

## Discussing on Innovation and Entrepreneurship Education

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**Abstract.** The innovation and entrepreneurship education is an education that fosters college students' entrepreneurial consciousness, innovative spirit, and innovative entrepreneurship. With the development of mass innovation and entrepreneurship (I&E) in China, I&E education has achieved many remarkable achievements. The status of I&E education in China, other Asian countries, the United States and European countries are introduced. Compared with some other countries, some fields in the construction of China's I&E education are suggested to be improved, including building professional team, enhancing the practice, and developing the curriculum system. According to the different characteristics of different majors, professional education and I&E education can be combined organically.

### Introduction

This paper investigates the status of I&E in the United States, Britain, Germany, Japan, Singapore and other countries. China's I&E education started about 20 years ago and has made great progress. However, there are still problems in I&E education. Studying the educational model of colleges and universities in other countries can promote the development of I&E education in China, and enable more people to start businesses, which is conducive to social employment and long-term development. Based on the background of I&E, this paper compares China with other countries, discovers new problems of I&E education, integrates educational concepts, educational methods and educational examples at home and abroad, and focuses on solving new problems of I&E education in China.

### The Status of I&E Education in China

In the past few years, I&E has not only promoted employment in China, but also made people who dare to innovate to fully show their talent. In order to encourage talents from all walks of life to participate in I&E, the State Council has introduced different preferential policies for different groups: college graduates have entrepreneurial guarantee loans and interest subsidy support, and overseas students who return to China to start business are provided with support and so on.

Under the new environment of I&E, the enthusiasm of college students for I&E has been significantly improved. The total size of college students' online entrepreneurship is about 6.18 million, accounting for 60% of the nation's online entrepreneurial employment. The People's University of China has published the '2016 China University Student Entrepreneurship Report'. The report shows that nearly 90% of college students in China have considered entrepreneurship, and nearly 30% of college students have entrepreneurial experience.

### The Status of I&E Education in the United States

American educators are very systematic and in-depth in their research on entrepreneurship education. They have set up special research institutions. In the United States, entrepreneurship education has formed a scientific and standardized curriculum system, which has become a compulsory course in various colleges and universities. Entrepreneurship-related books, represented by Jeffrey Timmons'

Entrepreneurship, have been introduced in many countries and used as typical textbooks for entrepreneurship education.

I&E education in American universities has the following characteristics: First, school leaders attach great importance to entrepreneurship education. The Rensselaer Plan, proposed by the current president of Rensselaer Polytechnic University, places entrepreneurship education at an important position in school teaching and management. Secondly, American colleges and universities attach great importance to the construction of the team of entrepreneurial education teachers: First, encourage and select teachers to engage in entrepreneurial and entrepreneurial practice experiences; Second, pay attention to absorbing some senior people in the society who have both entrepreneurial experience and certain academic background to take part-time teaching and research work, and participate in the college students' entrepreneurship education project in a short-term lecture; Third, the systematic nature of teaching plans and curriculum design; Fourth, the diversity of entrepreneurial education organizations; Fifth, American colleges and universities attach great importance to college students' business plan competition; Sixth, the scientific evaluation system. Beginning in the 1990s, the US Business Weekly, Entrepreneur, and Success magazines began an annual evaluation of university entrepreneurship education programs.

### **Development Status of I&E education in European Countries**

After entering the 21st century, British universities have entered a period of rapid development and innovation, and gradually improved. The I&E education of British universities has gradually covered all kinds of universities in the UK, from business to various disciplines, from open universities to the conservative Oxford and Cambridge universities, from entrepreneurship courses to entrepreneurial discipline, from ordinary universities to the establishment of an entrepreneurship university. According to statistics, 77% of universities in the UK have opened one or more entrepreneurial courses at the undergraduate level. In addition to undergraduate entrepreneurship courses and entrepreneurship majors, some universities offer entrepreneurship MBAs at the graduate level to foster high-level professional talents with strong sense of innovation and entrepreneurial practice [1].

In the middle of the 20th century, Germany introduced the 'simulation company' teaching model in the university economics major, which is considered to be the germination of German I&E education. In 1970, Universitaet zu Koeln established the first research and teaching course on I&E education in Germany, and gradually integrated I&E education with professional education. In the 1990s, the German government proposed a business plan in the name of "survival" and invested more than 42 million marks in 1999-2001 to guarantee I&E education in universities [2]. At the same time, the taxation in college students' entrepreneurial companies is greatly reduced and exempted, and more people are encouraged to choose entrepreneurship. The German universities pursue the non-utilitarian concept of Wilhelm von Humboldt, which seeks truth and encourages the love for science [3]. As part of the general education, the curriculum covers a variety of subject areas, such as law, management, economics, etc., to ensure that entrepreneurs have a broad knowledge and excellent skills.

### **Status of Development of I&E Education in Asian Countries**

The development of I&E education in Japanese universities is mainly due to the legalization of Japanese universities. In 2004, the National University Legal Person Law was officially implemented. Since then, the identity of the national university has been transformed from a government-affiliated unit to a self-operated legal person. After this change, Japanese universities have a high degree of autonomy and become the real main body of running schools. They can set and abolish relevant disciplines, majors and courses according to the development needs of colleges and universities. As a company, colleges and universities have devoted themselves to the wave of "creating income from entrepreneurship". According to statistics, as of 2008, 46.1% of Japanese universities have opened I&E education, and 11% of Japanese universities have established entrepreneurship majors [1]. In the

process of carrying out I&E education, Japanese universities combine the special industries of the region as the carrier, combine the schools with them, focus on transforming the innovations into commodities, and establish small and medium-sized enterprises.

In Korea, the College Student Entrepreneurship Club plays a vital role in entrepreneurship education. In addition, the entrepreneurial experience-rich professors form a business support center, which plays a huge role in the process of college students' entrepreneurship education.

Under the background of I&E, China's I&E education has been greatly developed and achieved good results. However, compared with other countries with more mature entrepreneurial education, China's I&E education still has large deficiencies.

### **Instructors Construction Problems and Solutions**

The professional faculty team of I&E education is an important factor in the development of I&E education in colleges and universities. In the United States, most of the instructors in the courses related to I&E education have entrepreneurial experience. Therefore, in the course of teaching, there is a greater advantage in teaching innovative entrepreneurial experience to college students. It is a good way to link theory with practice and apply theoretical knowledge. However, the level of teachers in the field of I&E education in China's colleges and universities is uneven. For most colleges and universities, due to the lack of teachers and the lack of emphasis on I&E courses, the teachers who teach innovation-related courses are often not professional, some of them are counselors or part-time instructors. It is difficult to connect theory with practice in teaching.

Generally speaking, traditional teachers have solid professional knowledge, but often lack experience in practical business, so it is necessary to cultivate a professional I&E education team. In this way, on the one hand, traditional teachers can gain certain practical experience, so that they can help students better absorb knowledge in the teaching and students can better combine theory with experiment. On the other hand, successful people in the company can be hired to stimulate the students' creative and entrepreneurial passion, and at the same time answer the students' confusion in the entrepreneurship, which may achieve good results. For example, the Dingman Entrepreneurship Center in Robert H. Smith School of business-University of Maryland organizes activities every Friday from 11 am to 1 pm. Students introduce their innovative ideas to entrepreneurs, investors, and expert with entrepreneurial experience. The Dingman Entrepreneurship Center also launched a summer practice program where students go to startups for inspiration and creativity. The Maryland Institute of Technology and Entrepreneurship launched the 'Doing Learning by Doing Project' to enable students to work with entrepreneurs, help students understand entrepreneurship, participate in innovative entrepreneurial practices, and enhance their awareness and ability to innovate [4].

### **Discussing on the Theoretical and Practical Education in I&E Education**

According to a survey data from the United States, 70% of American college students want to start a business. About 20% of them have actually started their own business. Among Chinese college students, 80% want to start a business, but the number of people who really start a business is only 0.01%. From this data, there is still a big gap between the self-employment of Chinese college students and the developed countries. Therefore, in view of the current I&E education in colleges and universities, the lack of enthusiasm for students' I&E in universities in China ignores the practical significance of I&E education.

Most college students are not enthusiastic about the practice of entrepreneurship and innovation. They generally think that it is enough to find a stable job after graduation. The first reaction to entrepreneurship is that the success rate of entrepreneurship is extremely low, and entrepreneurship is very bitter and very tired. It can be seen that there is a certain deviation in the understanding of I&E among college students.

Enterprises are the mainstay of the market economy, guided by market demand, and promote the development of the 'study and research' model, which helps students to combine theoretical

knowledge with practical experience and enhance students' ability to innovate and practice [5]. Professor Stevens K K mentioned in the paper that the Innovation Leadership Honors Program (ILH program) gives us a lot of places to learn. When the school offers an entrepreneurial course, it can provide students with more opportunities to contact the society and let them introduce their own entrepreneurial activities. Practice students' interpersonal skills and divergent creative thinking through practice [6]. The purpose of I&E education is to cultivate high-level talents with entrepreneurial innovation ability, and colleges are the cradle of these talents. Domestic universities should shoulder this heavy responsibility. Universities and enterprises should jointly establish innovative and entrepreneurial bases, set up innovative and entrepreneurial laboratories, hold entrepreneurial competitions, and encourage students to participate in entrepreneurial activities. At the same time, organize a group of professional teachers to lead students to carry out entrepreneurial practice activities. The school should provide financial and venue support and exercise students' innovative and entrepreneurial ability in practical activities.

### **Discussing on the Curriculum System in I&E Education**

China's entrepreneurial innovation education began at the end of the 20th century and started late. In 1998, Tsinghua University established the China Entrepreneurship Education Center, and other universities have successively established the Entrepreneurship Education Research Center[7]. The I&E curriculum system of colleges and universities in China is still needed to be improved. Most of the I&E education carried out by universities only refers to employment education, which introduces employment information and application skills to students. The public elective courses and employment lectures cannot fully meet the needs of what improves students' entrepreneurial ability, and the results are not satisfactory. Some colleges and universities have not integrated the training objectives of I&E education into the talent training programs of relevant professions. There is no systematic system for training innovative talents in entrepreneurship and innovation, and it is still simply required to "complete credits". Innovative entrepreneurship education is carried out by lectures and elective courses, etc. In addition, the I&E education courses account for a small number of credits, the proportion of hours is lower than the total number of hours, the requirements for credits are far lower than the professional courses, the integration with professional education is not deep enough, lack of professional education support.

I&E education is an education that fosters college students' entrepreneurial consciousness, innovative spirit, and innovative entrepreneur-ship, college students are required to have higher ability. Students should be assigned according to different levels of competence. Therefore, a complete teaching curriculum system is indispensable. Entrepreneurial innovation education in schools is very crucial. The I&E education received at the university is likely to enable students to have basic entrepreneurial abilities, thus creating a company. Different colleges and universities should design a teaching curriculum system according to their own training objectives and strategic development needs. The teaching mode should include both theory and practice. According to the different characteristics of different majors, professional education and I&E education can be combined organically. Encouraging students to practice and provide opportunities for innovative entrepreneurial practice is an important task for colleges and universities. At the same time, the school should make reasonable arrangements for the teaching plan, so as to achieve an effective combination of theory and practice. Universities should not stick to traditional teaching methods and can use various external resources such as network resources for teaching. They can also establish cooperative relationships with various enterprises so that students have the opportunity to visit internships and help students improve their ability to innovate in practice. Colleges and universities should pay attention to cultivating students' thinking ability, inspiring students' inspiration for entrepreneurship and innovation, and cultivating the spirit of students' querying.

## Summary

This paper investigates the status of I&E in China, the United States, Britain, and other countries. Compared with some foreign advanced education countries, there are still many shortcomings in the construction of China's I&E education, including the lack of professional team, over-emphasis on theory, neglect of practice and lack of the sound curriculum system. In response to these questions, this article makes some explorations and provides some solutions. According to the different characteristics of different majors, professional education and I&E education can be combined organically.

## References

- [1] Tan Chunhua, Foreign college students' innovation and entrepreneurship education and its experiences, *Journal of Mudanjiang College of Education*. 5 (2017) 33-35.
- [2] Wang Sen, German government supports university entrepreneurship - EXIST plan outline, *Global Science Technology and Economy Outlook*. 3 (2002) 30-30.
- [3] Xia Xiaohua, Experience and enlightenment in the entrepreneurship education in colleges and universities abroad, *Journal of Jixi University*. 6 (2014) 4-6.
- [4] Hao Jie, Wu Aihua, Hou Yongfeng, Construction and enlightenment of the innovation and entrepreneurship education system in America, *Research in Higher Education of Engineering*. 2 (2016) 7-12.
- [5] Zhang Yu, Zhou Qiang, Li Fuhua, et al, The enlightenment of foreign innovation and entrepreneurship education to China——taking MIT and Munich University of Technology as examples, *Chinese University Science & Technology*. 3 (2017) 59-61.
- [6] Stevens K K, Vanepps T, Schlossberg S M, et al, Innovation leadership honors program: addressing engineering education needs through curriculum enhancement, 39th IEEE Frontiers in Education Conference, IEEE Press, San Antonio, USA, 18-21 Oct. 2009 , pp.473-478.
- [7] Li X B. Notice of Retraction Research on the reasons and strategies of entrepreneurship education misunderstanding, International Conference on E-Business and E-Government, Shanghai, China ,6-8 May 2011, IEEE Press, 2011,pp.1-4.