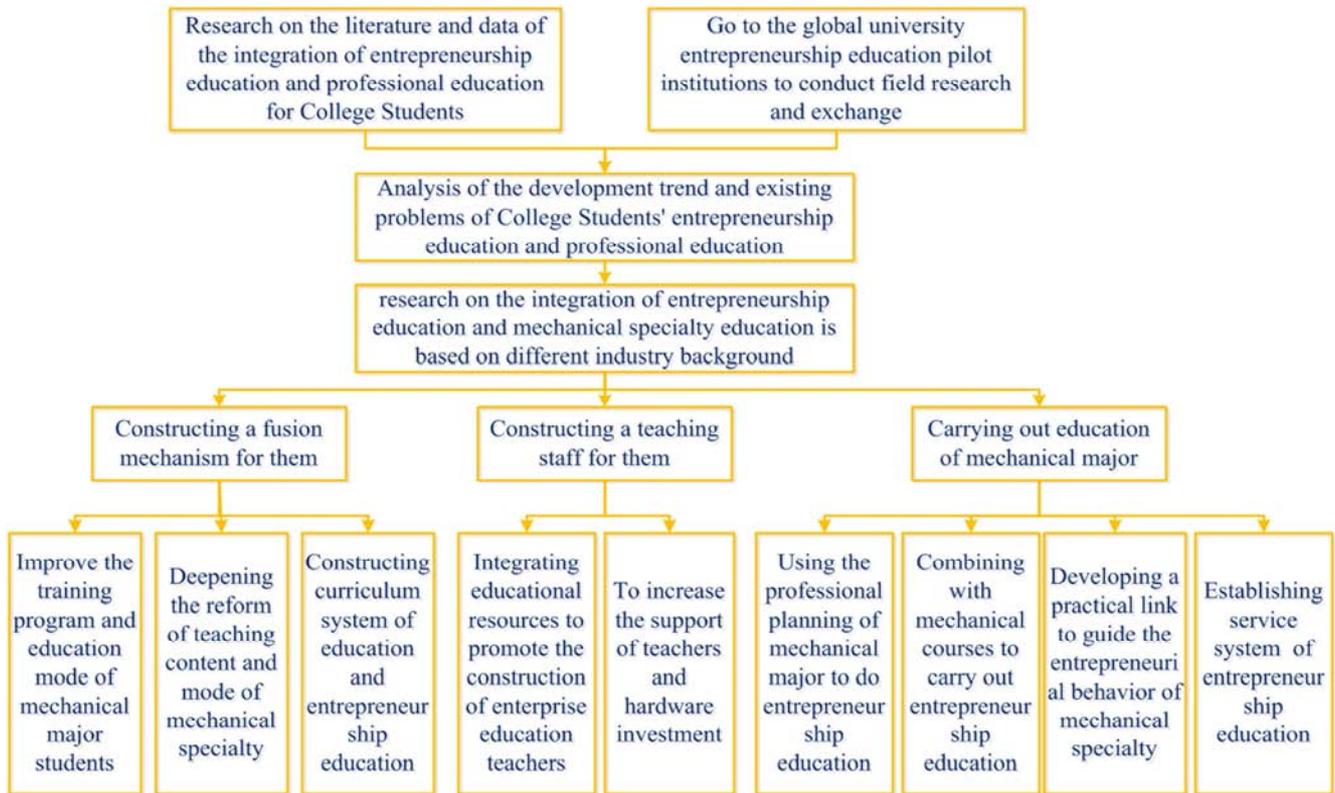


Figure 1. The technical line of entrepreneurship education and mechanical education.

4. The Integration Strategy of Entrepreneurship Education and Mechanical Specialty Education

4.1. The Construction of Entrepreneurship Education and Teaching of Mechanical Specialty Integration Mechanism

- (1). Improving the training program and education mode of mechanical talents

With social demand as the guidance, it should be focused on that bringing entrepreneurship education into the personnel training program to improve the talent training program. The training of entrepreneurial talents is an important part of the personnel training system in Colleges and Universities. Entrepreneurship education is carried out on the basis of Mechanical Specialties. It can combine strong school running ability of characteristic entrepreneurship and high comprehensive quality of students and make the education model of "coalition between college and enterprise", "cooperation of college and enterprise", "integration of production, learning, research " more in-depth, thereby more opportunities for students' entrepreneurship and higher probability of entrepreneurial success.

- (2). Deepening the reform of the teaching content and mode for mechanical specialty

In order to realize the combination of professional theory teaching and entrepreneurship practice teaching, the content of professional teaching is integrated into students'

entrepreneurial consciousness and entrepreneurial psychology to make professional teaching become the basic content of entrepreneurship education. Students should be encouraged to take professional courses in different departments and majors so as to enrich and accumulate their knowledge of entrepreneurship and to inspire ideas and creativity in entrepreneurship. Breaking the traditional classroom teaching model, teachers should more play the role of guide, vectoring students to participate in teaching, students becoming the leader of the classroom.

- (3). Constructing the curriculum system of education and entrepreneurship education for mechanical majors

The curriculum system should be set up based on "profession + entrepreneurship". The professional courses, entrepreneurship courses and some basic courses are blended into each other to achieve the organic integration and penetration of the knowledge of various disciplines. Setting up SYB training courses, KAB training courses, entrepreneurship coffee and other project courses enhance students' entrepreneurial practices and operational capabilities.

4.2. Strengthening the Construction of Professional Teaching Staff for Mechanical Majors

- (1). Integrating educational resources to promote the construction of teachers' team in entrepreneurship education

Actively introduce the teachers who not only have professional knowledge and entrepreneurial knowledge but also entrepreneurial spirit and rich entrepreneurial experience.

To select excellent teachers with innovative consciousness and high level of business from school to go out to study and to participate in the training of backbone teachers in enterprise education in the whole country to improve the teaching level of enterprise education for teachers. These teachers, including experienced successful entrepreneurs, entrepreneurs and other part-time teachers and visiting professors, should be employed.

(2) Increasing the support for entrepreneurship education and the input of hardware

To promote the development of teachers' participation in entrepreneurial activities of entrepreneurship education, incentive mechanism, the adjustment of school development planning, the development of entrepreneurship education and teachers' professional development combined to achieve equilibrium, provide convenience for teachers to enter the system business or entrepreneurial practice. Set up entrepreneurial practice platform (entrepreneurial demonstration base, entrepreneurial incubation base, entrepreneurial clubs and studios, etc.), entrepreneurship education courses embedded in the teaching of professional courses, creating conditions for the integration of the two.

4.3. Multi-channel Undertaking Education for Mechanical Majors

(1) Carrying out entrepreneurship education by means of career planning for mechanical majors

Through the school of professional education and occupation planning education, the students direction should be defined to make the mechanical vocational students in learning and practicing and stimulate constantly their innovative consciousness and innovative ability.

(2) Combining the specialized courses of machinery to carry out entrepreneurship education

Professional instructors can use rich professional knowledge to guide students in entrepreneurial projects to make more professional of students innovative ideas and entrepreneurial projects. In view of the specialty of mechanical engineering, it is necessary to emphasize the students' practical ability, and the learning in practice. We should combine practice with theory, not always theory with practice.

(3) Developing the practice link of entrepreneurial behavior of Mechanical Majors

For mechanical majors, practical operation is the key, the mechanical innovation design competition pattern should be normalized, which make all the students free team, put forward their own ideas, design innovation and entrepreneurship, so that the practice is taken as an important part of the practice of Higher Vocational Mechanical Engineering to test.

(4) Setting up a system of entrepreneurship education service combined with production, study and research

The entrepreneurship education for mechanical majors is a kind of practical education. Through the cooperation platform between school and enterprise, on the one hand, students can make use of enterprise resources to practice or

simulate training; on the other hand, we can also improve the level of practical experience of teachers.

5. Conclusion

The problems in the process of entrepreneurship education for mechanical majors involve a wide range of issues. As a result of the mechanical specialty characteristic, we must emphasize to foster the practice ability, and solve practice question in the enterprise education in the student's enterprise education process. We should create a multilevel, multi-channel, wide field platform for students, stimulate their enthusiasm for entrepreneurship, meanwhile provide them with strong policy support to promote the development of entrepreneurship education in a healthy, sustained and rapid direction.

The quality evaluation of talent training is a value judgment activity that confirms whether the university education has reached the target of training qualified personnel, which is not only the overall evaluation of existing educational activities, but also the discovery of existing educational problems. The goal of talent training under the mode of integration of professional education and entrepreneurship education, is to train advanced professionals with professional knowledge and pioneering spirit and quality. The quality of professional knowledge can be evaluated by the indexes of employment rate, employment compensation and work unit evaluation. However, it is difficult to evaluate the quality of entrepreneurship education. Therefore, for the integration of entrepreneurship education and mechanical education, a scientific evaluation method of talent training quality can be established in the next step after studying the methods of integration. This method can be used to consider the quality of personnel training and personnel training process of the multidimension evaluation system, in order to realize the integration mode of talent cultivation quality scientific and comprehensive evaluation of the entrepreneurial education and professional education.

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References

- [1] Thompson, Piers, and Caleb Kwong. "Compulsory school-based enterprise education as a gateway to an entrepreneurial career." *International Small Business Journal* 34.6 (2016): 838-869.
- [2] Rideout, Elaine C., and Denis O. Gray. "Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education." *Journal of Small Business Management* 51.3 (2013): 329-351.

- [3] Jones, Colin, et al. "Claiming the future of enterprise education." *Education+ Training* 56.8/9 (2014): 764-775.
- [4] McKenney, Susan, et al. "Teacher design knowledge for technology enhanced learning: an ecological framework for investigating assets and needs." *Instructional science* 43.2 (2015): 181-202.
- [5] Litzinger, Thomas, et al. "Engineering education and the development of expertise." *Journal of Engineering Education* 100.1 (2011): 123-150.
- [6] Raposo, Mário, and Arminda Do Paço. "Entrepreneurship education: Relationship between education and entrepreneurial activity." *Psicothema* 23.3 (2011): 453-457.
- [7] Seikkula-Leino, Jaana, et al. "Facing the Changing Demands of Europe: integrating entrepreneurship education in Finnish teacher training curricula." *European Educational Research Journal* 11.3 (2012): 382-399.
- [8] Zhang, Ying, Geert Duysters, and Myriam Cloudt. "The role of entrepreneurship education as a predictor of university students' entrepreneurial intention." *International entrepreneurship and management journal* 10.3 (2014): 623-641.
- [9] Byrne, Janice, et al. "Training corporate entrepreneurs: an action learning approach." *Small Business Economics* 47.2 (2016): 479-506.
- [10] Iakovleva, Tatiana, Lars Kolvereid, and Ute Stephan. "Entrepreneurial intentions in developing and developed countries." *Education+ Training* 53.5 (2011): 353-370.