RESEARCH ON SUSTAINABLE DEVELOPMENT OF INNOVATION AND ENTREPRENEURSHIP EDUCATION FOR COLLEGE STUDENTS

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Abstract:
This article mainly discusses the significance, practice, innovative models, and improvements of innovation and entrepreneurship education for college students. Firstly, it introduces the background and significance of innovation and entrepreneurship education, and analyzes its role in the cultivation of college students' comprehensive quality. Secondly, it analyzes the current situation and experience of promoting innovation and entrepreneurship education in domestic and foreign universities, as well as the specific practices and achievements of innovation and entrepreneurship education in a certain domestic university. Based on the exploration of innovative models and development trends in double-creation education, it puts forward suggestions and ideas for constructing an innovation and entrepreneurship education model suitable for the national conditions of China. At the same time, it introduces the evaluation indicators and methods of innovation and entrepreneurship education, and proposes strategies and suggestions for improving innovation and entrepreneurship education, as well as future development directions and suggestions for innovation and entrepreneurship education.

Keywords: innovation and entrepreneurship education; sustainable development; model innovation

摘要：本文主要探讨了大学生创新创业教育的意义、实践、模式创新和改进。首先，介绍了创新创业教育的背景和意义，并分析了其对大学生综合素质的培养作用。其次，分析了国内外高校推进创新创业教育的现状和经验，以及国内某高校创新创业教育的具体实践和成效。在探讨双创教育模式创新和发展趋势的基础上，提出了构建适合中国国情的创新创业教育模式的思考和建议。同时介绍了创新创业教育的评价指标和方法，并提出了改进创新创业教育的策略和建议及未来创新创业教育的发展方向和建议。

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1. Introduction

1.1 Background and Significance of Innovation and Entrepreneurship Education for College Students
With the accelerating process of globalization and informatization, global economic competition has become increasingly fierce. Facing new situations and challenges, innovation and entrepreneurship education have become one of the important directions and contents of higher education (Wu, 2018). Innovation and entrepreneurship education can not only provide college students with the necessary entrepreneurial qualities and innovation capabilities but more importantly, it can cultivate talents with market competitiveness and make contributions to the development of society and economy. Therefore, innovation and entrepreneurship education have extremely important practical and strategic significance.

1.2 Research Questions and Objectives of Innovation and Entrepreneurship Education
Although innovation and entrepreneurship education has received extensive attention and recognition in recent years, there are still many problems and challenges in practice. For example, how to formulate an innovative and entrepreneurial education model suitable for students at this university? How to evaluate and improve the quality and effectiveness of innovation and entrepreneurship education? How to enhance college students' innovation and entrepreneurship ability and quality? This paper aims to explore these issues and propose effective solutions. Specifically, the objectives of this paper are three-fold: firstly, to analyze the background and significance of innovation and entrepreneurship education; secondly, to summarize the practical experience and current situation of innovation and entrepreneurship education; and thirdly, to propose innovative and improved strategies for innovation and entrepreneurship education models. Through these analyses and discussions, the aim is to promote the development of innovation and entrepreneurship education for college students and contribute to the cultivation of more innovative and entrepreneurial talents.

2. Innovation and Entrepreneurship Education's Significance

2.1 Definition, Concept, and Value of Innovation and Entrepreneurship Education
2.1.1 Definition, Features, and Value of Innovation and Entrepreneurship Education
Innovation and Entrepreneurship Education refer to a series of educational measures, such as innovation and entrepreneurship courses, practical activities, resource support, and mentorship, to cultivate and enhance students' innovation and entrepreneurship abilities, innovative thinking and entrepreneurial qualities in higher vocational college education. It not only provides students with training in innovative and entrepreneurial skills, innovative thinking and entrepreneurial qualities, but also provides them with
practical opportunities and integrates social resources to promote their innovation and entrepreneurship development. The characteristics of innovation and entrepreneurship education are closely related to actual economic development, adaptable to market demand, emphasis on practical skills training and emphasis on cultivating teamwork and innovative and entrepreneurial thinking. The significance of innovation and entrepreneurship education includes enhancing students' comprehensive qualities, improving their employability, promoting economic development, innovating industrial structures, and enhancing national competitiveness.

2.1.2 Theoretical and Practical Significance of Innovation and Entrepreneurship Education

The theoretical and practical significance of innovation and entrepreneurship education are mutually reinforcing. The theoretical research of innovation and entrepreneurship education provides a scientific basis and support for innovation and entrepreneurship education, while promoting the practice and development of innovation and entrepreneurship education. The practice of innovation and entrepreneurship education, in turn, promotes the continuous improvement and updating of theoretical research, while also verifying and proving the correctness and effectiveness of theory. The theoretical and practical significance of innovation and entrepreneurship education is reflected in several aspects, such as: (1) promoting curriculum reform in higher education and enhancing students' innovation and entrepreneurship ability; (2) promoting students' independent innovation and entrepreneurship and enhancing their competitiveness in employment; (3) promoting scientific and technological innovation and industrial transformation and upgrading to enhance our country’s comprehensive competitiveness; (4) enriching the content and methods of talent cultivation in higher education and promoting the innovative development of higher education. Therefore, in-depth research and promotion of the theoretical and practical aspects of innovation and entrepreneurship education are of great significance in promoting the improvement of higher education quality and talent cultivation (Bai, He & Yuan, 2021).

2.2 The Role of Innovation and Entrepreneurship Education in Cultivating the Comprehensive Qualities of College Students

Innovation and entrepreneurship education play a very important role in cultivating the comprehensive qualities of college students. In the process of receiving innovation and entrepreneurship education, college students will constantly exercise and improve their multiple qualities, which not only have a significant significance for personal development but also have a positive promoting effect on the development of society and the country.

Firstly, innovation and entrepreneurship education can help students improve their innovation and entrepreneurship skills. In the process of receiving innovation and entrepreneurship education, college students will learn how to think independently, solve problems, and innovate and start businesses. These abilities and qualities can not
only help students better complete their studies and work but also enhance their ability to innovate and start businesses independently, making a positive contribution to personal career development and social and economic development.

Secondly, entrepreneurship education can help college students improve their overall qualities. Entrepreneurship education not only includes the cultivation of entrepreneurial skills and innovative abilities, but also covers many aspects such as teamwork, social skills, and communication skills. Through entrepreneurship education, students can enhance their leadership, teamwork, and communication abilities, which can not only improve their career development and competitiveness, but also promote their overall personal growth and development.

Furthermore, entrepreneurship education can cultivate students' entrepreneurial spirit and sense of social responsibility. Through entrepreneurship education, students learn how to solve social and environmental problems and how to assume social responsibilities and obligations. This can promote students' understanding and cognition of society, and cultivate their sense of social responsibility and entrepreneurial spirit, enabling them to make greater contributions to society and national development.

In conclusion, entrepreneurship education plays an important role in cultivating the overall qualities of college students. Through student participation and practice by promoting their personal development, entrepreneurship education can help students improve their innovative abilities, entrepreneurial qualities, comprehensive qualities and social responsibility.

3. Innovation and Entrepreneurship Education Practices

3.1 Current Situation and Experiences of Innovation and Entrepreneurship Education in Domestic and Foreign Universities

Innovation and entrepreneurship education have been widely recognized and valued around the world. Different universities in various countries and regions have adopted different innovation and entrepreneurship education models and strategies. Through practice exploration and experience summarization, they have provided valuable experience and reference for the development of innovation and entrepreneurship education.

In foreign countries, many universities have already attached great importance to the practice of innovation and entrepreneurship education, which has become an important part of higher education. For example, the Massachusetts Institute of Technology, Harvard University, and Stanford University in the United States have all offered innovation and entrepreneurship-related courses and projects (Yao, Duan & Tu, 2016), covering various aspects such as business models, product design, and marketing. They also are providing abundant resources and support, such as equity investment, incubators, and entrepreneurship mentors. In addition, in many countries and regions in Europe and Asia, innovation and entrepreneurship education has also received increasing attention and development, such as the University of Cambridge and the
University of Oxford in the United Kingdom, Tsinghua University and Peking University in China, among many others, all of which have carried out a large number of innovation and entrepreneurship education practices.

In China, with the policy support from the government and the reform of talent training in universities, innovation and entrepreneurship education has been widely developed and practiced. Many universities have started to launch innovation and entrepreneurship education programs, such as Tsinghua University, Peking University, and Shanghai Jiao Tong University. These programs cover various aspects, including entrepreneurship planning, lectures, and practical training, and have gained broad recognition from students and society. In addition, some universities in China have achieved outstanding achievements in innovation and entrepreneurship education, such as Zhejiang University’s "Young Eagle Project" and Nanjing University’s "Innovation and Entrepreneurship Training Program,“ which have not only achieved certain results but also gained wide attention and recognition from all over the world.

Overall, BIT has achieved certain results in innovation and entrepreneurship education. Through a rich curriculum system, practical activities and demonstration of students' achievements in innovation and entrepreneurship, the university provides students with a wide range of innovation and entrepreneurship platforms and capital support, laying a solid foundation for students' innovation and entrepreneurship.

3.2 The Specific Practice and Effectiveness of Innovation and Entrepreneurship Education in a Domestic University

Taking Beijing Institute of Technology as an example, the school's innovation and entrepreneurship education has achieved certain practical results. The specific practices and results are as follows:

1) Curriculum system: BIT has established a series of innovation and entrepreneurship-related courses such as "Introduction to Innovation and Entrepreneurship," "Marketing for Technical Products," "Innovation and Entrepreneurship Practice," covering various aspects such as entrepreneurial project planning, business model design and entrepreneurship risk management. This curriculum system provides a solid foundation for students' innovation and entrepreneurship abilities.

2) Innovation and entrepreneurship practice: BIT conducts various innovation and entrepreneurship practice activities, such as entrepreneurial competitions, innovation and entrepreneurship lectures, and entrepreneurship training. For example, the university has established the "BIT Entrepreneurship Incubator," providing students with various services such as entrepreneurship space, entrepreneurship mentors, and funding support to help them turn their ideas into practice.

3) Student innovation and entrepreneurship achievements: In recent years, BIT students have achieved some results in innovation and entrepreneurship. For instance, a student independently developed a "Nano scale environmental
monitoring device,” which has been granted multiple patents both domestically and internationally. In addition, some students have established entrepreneurial teams and carried out multiple innovation and entrepreneurship projects, with some receiving a considerable amount of investment and market recognition.

Overall, Beijing Institute of Technology (BIT) has achieved some success in innovation and entrepreneurship education. This university has provided students with various innovation and entrepreneurship platforms and resource support through a rich curriculum system, practical activities and the exhibition of student innovation and entrepreneurship achievements. This has laid a solid foundation for students’ innovation and entrepreneurship journey.

4. Model Innovation of Innovation and Entrepreneurship Education

4.1 Model Innovation and Development Trend of Innovation and Entrepreneurship Education
Entrepreneurship education is one of the important directions of higher education reform today. With changes in society and shifts in talent development strategies, the models and strategies of entrepreneurship education are constantly innovating and developing. Next, we will explore the innovation and development trends of entrepreneurship education models.

4.1.1 Mode Innovations

1) Project-oriented model: This model emphasizes that students develop their innovation and practical abilities by participating in practical projects. Schools can cooperate with enterprises to provide practical opportunities and project support, and encourage students to use their innovative thinking and practical abilities to solve real problems.

2) Entrepreneurship base model: This model aims to provide students with a comprehensive entrepreneurship support platform, including funding, mentors, resources, and other support in all aspects. Students can receive comprehensive support and help on this platform, accelerating the realization of their entrepreneurial achievements.

3) Course integration model: This model emphasizes integrating innovation and entrepreneurship-related courses into a course system to form a complete innovation and entrepreneurship education course system. Students can learn and master innovation and entrepreneurship-related knowledge and skills comprehensively in this system.

4.1.2 Development Trend

1) Cross-disciplinary cooperation: With the continuous development of society and the cross-over between various industries, innovation and entrepreneurship education also need to cooperate with other fields. For example, technology can
be combined with culture, art and other fields to create more opportunities for innovation and entrepreneurship.

2) Personalized customization: With the different needs and interests of students, innovation and entrepreneurship education also need to be personalized to tailor the appropriate courses and practical plans for each student, so that every student can receive the most suitable education.

3) Integration of industry, academia, and research: With the increasing connection between enterprises and universities, innovation and entrepreneurship education also need to be combined with industry, academia, and research, so that students can gain more experience and resources in practice, and at the same time provide more innovation and entrepreneurship talents for enterprises.

Overall, the mode and development trend of innovation and entrepreneurship education is constantly innovating and developing. The universities need to continue to explore and practice to provide better innovation and entrepreneurship opportunities for students.

4.2 Reflection and Recommendations on Constructing an Innovation and Entrepreneurship Education Model Suitable for China's National Conditions

Innovation and entrepreneurship education is a hot topic and focus in today's higher education, and it requires innovation and exploration based on China's national conditions. The following are some reflections and recommendations on constructing an innovation and entrepreneurship education model suitable for China's national conditions.

1) Emphasize the cultivation of students' practical abilities
Chinese students excel in theoretical learning, but are relatively weak in practical abilities. Therefore, innovation and entrepreneurship education should focus on cultivating students' practical abilities, allowing them to apply what they have learned in practice through practical projects and entrepreneurship training, and improving their practical abilities.

2) Strengthen students' social practice and actual project experience
Innovation and entrepreneurship education in China faces a significant knowledge bottleneck, and students often lack actual project experience. Therefore, innovation and entrepreneurship education should strengthen students' social practice and actual project experience and improve their practical abilities and comprehensive qualities (Liu, 2018).

3) Cooperate and communicate with enterprises
Innovation and entrepreneurship education should work closely with enterprises to establish long-term stable cooperation mechanisms and platforms, providing students with entrepreneurial practice opportunities and resource support, and also providing more innovation and entrepreneurship talents for enterprises.

4) Strengthen cooperation with overseas universities
Innovation and entrepreneurship education in China still has some gaps that need to be filled through cooperation with overseas universities, drawing on their advanced experiences and concepts in innovation and entrepreneurship education, while also providing more innovation and entrepreneurship opportunities for overseas students.

5) Establish a comprehensive innovation and entrepreneurship education system

Innovation and entrepreneurship education needs to establish a comprehensive education system, including curriculum design, practical projects, innovation and entrepreneurship mentors, entrepreneurship bases, etc., providing students with all-round innovation and entrepreneurship support and services, helping them achieve their maximum self-value.

In conclusion, China's innovation and entrepreneurship education needs to be based on national conditions and the current era, exploring a path suitable for China's national conditions, providing students with better innovation and entrepreneurship platforms and resource support, and injecting more vitality and energy into the country's innovation and entrepreneurship development.

5. Evaluation and Improvement of Innovation and Entrepreneurship Education

5.1 Evaluation Indicators and Methods of Innovation and Entrepreneurship Education Today

The evaluation of innovation and entrepreneurship education is an objective assessment of the quality and effectiveness of such education, and it is also an important means for continuous improvement and optimization of innovation and entrepreneurship education. The following are some evaluation indicators and methods for innovation and entrepreneurship education.

5.1.1 Evaluation Indicators

1) Curriculum design: Evaluation of the curriculum design of innovation and entrepreneurship education, including the quality, practicality, innovation, adaptability, and other aspects of the curriculum.

2) Teaching process: Evaluation of the teaching process of innovation and entrepreneurship education, including teaching methods, content, quality and other aspects.

3) Practical projects: Evaluation of practical projects in innovation and entrepreneurship education, including the practicality, innovation, results and social impact of the projects.

4) Entrepreneurship base: Evaluation of entrepreneurship bases in innovation and entrepreneurship education, including base construction and management, resource support, entrepreneurship services and other aspects.
5) Students’ innovation and entrepreneurship ability: Evaluation of students’ innovation and entrepreneurship ability, including their innovative thinking, practical ability, team collaboration ability and other aspects.

5.1.2 Evaluation Methods

1) Questionnaire Survey: Through a questionnaire survey, the attitudes and evaluations of students and teachers towards innovation and entrepreneurship education, as well as suggestions and opinions on innovation and entrepreneurship education can be obtained.

2) Field Inspection: Through field inspections, evaluations and monitoring of the curriculum design, teaching process, practical projects, entrepreneurial bases and other aspects of innovation and entrepreneurship education can be conducted and a deeper understanding of the actual effects and problems of innovation and entrepreneurship education can be obtained.

3) Statistical Analysis: Through statistical analysis methods, data collection and analysis of innovation and entrepreneurship education can be conducted, including course evaluations, teaching effects, practical project results, student entrepreneurship abilities and other aspects.

4) Expert Review: By inviting experts to evaluate and monitor the quality and effectiveness of innovation and entrepreneurship education, professional and authoritative evaluation results can be obtained.

In summary, the evaluation of innovation and entrepreneurship education is a systematic project that requires comprehensive consideration of multiple indicators and methods. It is necessary to objectively and scientifically evaluate and monitor the quality and effectiveness of innovation and entrepreneurship education in order to provide a reference and basis for optimizing and improving innovation and entrepreneurship education.

5.2 Strategies and Suggestions for Improving Entrepreneurship Education for College Students

Entrepreneurship education is a hot spot and focus of higher education today. In order to further improve the quality and effectiveness of entrepreneurship education, the following strategies and suggestions are proposed.

1) Improve the innovation and entrepreneurship skills and abilities of teachers

Teachers of entrepreneurship education need to have higher skills and abilities in innovation and entrepreneurship and be able to guide students in entrepreneurial practice. Therefore, teacher training and learning should be strengthened to improve their skills and abilities in innovation and entrepreneurship.

2) Establish a diversified entrepreneurship education system

Entrepreneurship education should establish a diversified education system, including curriculum design, practical projects, entrepreneurship mentors and entrepreneurial bases, to provide comprehensive entrepreneurship support and
services and provide better innovation and entrepreneurship platforms and resources for students.

3) Encourage diversified innovation and entrepreneurship practices among students
   Students should be encouraged to engage in diversified innovation and entrepreneurship practices, including technological innovation, cultural creativity, social innovation, etc., so as to broaden their innovation and entrepreneurship ideas and improve their overall skills and practical abilities.

4) Strengthen cooperation between schools and enterprises
   Entrepreneurship education needs to deepen cooperation with enterprises and establish long-term stable cooperation mechanisms and platforms to provide students with entrepreneurial practice opportunities and resource support, while also providing more innovation and entrepreneurship talent for enterprises.

5) Encourage international perspectives and exchanges
   Entrepreneurship education should encourage students to broaden their international perspectives and engage in international exchanges to learn from advanced experiences and concepts of entrepreneurship education abroad, and provide more innovation and entrepreneurship opportunities for international students.

In summary, improving entrepreneurship education needs to start from multiple aspects, including teacher training, establishing a diversified education system, encouraging diversified innovation and entrepreneurship practices among students, strengthening cooperation with enterprises and international perspectives and exchanges, etc., to improve the quality and effectiveness of entrepreneurship education, and provide better support and services for students' entrepreneurship journey.

5.3 Development Directions and Suggestions for Future Innovation and Entrepreneurship Education

With the continuous development of society and economy, future innovation and entrepreneurship education needs to constantly innovate and develop to meet the needs and development of future society. Below are some development directions and suggestions for future innovation and entrepreneurship education:

1) Strengthen education on technological innovation
   With the continuous development of technology, technological innovation has become an important direction for future innovation and entrepreneurship. Therefore, future innovation and entrepreneurship education should strengthen education on technological innovation, focus on cultivating students' ability to innovate and practice in technology, and provide more technological innovation platforms and resource support.

2) Enhance the international perspective of innovation and entrepreneurship education
   Future innovation and entrepreneurship education needs to enhance its international perspective and exchanges, absorb advanced innovation and
entrepreneurship education concepts and experiences from abroad, and provide students with broader innovation and entrepreneurship platforms and resource support. At the same time, students should be encouraged to participate in international innovation and entrepreneurship practices and exchanges.

3) Establish a cross-disciplinary innovation and entrepreneurship education system
Future innovation and entrepreneurship education needs to establish a cross-disciplinary education system, strengthen cooperation and exchanges between different disciplines, and cultivate students’ comprehensive qualities and abilities. This can not only provide students with more opportunities and resource support for innovation and entrepreneurship, but also promote the integration and innovation of disciplines.

4) Explore new modes of innovation and entrepreneurship education
Future innovation and entrepreneurship education needs to constantly explore new educational models and methods, such as online education, intelligent education, etc., provide more educational methods and resource support, and meet students' personalized and diversified learning needs.

5) Strengthen cooperation between innovation and entrepreneurship education and society
Future innovation and entrepreneurship education needs to cooperate deeply with society, establish stable cooperation mechanisms and platforms, and provide students with more opportunities and resource support for innovation and entrepreneurship. At the same time, it can also provide more innovation and value for society.

In summary, future innovation and entrepreneurship education needs to constantly innovate and develop, strengthen education on technological innovation, international perspective, cross-disciplinary education, explore new models, and strengthen cooperation with society. Only then can it sustainably develop and continuously improve the quality and effectiveness of innovation and entrepreneurship education, and provide stronger technological and resource support for college students' entrepreneurship and social development (Duan & Bao, 2018).

6. Conclusion

Innovation and entrepreneurship education is a hot topic and focuses in higher education today, and it plays an important role in cultivating students’ innovation and entrepreneurship abilities, spirit, and practical skills, helping them better adapt to the needs and development of future society. The practice has proven that innovation and entrepreneurship education not only provide more entrepreneurial and employment opportunities for students, but also creates more innovative achievements and practical value for society.

The practice of innovation and entrepreneurship education includes course design, practical projects, entrepreneurship bases, innovation and entrepreneurship
mentors, etc. Domestic and foreign universities have accumulated a lot of experience and achievements in innovation and entrepreneurship education, such as the innovation and entrepreneurship universities in the United States and the "Jewish State" in Israel. At the same time, some domestic universities are also actively exploring and trying in innovation and entrepreneurship education, and have achieved certain results.

Innovation and entrepreneurship education need to undergo model innovation, including the improvement of diversified education systems, teaching methods, and teaching content. In addition, innovation and entrepreneurship education also needs continuous improvement and optimization, starting from multiple aspects such as teacher training, entrepreneurship base construction and students' innovation and entrepreneurship abilities, to improve the quality and effectiveness of innovation and entrepreneurship education and better serve students and society.

In summary, innovation and entrepreneurship education plays an important role in today's society and should be highly valued and supported. Only through continuous practice and innovation can more innovative and entrepreneurial talents be cultivated, and make greater contributions to the development and progress of society.

Conflict of Interest Statement
The authors declare no conflicts of interest.

About the Author
Xuefei Huang, Associate Professor, Master's degree. Research interests: employment and entrepreneurship guidance, career planning.

Project Sources
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