
**A Review of Research on Innovation and Entrepreneurship Education in
Higher Education Institutions**

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Abstract

The article elaborately explains the concept and connotation of innovation and entrepreneurship, highlighting the significance of innovation and entrepreneurship education in colleges and universities. It also thoroughly expounds on the importance, necessity and urgency of such education in higher education institutions. The paper conducts a detailed statistics and analysis of the research achievements on innovation and entrepreneurship education in colleges and universities, elaborates on the research situation, sorts out the research content, reviews the research methods, compares the research results of China with those of other countries, and analyzes the similarities and differences in the research. At the end of the article, it affirms the research achievements, points out the shortcomings and deficiencies of the research, and indicates the direction for subsequent research.

Keywords: Innovation and entrepreneurship; Educational research; Review

1. Introduction

Innovation refers to the creation of new things, new technologies, new methods, new breakthroughs, new ideas, new theories, new knowledge, and so on. Of course, the degree of newness varies. Some innovations are unprecedented, some are cross-century, some are cross-era, and some are small, subtle, and marginal, minor breakthroughs. There are broad and narrow definitions of innovation, as well as differences in level and scale. Entrepreneurship also has broad and narrow definitions. Broadly speaking, entrepreneurship refers to the establishment of a career, while narrowly speaking, it refers to the establishment of enterprises, companies, economic entities, etc. Entrepreneurship also has macro and micro distinctions, as well as differences in scale and level.

Innovation also includes innovative thinking and innovative behavior and innovative results, etc., entrepreneurship is necessarily the product of innovation, but the result of innovation is not necessarily entrepreneurship, the two are closely related, but the results of innovation have a

variety, entrepreneurship is not necessarily successful, entrepreneurship also has failure, but the process of entrepreneurship is the practice of innovation.

The five functions of colleges and universities (personnel training, scientific research, social service, cultural inheritance and innovation, international exchange and cooperation) are almost closely related to innovation and entrepreneurship. First of all, talent training is the basic responsibility of colleges and universities, and talent training requires the training of qualified talents, who need a certain degree of innovation ability, and entrepreneurship is a higher level of innovation. In other words, if the people trained by colleges and universities succeed in entrepreneurship, the talent training function of colleges and universities will play to a high level. Scientific research itself is also a practice process of innovation and exploration, and social services also need innovative achievements and innovative values to serve, otherwise the effect of social services will be poor, so social services can not be separated from innovation and entrepreneurship. Cultural inheritance and innovation, among which there are innovative words, and cultural inheritance can not stick to the old, otherwise the inheritance will lose momentum and willingness, only in the innovation and inheritance, can be achieved to maintain novelty and vitality. International exchanges and cooperation should be based on innovation and entrepreneurship; otherwise, there is no object or carrier for such exchanges and cooperation.

Therefore, innovation and entrepreneurship education in colleges and universities is very important, necessary and urgent, and it is also an important way and main content to promote the reform and development of colleges and universities. Therefore, innovation and entrepreneurship education in colleges and universities is worth exploring and studying.

2. Review of results

This paper only analyzes the relevant research results of Chinese scholars, and mainly aims at the research on innovation and entrepreneurship education in Chinese universities. Therefore, the sorting of relevant achievements is mainly to sort out relevant research achievements of Chinese scholars, and the databases searched are mainly Chinese databases. Of course, Chinese scholars have also studied innovation and entrepreneurship education in universities of other countries. Therefore, the review of some achievements also includes the research results and conclusions of Chinese scholars on innovation and entrepreneurship education in universities of other countries.

2.1 Literature statistics

Through the search on CNKI with the theme of "Innovation and Entrepreneurship Education in universities", 10,191 articles were retrieved, including 8424 academic journal papers, 36 books, 73 newspaper articles, 175 master and doctoral theses (including 5 doctoral theses). 170 master's degree papers), 249 conference papers, 0 standards, 3 patents, 3 audio and video articles, 13 scientific and technological achievements, 113 yearbook articles, 18 academic journals, 126 laws and regulations, 0 cases, 184 reports, 897 information articles, 113 government information articles. The literature retrieved has been relatively complete.

The 8,722 academic journal articles, which accounted for more than 85 percent of all literature retrieved, covered the following major topics: 3709 articles of innovation and entrepreneurship education, 2185 articles of innovation and entrepreneurship education in universities (from this data, the accuracy of the literature retrieved is as high as one quarter), innovation and entrepreneurship 2012, 491 articles of innovation and entrepreneurship in universities, 449 articles of local universities, 444 articles of entrepreneurship education, 429 articles of innovation and entrepreneurship education in college students, 280 articles of innovation and entrepreneurship education in applied universities. 251 in private colleges and universities, 251 in college students' innovation and entrepreneurship, 239 in personnel training, 220 in innovation and entrepreneurship education system, 216 in college entrepreneurship education, 206 in innovation and entrepreneurship education reform, 205 in innovation and entrepreneurship education mode, 183 in ideological and political education, 183 in professional education, 173 in application-oriented undergraduate colleges and universities. Ideological and political education in colleges and universities 146, innovation and entrepreneurship education courses 137.

The statistical analysis of these literatures in terms of subject affiliation found that there were 8270 literatures belonging to higher education (accounting for more than 80% of the total literatures, so the retrieved literatures were highly accurate), 357 literatures belonging to enterprise economy, 168 literatures belonging to vocational education, 114 literatures belonging to computer software and computers, and 91 literatures belonging to higher education. There are 59 subordinate to education theory and education management, 23 subordinate to trade economy, 5 subordinate to vocational education, 3 subordinate to physical geography and surveying and mapping, and so on.

2.2 General situation

As the discussion of innovation and entrepreneurship in modern China is relatively late, it is generally believed that the issue of innovation and entrepreneurship was not discussed until the beginning of this century. The literature search shows that these literatures were first published in 1999, and the research enthusiasm was very cold in the first decade of this century, and the research results were only a few or even one or two articles every year. In the second decade of this century, the results began to show an order of magnitude increase, and hundreds of related research results were published every year. However, after the 19th National Congress of the Communist Party of China put forward the strategy of strengthening China through innovation and proposed "mass innovation and entrepreneurship", the enthusiasm for innovation and entrepreneurship research has been positive, with more than 1,000 relevant research results since 2017, and the highest point in 2019, when the number of relevant research results published reached nearly 1,500.

For the problem of innovation and entrepreneurship, foreign countries are much earlier than China, because of the differences in national conditions and systems. The education of foreign colleges and universities has long been a matter of paying fees to attend school (getting

scholarships to waive tuition fees is another matter) and choosing careers independently. Therefore, foreign colleges and universities have long paid attention to innovation and entrepreneurship education, which began in the United States in the 1940s. The most typical is the Harvard Business School MBA course "Management of New enterprises" in the United States. However, in China, 20 years ago, colleges and universities carried out elite education, college students were trained at basic public expense, and the government allocated jobs. Therefore, the development of innovation and entrepreneurship education was only carried out at the end of the 20th century, due to the expansion of colleges and universities, the gradual popularization of higher education, paying fees to attend school and choosing jobs independently, the rapid growth of the number of college students, limited social positions, college students no longer assigned jobs, and limited opportunities. The employment of college students is difficult, so the situation is forced, forcing universities to carry out innovation and entrepreneurship education.

3. Comparison of Chinese and foreign studies

From the retrieved literature, 20 articles are selected for careful reading and analysis. Through the detailed analysis of literature [1-20], it can be understood that there are some similarities and differences between Chinese and foreign research on innovation and entrepreneurship education in universities, which are reflected in four aspects: research methods, research content, research concepts and research conclusions.

3.1 Foreign research situation

The research results of innovation and entrepreneurship education in universities in other countries outside China generally focus on two aspects: first, the research of innovation and entrepreneurship education methods; The second is the research on the evaluation method of innovation and entrepreneurship education.

First of all, in the study of innovation and entrepreneurship education methods in colleges and universities, western scholars highly combine entrepreneurial theory with the personality characteristics of entrepreneurs, truly teach students according to their aptitude and give them education according to their situation, and study the differences between entrepreneurs and non-entrepreneurs in terms of achievement needs, independent needs, decision-making and desires. The study explored the factors that influence entrepreneurial behavior and the degree of influence. Several kinds of innovation and entrepreneurship projects have been put forward by some foreign scholars and have been implemented and achieved corresponding achievements. Graduate students are an important part of college students, and graduate innovation and entrepreneurship education has also become a major part of innovation and entrepreneurship education in foreign universities. Therefore, the concept and framework of graduate entrepreneurship and engineer education have been put forward and implemented by some scholars in other countries outside China, so as to strengthen the cultivation of graduate students' entrepreneurial awareness and entrepreneurial ability. How to conduct innovation and entrepreneurship education is a problem that foreign scholars have studied and thought about a

lot. Some scholars advocate that the strengthening of innovation and entrepreneurship awareness and the cultivation of ability should be implemented into the course learning, and some scholars think that special courses should be set up related to the cultivation of innovation and entrepreneurship awareness and innovation and entrepreneurship ability. Some scholars put forward the teaching method that it is necessary to use problem-centered course design and a large number of case studies to improve students' thinking ability of innovation and entrepreneurship in order to cultivate students' innovation and entrepreneurship ability. Moreover, entrepreneurship education courses are divided into theoretical education and practical education. It can be seen that the innovation and entrepreneurship education courses and education methods in foreign countries are mostly innovative, multidisciplinary and practice-oriented. Foreign countries have formed a relatively comprehensive curriculum system of innovation and entrepreneurship education, and the design of entrepreneurship disciplines has gradually improved. However, each country and even different colleges and universities have different emphases in the design of innovation education courses, and the methods of innovation and entrepreneurship education are also different in different

The evaluation method of innovation and entrepreneurship education is the second highlight of research in other countries except China. Some foreign scholars believe that it is easy to design one or more course plans to enhance innovation and entrepreneurship awareness and enhance innovation and entrepreneurship ability, but the completion and effect of these course plans cannot be guaranteed. Thus, there are the reasons and results of the research on how to evaluate these evaluation methods of innovation and entrepreneurship education. Some foreign scholars proposed to judge the effectiveness of innovation and entrepreneurship education by assessing students' innovation and entrepreneurship knowledge and skills, and some scholars proposed to evaluate the effectiveness of such innovation and entrepreneurship education by teachers' ability level. Some scholars proposed to measure the effectiveness of innovation and entrepreneurship education by students' recognition and evaluation of teachers. However, a more reasonable evaluation method is to judge the effectiveness of this kind of innovation and entrepreneurship education by the success rate of students' entrepreneurship and the income after entrepreneurship and other indicators. However, this evaluation method is difficult to implement and requires a long period of practical investigation and statistics. Some foreign scholars also evaluate the effect of entrepreneurship education on teachers' thinking and attitude through the influence of entrepreneurial learning methods, curriculum structure and entrepreneurial process on teachers' thinking and action. Some scholars even proposed to use the double difference method to compare the students in the experimental group and the control group, and calculate the differences in entrepreneurial skills and entrepreneurial motivation of the students in the experimental group before and after receiving innovation and entrepreneurship education to judge and evaluate the efficacy of innovation and entrepreneurship education. Some scholars proposed to evaluate the "Berger Entrepreneurship Education Project" by matching the social and economic characteristics of the subjects and entrepreneurs, so as to study the influencing factors of students' entrepreneurial performance and course. Other countries outside China have their own achievements and opinions on innovation and entrepreneurship education. For example, the United States has established advanced innovation and entrepreneurship education

concepts, and has established a comprehensive innovation and entrepreneurship education research system and a fair innovation and entrepreneurship education evaluation system. On the other hand, the UK has a sound entrepreneurial guidance organization and a pragmatic and commercial curriculum system, which has contributed to the development of the local economy. Moreover, Japan attaches great importance to cultivating students' innovative and entrepreneurial spirit and has created various types of innovative and entrepreneurial education models.

3.2 Research situation in China

Since the introduction of innovation and entrepreneurship in China is less than a decade old, the literature on it in China generally starts from the beginning of the second decade of the 21st century, and the research on it lags behind the emergence of innovation and entrepreneurship events. The research results on innovation and entrepreneurship in China can be summarized in the following aspects.

1) Research on innovation and entrepreneurship education, this aspect of research is mainly to report the education examples of innovation and entrepreneurship, and analyze and comment on the causes and driving forces of innovation and entrepreneurship. The development of China's innovation and entrepreneurship education began in 1998 with the "First Entrepreneurship Scheme Competition" of Tsinghua University, and the entrepreneurial action of college students began to be seen in the birth of "Video music technology Development". At the end of the 20th century, due to the expansion of university enrollment in China, the large number of college students and employment difficulties, prompting the Party and the government to issue a "college student entrepreneurship problem" and explain the necessity and importance of entrepreneurship education. Since then, the Communist Party of China and the Chinese government have attached great importance to the development of innovation and entrepreneurship education for college students and have continuously promoted and introduced a series of corresponding policies, which have reached a peak so far, marked by the slogan of "mass innovation, mass entrepreneurship" and the promotion of education and slogans can be seen everywhere. In other words, the history of innovation and entrepreneurship education in China is short, but the intensity is great.

2) Focus on theoretical research. At present, innovation and entrepreneurship education is carried out in all major universities in China, and it is a required course for college students, covering junior college students, undergraduates, master's and even doctoral students, and even postdoctoral researchers. Colleges and universities have set up innovation and entrepreneurship colleges one after another, with innovation and entrepreneurship teaching and research departments. Some universities treat innovation and entrepreneurship colleges and vocational skills appraisal centers equally and set them in parallel in innovation and entrepreneurship colleges, which on the one hand reflects the importance of university leaders on innovation and entrepreneurship education of college students, and at the same time shows that schools attach more importance to the education of innovation and entrepreneurship practice of college students. With the help and support of the vocational skills education and appraisal department,

we will do a good job in the theoretical education and practical guidance of college students' innovation

3) Promoting teaching and building through competition is the highlight and feature of innovation and entrepreneurship education in Chinese universities. In recent years, with the great attention of the Communist Party of China and the Chinese government, leaders and teachers of innovation and entrepreneurship colleges in universities attach great importance to the education of college students' innovation and entrepreneurship theoretical knowledge and the training of innovation and entrepreneurship skills, and encourage and even require college students to participate in various national innovative competitions. Taking these innovative competitions as an opportunity, as a starting point and as a breakthrough point, we promote construction and teaching by competition, and have achieved very good.

4) Stressing that local governments at all levels should attach great importance to and vigorously support, under the instructions of the Central Committee of the Communist Party of China and the leadership of The State Council of the Chinese government, in recent years, China has issued a series of supporting policies and regulations on innovation and entrepreneurship education, and requires the whole country to resolutely implement and implement, and local governments at all levels attach great importance to and allocate appropriate funding support, There are also innovation and entrepreneurship projects for college students at all levels to apply .

5) As for the research on innovation and entrepreneurship education methods, some scholars believe that it should be integrated into the study of various subject courses, while others believe that relevant courses should be set up separately, and the proportion and coverage should be increased. At present, the innovation and entrepreneurship education of college students in China generally includes basic courses of entrepreneurship, and 32 class hours are mandatory.

6) For the research on the evaluation methods of innovation and entrepreneurship education in Chinese universities, scholars have proposed three methods: theoretical skill assessment, behavioral practice observation and social evaluation. The most commonly used method is theoretical skill assessment, but this method may not be able to evaluate and judge correctly; Behavioral practice observation method is difficult to implement, time-consuming and costly. Although it is more reliable and accurate, it is troublesome to implement. Social evaluation method can achieve a wide range of evaluation, evaluators, to the contribution to the society and value creation to evaluate, high credibility, high accuracy, but the implementation of a long time, it is difficult to spend time and wait for a long time to see. All in all, these three methods have their own advantages and disadvantages and are worth.

4. Conclusion

Innovation is a way to promote the development of technology and the result, entrepreneurship is the highest level of innovation, innovation and entrepreneurship have broad and narrow points, innovation has the size of the points, there are high and low points, there are grand and weak points, there are deep points, etc., innovation is an important means and ways to promote the

development of productivity. Entrepreneurship also has its size, form, content, and superiority, and so on: entrepreneurship is an important way to promote economic development and promote social development harmony. Therefore, we must attach great importance to this, which is the essence of the reason why the ruling party and government of China have repeatedly sounded the slogan of "mass innovation and entrepreneurship".

As for the research on innovation and entrepreneurship education, due to the difference between the political system of foreign countries and China, the operation of market economy in China for 40 years is much shorter than that in other countries, so the history of college students' independent career selection is short, and the difficulty of college students' independent career selection in recent years is the main reason to promote the strengthening of innovation and entrepreneurship education in Chinese universities. Therefore, the research in this area of China is far behind other countries, especially later than some advanced developed countries in Europe and the United States, China's research in this area is far from enough, should strive to catch up and try to catch up. So there is still a lot of research work to explore.

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