



A Literature Review on Innovation and Entrepreneurial Education of Undergraduates

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ABSTRACT: Higher education worldwide has gone through three significant stages of development: the era of elitism, the era of popularization, and the era of universalization. China's higher education has now achieved widespread accessibility across the nation, aligning with international trends. Research into innovation and entrepreneurial education for undergraduate students serves as an effective means to enhance the quality of higher education. Through a literature review related to innovation and entrepreneurial education for undergraduate students, it becomes evident that the measurement indicators for such education have become more diversified, and the measurement tools have become more refined. The purpose of this study is to identify the shortcomings in existing research, in order to provide a reference for future research directions in innovation and entrepreneurial education for undergraduate students.

KEYWORDS: Undergraduates, Innovation and entrepreneurial education, Literature review.

I. INTRODUCTION

Innovation and entrepreneurship education is a significant factor influencing the attainment of higher education goals. Innovation and entrepreneurship education enables students to enhance their personal abilities, participate in competitions and win awards, and strengthen their competitiveness in the job market. It serves as an effective indicator for assessing the effectiveness of higher education teaching and the overall development of students. Innovation and entrepreneurship education is influenced by various factors, and researchers have conducted extensive studies in this regard. Building upon domestic and international scholarly research, this article provides

a comprehensive overview and corresponding commentary.

In recent years, the analysis of innovation and entrepreneurship education has gradually become a focal point of research for scholars and experts. This article treats innovation and entrepreneurship education as the dependent variable and investigates how to enhance the employment competitiveness of undergraduate students while promoting innovation and entrepreneurship education. Therefore, a literature review is conducted on the concept of innovation and entrepreneurship education and its influencing factors to provide theoretical support for this study.

In 1912, economist Joseph Alois Schumpeter pointed out that innovation refers to the incorporation of fresh combinations of factors and conditions of production into existing production relationships. The "International Seminar on Education for the 21st Century" held by the United Nations in 1989 pointed out the concept of "entrepreneurship and pioneering skills education", which was later translated into "entrepreneurship education" (Cao, 2014). Li (2020) also believes that education in innovation and entrepreneurship is not only a new educational concept, but also belongs to a whole.

According to Guo (2020), innovation and entrepreneurial education is a form of education that strives to develop individuals with a strong understanding of innovation and entrepreneurship. Deng (2023) put forward the idea that education on innovation and entrepreneurship is a type of educational approach that aims to foster holistic growth in individuals. The main objective is to nurture students' understanding of innovation, instill an entrepreneurial mindset, and develop their innovative and entrepreneurial abilities from the ground up.



II. CONNOTATION OF INNOVATION AND ENTREPRENEURIAL EDUCATION

As for the innovation and entrepreneurial education, scholars have put forward different views from different angles. Scholars condensed the idea of innovation and entrepreneurial education from both a general and specific perspective. In a broad sense, Creative education is starting a new field, new career education practice. In a narrow sense, innovation education and entrepreneurial education is a teaching practice about creating new jobs. From a purpose-oriented perspective, some scholars have proposed that Innovative entrepreneurial education is cultivating the innovative spirit, the pioneering consciousness and ability as the main goal of a kind of education thought and mode.

Some scholars argue that university innovation and entrepreneurship programs should focus on developing students' innovative mindset and creative ability to be forward-looking, not afraid of setbacks and have critical thinking (Cao et al., 2010). Li (2010) believes that innovation and entrepreneurial education has two goals. The first goal is to awaken students' creative consciousness, cultivate their innovative entrepreneurial spirit, make their efforts to become a high-quality talent from all walks of life.

The "innovation and entrepreneurial education" proposed by our country contains the connotation of "innovation education" and "entrepreneurship education". This implies that innovation and entrepreneurial education is not just a single entity, but rather a novel educational concept that offers a fresh outlook on learning. However, it is also an unavoidable direction for future higher education reform in China (Li, 2020).

Researchers emphasized two important aspects of innovation and entrepreneurial education: first, the essential purpose of innovation education and entrepreneurial education activities carried out by universities is to cultivate comprehensive people with pioneering consciousness and practice ability; Secondly, in terms of scope, they believe that innovation and entrepreneurial education should not only be limited to undergraduates, master and doctoral students, but also include students who have graduated but still persist in entrepreneurship (Ma et al., 2015). Yang (2015) believes that the scientific positioning of innovation and entrepreneurial education should be an educational model try to strengthen innovative talents and establishing a national framework for the structure of innovative talents. According to Li (2016), innovation and

entrepreneurial education is a fresh educational idea that focuses on developing students' overall abilities in areas such as innovation, entrepreneurship, and their mindset and awareness towards innovation and entrepreneurship. Song (2017) argues that it is crucial for colleges and universities to adjust their innovation and entrepreneurial education to align with the evolving societal development. This entails delving into the advancements and artistic development to foster entrepreneurship skills and a spirit of innovation. Doing so will effectively support the nation's efforts in cultivating talented individuals with a strong inclination towards innovation. According to Qiu (2018), the integration of innovation and entrepreneurial education into the objective of talent development in higher education institutions is essential, and the competitiveness of undergraduates in employment should be improved through full participation, teacher training, internal management, environmental optimization and school-enterprise cooperation. Dai (2021) believes that innovation and entrepreneurial education can realize the ideological and technological innovation of education recipients in political, economic, social and cultural fields through theoretical education and practical education, so as to continuously develop new development potential, inject fresh blood called innovation into social development, and create value for the society while it meets individual development needs.

To realize economic benefits and social values in a broader social environment. Zhu (2022) argues that the main focus of innovation and entrepreneurial education is to foster a significant number of creative and exceptional individuals who can contribute to society and enhance the employment prospects and sustainable growth potential of undergraduates. These efforts also aim to make a valuable contribution to societal progress.

Regarding the evaluation system of innovation and entrepreneurial education, scholars have put forward different views from different perspectives. Dong (2018) believes that the creation of a quality assessment system for undergraduates' innovative projects holds significant importance. It is necessary to uphold the principle of integrating both qualitative and quantitative evaluations. Based on the vocational skills and quality model and the characteristics of "mass innovation and entrepreneurship" in higher vocational colleges, Wang (2020) developed a comprehensive evaluation criterion for assessing the innovation and entrepreneurial capabilities and



quality of higher vocational students. The selection of indexes was based on the principle, focusing on the outcomes of students in higher vocational colleges. Zhang (2021) believes that it is necessary to clarify the observation points, evaluation contents and evaluation methods of undergraduates' innovation and entrepreneurial education, analyze the nature of teaching evaluation mode, and focus on the four main factors of teaching evaluation to improve its decision-making value. Based on recent research, certain experts discovered that when assessing innovation and entrepreneurial education in universities, the primary focus should be on nurturing students' ability to innovate and undertake entrepreneurial ventures. Subsequently, the promotion of innovation and entrepreneurial education activities is deemed of secondary significance (Zhang et al., 2022). Chen (2022) argues that the existing evaluation index system mainly presents quantifiable indicators of "what universities have done", "where they have done well" and "what students have learned" from the perspective of colleges and universities, while it pays insufficient attention to educational performance indicators such as "how students have learned", and lacks evaluation of feedback of innovation and entrepreneurial education and "post-evaluation". And most of the texts are unclear in their operational interpretation of the evaluation indicators. Tian (2022) believes that the evaluation system of entrepreneurial education is the current key work of colleges and universities. After constructing the evaluation system, it should also pay attention to the coordination of indicators and systems, as well as the feedback coordination of evaluation results. In combination with the practical situation of colleges and universities, and constantly improve innovation entrepreneurial education evaluation system, to better serve teachers. Yin (2023) believes that undergraduates' social recognition is also a very important aspect of the quality evaluation system of innovation and entrepreneurial education.

On the ability development of innovation and entrepreneurial education, scholars have put forward different views from different perspectives. Yang (2015) pointed out that under the guidance of the construction of entrepreneurial platforms in Liaoning Province, universities in the province have established and utilized innovation and entrepreneurial education platforms for undergraduates and provided free access to practical resources such as laboratories, experimental teaching demonstration centers and practice training centers at all levels. They believe

that innovation and entrepreneurial education is mainly about the cultivation of students' quality, thinking and ability, among which the cultivation of mass entrepreneurship and innovation spirit is the core (Wang et al., 2017). From the perspective of undergraduates' employment guidance. He (2019) analyzes the existing problems in the undergraduates' employment guidance, and on how to improve undergraduates' employment, entrepreneurship and puts forward some specific measures, so as to the innovation of undergraduate's entrepreneurship education to provide certain theoretical basis. According to Sheng (2020), the core of education in innovation and entrepreneurship is centered around entrepreneurship through innovation. The idea is that when there is a focus on mass entrepreneurship and innovation, it can effectively drive economic and social progress. Therefore, innovation and entrepreneurship can serve as the catalyst for fostering economic and social growth. Ma (2021) studied innovation and entrepreneurial education in universities from the perspective of student participation, and believed that universities should improve students' cognition of entrepreneurship emotion, increase resource input, etc., and design personalized innovation and entrepreneurial education models according to students' individual characteristics. They think, through innovative entrepreneurship education, the universities can further optimize education resources, develop the students' innovative thinking and consciousness, make them clear career planning, enhance anti-setback ability and enterprise management ability, establish a strong basis for students to effectively become part of society in the future, enabling them to succeed in developing diverse and innovative skills that will benefit the country. (Li et al., 2021). In their study, Fu (2022) identified various issues within domestic innovation and entrepreneurial education, including insufficient knowledge and expertise among teachers. Innovation and entrepreneurial education in foreign countries has reached a high level of maturity and advancement. However, there remains a lack of a systematic and efficient evaluation system for measuring the effectiveness of such education like China's. Li (2022) believes that in the reform of innovation and entrepreneurial education, professional teacher should be guided to introduce advanced technology and management concepts of enterprises into classroom teaching, and effectively combine innovation and entrepreneurial education with professional education, so that students can complete career planning in professional courses



and prepare for employment. They believe that innovation and entrepreneurial education can enhance the understanding and ability of undergraduates towards innovation and entrepreneurship, enable them to participate in innovation and entrepreneurship, and thus enhance their competitiveness in employment (Pan et al., 2022). They believe that innovation and entrepreneurial education in higher vocational university is a significant link to guide undergraduates to transform their professional knowledge and ability into value creation (Jiang et al., 2023).

III. THE DEVELOPMENT PROCESS OF INNOVATION AND ENTREPRENEURIAL EDUCATION OF CHINA

Regarding the policy orientation of innovation and entrepreneurial education, entrepreneurship education originated from the Entrepreneur Education offered by Miles Mace in Harvard University in 1947, which is regarded by many scholars as the beginning of entrepreneurship education. Chinese undergraduates were introduced to the concepts of innovation and entrepreneurship at a relatively delayed stage. In 1997, Tsinghua University introduced the American Business Plan Competition to China for the first time, from which the education related to entrepreneurship began to develop. In 1998, the state released the Action Plan for the Revitalization of Education for the 21st Century, which proposed that "The full potential of higher education institutions should be utilized in order to maximize the benefits of the national innovation project, strive to promote knowledge innovation so as to promote technological innovation", and "strengthen the entrepreneurship education for students, and take measures to encourage them to establish a high and new technology enterprise".

On a countrywide scale, in 2002, the Ministry of Education designated nine universities, including Tsinghua University, Heilongjiang University, Beihang University, Fudan University and Xi'an Jiaotong University. These universities have been chosen as pioneers in entrepreneurship education with the aim of discovering an appropriate development model for teaching undergraduates about entrepreneurship in China. Since the Ministry of Education began to implement "entrepreneurship education" in 2002, the work of undergraduates' entrepreneurship education has been actively promoted across the country. Since then, China's education policy for

Innovation and Entrepreneurship has also begun to research new. In 2006, China Association of Higher Education conducted two seminars on innovation and entrepreneurial education to discuss major theoretical and practical issues such as connotation, system construction, curriculum and textbook construction of innovation and entrepreneurial education. In 2007, innovation and entrepreneurial education for undergraduates was officially mentioned as a national strategy. The education department vigorously implemented the "Experimental area for Innovation of Talent Cultivation Mode" in colleges and universities, and them also establish entrepreneurship research or education centers. In 2008, the Employment Promotion Law raised issues related to entrepreneurship to the legal level. Since then, the entrepreneurial education events of undergraduates have become more standardized, and the entrepreneurial education policy has been further developed. Since then, while the employment situation for students is getting tougher, government has introduced a set of initiatives aimed at promoting and assisting undergraduates in pursuing self-employment opportunities. In 2009, China Association of Higher Education formally established the branch of innovation education and entrepreneurial education, marking the integration and mutual promotion of innovation education and entrepreneurship education. It also indicates the new direction of the research and practice of promoting innovative talent. In 2010, the Ministry of Education formulated a special policy on entrepreneurship and innovation education for undergraduates and Printed on the vigorously promote the innovation in colleges and universities entrepreneurship education and undergraduate's self-employment work opinion. In 2015, The General Office of the State Council, PRC issued a document entitled "Views on enhancing innovation and entrepreneurial education reform in higher education institutions' implementation". In 2021, The General Office of the State Council, PRC issued a document entitled "Opinions that provide guidance on how to better support the innovation and entrepreneurship of undergraduates". With the release of a series of national documents on promoting innovation and entrepreneurial education during those years, innovation education and entrepreneurial education in Chinese college has gradually improved the strategic level of national development. Scholars have proceeded corresponding researches on innovation education and entrepreneurial education in china from three aspects: concept, evaluation



system and ability development. In 2022, the Chinese Ministry of Science and Technology, in conjunction with the Ministry of Finance, issued the "Action Plan for Enhancing Enterprise Technological Innovation Capability (2022-2023)", which aims to promote international collaboration in innovation and entrepreneurship, and facilitate deeper cooperation among enterprises from countries along the "Belt and Road" initiative in areas such as technology, projects, and talent within science and technology parks.

IV. DEVELOPMENT PROCESS OF INNOVATION AND ENTREPRENEURIAL EDUCATION ABROAD

Innovation and entrepreneurial education in western countries has a long history, and the cultivation of entrepreneurial consciousness and entrepreneurial practice have been paid attention to university education. As early as 1947, Harvard Business School professor Myles Mace established the first entrepreneur training course, Management of New Enterprises, marking the first time that teaching innovation and entrepreneurship enters college education. In 1968, the first entrepreneurship course in the undergraduate curriculum was offered at Bieson. In 1971, the University of Southern California began offering a master of Business Administration degree in entrepreneurship. In 1980, the United States, through the Bayh-Dole Act, agreed to hand over intellectual property rights obtained from government-funded research institutes to universities, and affirmed the practice of universities applying for patents and transferring research results to enterprises and marketing. The Act has greatly promoted the industrialization of the university knowledge and capitalization, for universities to carry out the creative education provides a solid support environment. Since the 1980, university entrepreneurship education has gradually realized systematization and specialization, and the corresponding extracurricular practice education and open education have also been developed rapidly. In the mid-1990s, Harvard University and the University of Pennsylvania began to train PHDS in entrepreneurship. In 1998, entrepreneurship education was formally proposed and began to be widely recognized. Organization for Economic Cooperation and Development expert Colin Ball summarized entrepreneurship education as through developing and improving the students' basic quality and entrepreneurial ability of

entrepreneurship education to enable students to engage in entrepreneurial practice necessary knowledge, ability and psychological quality, is one of the future people should have three "education passports". In 1998, the first World Conference on Higher Education issued a priority Action Framework for the development of higher education, emphasizing: "Higher education must take entrepreneurial skills and entrepreneurial spirit as the basic goals. Thus, graduates are not only job seekers, they are job creators above all."

After the 1990s, with the acceleration of globalization, the country entered a new stage of winning by creativity. Countries around the world have increased their investment in education and developed strategies and policies to strengthen the development of entrepreneurial and innovative talent. Innovation and entrepreneurial education in some countries such as the United States, Britain and Germany began to develop rapidly. At present, the education system of innovation and entrepreneurial in major western countries has been very complete. Research universities generally have a complete curriculum system of innovation and entrepreneurial education. Innovation and entrepreneurial education is highly integrated with professional education, forming a distinctive development model of innovation and entrepreneurial education. The United States is the first country to develop innovation and entrepreneurial education, and its research on innovation and entrepreneurial theories and educational practices are at the forefront of the world. The course "New Venture Management" set up by Harvard Business School in 1947 marks the origin of entrepreneurship education in the USA universities, and is considered by most researchers to be the first entrepreneurship education course in the United States. Stanford University and Bieson Business School started entrepreneurship education courses in 1967. America's entrepreneurial education system has grown to cover the entire process from primary and secondary school to graduate education. In the 1980s, an "entrepreneurial revolution" was launched in the United States. A number of entrepreneurs who focused on technological innovation, represented by Bill Gates, emerged from this revolution, which strongly promoted the development of innovation and entrepreneurial education in the USA universities. In 2005, more than 1,500 universities in the USA offered 2,200 courses on entrepreneurship, more than 40 academic journals on entrepreneurship education, and more than 100 campus entrepreneurship centers. The courses of



small business management, entrepreneurship and creating new enterprises are the core courses of entrepreneurship taught in American universities. According to You (2011), there are two different target value orientations in the practice of innovation and entrepreneurial education in American universities, one is a lower-level utilitarian goal aimed at cultivating enterprise value, and the other is a higher-level non-utilitarian goal aimed to improve the quality and consciousness of innovation and entrepreneurship. Shan (2020) argues that innovation and entrepreneurial education in American universities should be led by universities, with governments playing a leading role, and companies as supporters, forming a practical system of innovation and entrepreneurial education. Some scholars believe that innovation and entrepreneurial education in American universities is characterized by inclusive innovation and entrepreneurship policies, inclusive innovation and entrepreneurial education systems, and a good atmosphere. (Guo et al., 2022).

In Britain, innovation and entrepreneurial education began with the "College Student Entrepreneurship" project in 1982. The primary aim of the project is to solve the problem of college graduate's employment, improve the employment rate, and encourage college graduates to try to create jobs suitable for their own development. In 1987, the British government launched the "Higher Education Entrepreneurship" program, its purpose is to train university students' entrepreneurship and entrepreneurial skills, which was regarded as the official start of the British entrepreneurship education policy. The British government launched the University Student Entrepreneurship Program in 1998. On the one hand, it organized students to communicate with their entrepreneurs facing each other, so that entrepreneurship education could enter the classroom. On the other hand, it taught students how to try to start their own company, so that students could experience the whole process of starting a business. After nearly 30 years of development and popularization, the innovation and entrepreneurial education in British has been continuously improved in the course setting, extracurricular practice and the popularity of entrepreneurship education, and the entrepreneurial culture and hardware facilities have been constantly improved. Ma (2020) believes that serving students' growth wholeheartedly, strengthening teachers' innovation ability training. Peng (2021) points out that the successful educational experience of British universities

proves that promote students' innovative and entrepreneurial skills requires the cooperation among universities, the government and enterprises to form a benign educational ecological environment.

The origins of innovation and entrepreneurial education in Germany go back to the 1950s. The target of entrepreneurship education in Germany was mainly students majoring in economics in vocational schools. In order to cultivate the professional knowledge and practical ability of economics students in vocational schools and solve the problems of practical teaching difficulties in German universities, "Simulation Company" was set up in Germany. The establishment of "simulation Company" is regarded as the embryonic form of entrepreneurship education in Germany. In the 1970s, the Universitat Stuttgart and Universitat zu Koln began offering entrepreneurship education courses, and the Technical University of Dortmund established its Institute for Entrepreneurship. In the late 1990s, the German government began to implement the reform of public institutions, the adjustment of government institutions, the reduction of staff and the improvement of efficiency of enterprises, resulting in the lack of domestic employment opportunities, the unemployment rate of undergraduates showed an obvious rising trend, and entrepreneurship education began to be attached importance by the German government and universities. In 1998, 25 universities in Germany took entrepreneurship as the core course of higher education, and 30 chief professors of entrepreneurship education were set up in 12 universities respectively, which were specifically responsible for the teaching and research of employment and entrepreneurship of undergraduates. Since then, universities set up professor positions of entrepreneurship to promote in universities across the country. Ni (2020) believes that German universities attach importance to applicability, practicability and diversity in innovative and entrepreneurial talent training mode, emphasize the connection between internal higher education reform and external integration, integrate the society into the university, and show the distinctive diversified training mode of talents. Zheng (2022) believes that Germany pays more attention to personalized education in the learning process of students, respects the unique value of individuals, explores the potential of innovative talents, gives special and systematic professional guidance to entrepreneurial talents, and improves



the quality and efficiency of entrepreneurial education.

Malaysia has been making efforts to establish a top-tier higher education system, with the aim of transitioning from a production-based economy to a knowledge-based economy by the year 2020 (Siti Maziha, 2021). The 13 public universities, represented by universities such as University of Malaya and Universiti Teknologi Malaysia, all offer innovation and entrepreneurial education courses or have established innovation and entrepreneurship research centres, and cover all types of undergraduate, master's and doctoral students. In particular, innovation and entrepreneurial education has developed rapidly in the departments of economics, trade, management and other business majors (Syed Zamberi Ahmad & Robert Frederick Buchanan, 2015). Universiti Sains Islam Malaysia (USIM) specializes in innovation and entrepreneurship teaching and research for master and PhD students; University of Malaya has set innovation and entrepreneurship as an elective course for postgraduate students majoring in international trade, and actively advocates the opening of research topics to doctoral students. Innovation and development and entrepreneurship education has become an important research direction for doctoral students of the school (Meng Fanqi, Ma Binbin, 2020). The results of Universiti Malaysia Kelantan's smart music classroom reform show that the combination of university-enterprise projects in promoting innovation and entrepreneurship among university students can effectively cultivate innovation and entrepreneurship among university students (Sang et al., 2021). In Malaysia, the multi-level courses and multi-type institutions play an crucial role in the innovation guidance and entrepreneurial practice of university students.

V. EVALUATION INDEX SYSTEM OF UNDERGRADUATES' INNOVATION AND ENTREPRENEURIAL EDUCATION

With the new era as a backdrop, the education of innovation and entrepreneurship in universities has embarked on a fresh stage of growth, focusing primarily on enhancing quality. Various policy documents released by The State Council and the Ministry of Education have raised the bar for the standards of entrepreneurial and innovation education in colleges and universities since 2015. Entrepreneurial and innovation education, as an important part of the talent training system in colleges and universities, is undergoing a change from cultivating innovation consciousness

and entrepreneurial spirit to cultivating entrepreneurial ability. Assessing progress is a significant milestone in revamping and reshaping inventive and enterprising education in higher education institutions. Chinese universities have been successful in the fields of innovation and entrepreneurship, which has contributed to job creation. They have also been proactive in adjusting to the changing economic development patterns. In addition, they have focused on enhancing the quality of education and have encouraged the integration of education with science, technology, economy, and society. Nevertheless, there remain certain issues concerning the assessment of innovation and entrepreneurial education's quality. These include a narrow focus on evaluation criteria, overlooking students' individual perspectives, prioritizing government expectations, and excessive emphasis on external influences. Improvement and optimization are necessary for the enhancement of the evaluation system (Zhu & He, 2020).

The assessment of innovation and entrepreneurial education in universities can be initiated by focusing on two main elements, according to academic research:

(1). Theoretical model of innovation and entrepreneurial education evaluation. Evaluation theories include ecological education theory (L.A. Cremin, 1976), theory of Planned Behavior (Ajzen, 1991), mentorship preparation theory (Bird B, 1988), and planned behavior theory (Bandura A, 1988, 1997), entrepreneurial event model (Chrisman J. et.al, 2005), directional regulation theory (Brockner E. et al, 2004), etc. All of this has a big impact. In addition, some scholars combined the model proposed by Krueger and Carsrud with the theory of planned behavior to build a multi-angle and high-level education evaluation model centered on entrepreneurship education (Fayolle et al., 2006). Some scholars have concluded through investigation that the currently recognized educational evaluation theories include entrepreneurial event model, planned behavior theory and self-efficacy theory. Among them, the evaluation based on planned behavior theory focuses on assessing changes in entrepreneurial intention, rather than directly targeting entrepreneurial behavior itself (Lorz & Mueller, 2013). Gou (2017) studied the operation mechanism and evaluation of the entrepreneurial ecosystem in Chinese universities by applying entrepreneurship theory, entrepreneurial environment element theory, educational ecology theory and other relevant theories. Ru (2019)



applied the function theory of government and the ecological theory of education in his research on the innovation and entrepreneurship policies of Chinese undergraduates. Yin (2021) studied the countermeasures for the cultivation of innovative and entrepreneurial talents in colleges and universities in Heilongjiang Province based on the synergy theory and educational ecology theory. Li (2021) used the theory of ecology of education to study the existing problems in innovation and entrepreneurial education of universities in Hubei Province and put forward countermeasures. Based on the ecological theory of education, Zhao (2022) constructs a supporting system for innovation and entrepreneurial education in applied undergraduate colleges and puts forward a research path for innovation and entrepreneurial education reform in applied undergraduate colleges and universities.

(2). Innovation and entrepreneurial education evaluation index system. According to the level of teachers and administrators, some scholars have concluded through research that teachers are evaluated with students as the main body, and administrators are evaluated with students as the main body (Finkle & Kuratko, 2006). Curran (1999) proposed for the first time a strategic framework of "six-step approach to best evaluation" consistent with entrepreneurial education evaluation. Some scholars have verified the realizability and operability of the evaluation framework. The key of evaluation is to use the control experimental group and pay attention to comprehensive matching in the selection of research methods. The evaluation effect will be more ideal (Lenihan & Colette, 2012). Ke (2020) uses Delphi method to establish an evaluation model of innovation and entrepreneurship, conducts research from three aspects: resource allocation, campus environment and students' innovation and entrepreneurship ability, and improves the evaluation index system of entrepreneurial and innovation education. Li (2020) mainly considers two factors when measuring innovation and entrepreneurial education. The first is the students' mastery of knowledge, the improvement of skills, and the increase of interest in innovation and entrepreneurial education. The second is from the school's entrepreneurial base or guidance institutions, the school's innovation atmosphere and the school's innovation and entrepreneurship teachers.

VI. MEASUREMENT OF INNOVATION AND ENTREPRENEURIAL EDUCATION

Based on the research results of relevant literatures at home and abroad, the measurement tools for innovation and entrepreneurial education have been established. The questionnaire is adopted by scholar Li (2020), his research title is "Research on innovation and entrepreneurial education's impact on undergraduates' entrepreneurial intention". On the basis of referring to previous research achievements and combining with the actual situation, he referred to the research scale of Kusmintarti et al. (2018) and Li (2016). This questionnaire includes two dimensions :(a) personal factors of innovation and entrepreneurial education; (b) universities factors as subjects of innovation and entrepreneurial education; innovation and entrepreneurial education is measured from two aspects: universities and students. University factors refer to the basic conditions for schools to implement innovation and entrepreneurial education, including the school's entrepreneurship base or guiding institutions, the school's innovation atmosphere, the school's innovation and entrepreneurial teachers. etc. The personal factors is mainly measured from the students' mastery of the knowledge of innovation and entrepreneurial education, the improvement of skills, the increase of interest and the awareness of business opportunities. The questionnaire consisted of 14 items, all of which were rated using a five-point Likert scale, from 1(strongly disagree) to 5(strongly agree). This article has been downloaded 4015 times on CNKI. This questionnaire is commonly used in China. The sample is undergraduates, which has high reliability and validity in innovation and entrepreneurial education.

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