



**INNOVATION AND ENTREPRENEURSHIP EDUCATION IN
CHINESE ART UNIVERSITIES:
A STUDY BASED ON GUANGXI, CHINA**

GUANGFENG HUANG

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN EDUCATION AND SOCIETY
INSTITUTE OF SCIENCE INNOVATION AND CULTURE
RAJAMANGALA UNIVERSITY OF TECHNOLOGY KRUNGTHAP
ACADEMIC YEAR 2024
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Dissertation INNOVATION AND ENTREPRENEURSHIP EDUCATION IN
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CHINA
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Major Doctor of Philosophy (Education and Society)
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in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy in Education and Society

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ABSTRACT

Innovation and entrepreneurship education is a vital and long-term initiative aimed at nurturing students' innovative thinking, entrepreneurial awareness, and practical entrepreneurial abilities. For art college students, who already possess strong creative thinking and expressive capabilities, this education becomes especially significant. However, artistic talent alone is insufficient for successful entrepreneurship in today's competitive society. To address this gap, it is essential to integrate entrepreneurship education with quality and professional education, thereby strengthening students' comprehensive skills, promoting their professional development, and providing them with hands-on experience. This paper examines the theoretical foundations and practical implications of innovation and entrepreneurship education, with a focus on art college students in Guangxi, China. The first section outlines key concepts, background, and global research trends, establishing a theoretical framework for the study. The second section emphasizes the importance of such education in higher education institutions to meet societal demands, foster talent development, and address employment challenges. The third section presents a data-driven analysis based on a survey conducted among art college students in Guangxi, alongside successful case studies from the Guangxi Employment and Innovation Guidance Center. This analysis identifies existing issues in the current educational approach and their root causes. The final section proposes targeted strategies to improve the innovation and entrepreneurship education system for art colleges, including curriculum reform, practical training, and collaborative efforts among schools, government, and industry. The paper advocates for a holistic, multi-channel education model combining theory with practice to better prepare art students for sustainable career development and societal contribution.

Keywords: Art College Students, Innovation Education, Entrepreneurship Education, Practical Training, Educational Reform

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The end of my doctoral studies marks the beginning of another chapter in my life, and I will work hard to forge ahead, never forgetting my original intention and writing about my wonderful personal experiences.

Guangfeng HUANG

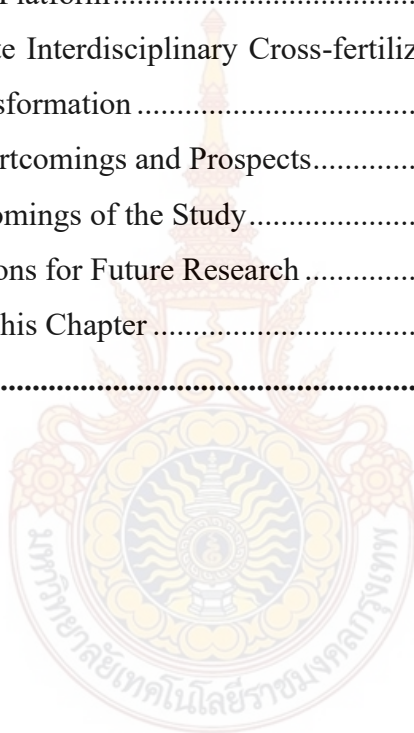
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CHAPTER I

INTRODUCTION

1.1 Background and Rationale

1.1.1 Innovation and Entrepreneurship Have Become the Demand of the Times

The 21st century has witnessed significant industrial changes driven by advancements in science and technology. These changes have accelerated the evolution of the global economy, leading to the emergence of disruptive technologies and profound structural shifts. Many developed and developing countries are exploring new approaches to economic growth. The role of innovation in economic change has become increasingly prominent, emerging as a key component of national strategy. Globally, countries are seizing the high ground in science and technology, and the world is entering an era of unprecedented innovation intensity and industrial revitalization, with the ability to innovate becoming a crucial indicator of national competitiveness.

To ensure the competitiveness of investment in knowledge, the Chinese government, through its education reform policy program, is encouraging and promoting innovation and entrepreneurship education. Innovation and entrepreneurship activities have begun to flourish in various countries, sparking a new round of global discussions about innovation and entrepreneurship. The innovation and entrepreneurship start-up culture has been extended to fields such as cutting-edge technology and higher education. Developed economies around the world have launched their innovation and entrepreneurship development strategies, focusing on national innovation and entrepreneurial activities, to leverage this opportunity to find a new engine of economic development through innovation and entrepreneurship education, thereby injecting new vitality into the country's economic growth. China's current development situation is faced with a fragile ecological environment; the potential for resource-driven economic growth has reached its limit, the traditional momentum of development is weakening, and the initial national basic growth approach seems unsustainable. The "Opinions of the State Council on Promoting the High-quality Development of Innovation and Entrepreneurship and Building an

Upgraded Version of 'Entrepreneurship and Entrepreneurship' emphasizes that "innovation is the first driving force to lead development and the strategic support for building a modern economic system"¹. The "14th Five-Year Plan" proposes to "adhere to innovation-driven development, comprehensively shape new development advantages," and "develop strategic emerging industries."² The trade war between China and the United States, which took place in 2018, awakened the country to the fact that some of China's key core technologies are subject to constraints, and there remains a significant gap between developed countries, such as the United States, and China in terms of scientific and technological innovation. So, it is urgent to stimulate China's innovation and entrepreneurship power, improve China's innovation level and entrepreneurship level, and China's economic growth needs to be driven by investment in science and technology innovation, and realize "innovation-driven to promote new development". Colleges and universities, as the primary training grounds for high-level talent in society, also need to drive entrepreneurship through innovation to alleviate the problem of high employment pressure on graduates. In the face of a severe situation where the total employment pressure still exists and the structural contradiction is more prominent, it is necessary to further deepen the "mass entrepreneurship and innovation" as a way to enrich the people and strengthen the country, implement a more positive employment orientation, combine entrepreneurship and employment, stimulate employment by innovation-driven entrepreneurship and give rise to a new impetus for economic and social development in order to promote the improvement of people's livelihoods, economic restructuring and social harmony and stability to provide a new drive.

1.1.2 The Realistic Needs of Entrepreneurship Education Reform in China's Colleges and Universities

The purpose of entrepreneurship education in colleges and universities is to develop the human capital of college students and cultivate individuals with creative

¹ Anonymous (2018) Opinions of the State Council on Promoting the High-quality Development of Innovation and Entrepreneurship and Creating an Upgraded Version of "Entrepreneurship and Entrepreneurship" *Communiqué of the State Council of the People's Republic of China*, (29): 51-57.

² Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035 *People's Daily*, 2021-03-13(001).

personalities who will become socialist builders and successors. The core of this education is to foster the innovation and entrepreneurship abilities of college students. The cultivation of college students' innovation and entrepreneurship abilities is closely tied to entrepreneurship education in colleges and universities, serving as both the starting point and the ultimate goal of this educational approach. In the 2018 National Education Work Conference, Minister Chen Baosheng proposed the implementation of the "prairie fire" program for entrepreneurship education in colleges and universities to promote entrepreneurship education in colleges and universities to develop in depth, to guide students to learn about the situation of the country and the people, and to improve the entrepreneurial human capital continuously.³ Entrepreneurship education in China's colleges and universities is in full swing; however, the cultivation of innovative talents needs to be further strengthened. From the perspective of overall student development, the knowledge level of college students has been better addressed; however, innovative education does not form a good organic combination with entrepreneurship education. Qian Xuesen's question of "why our schools always fail to cultivate outstanding talents" makes us reflect: China's innovation and entrepreneurship education should not only cultivate knowledge-based and skill-based talents but also pay more attention to the creativity and invention-based innovative talents, and the cultivation mode of innovative talents needs to be explored urgently. Talents to lead the future require not only scientists and thinkers but also leaders in engineering and technological innovation, business industry leaders, and pioneers of new industries and endeavors. For example, the number of entrepreneurs among art majors who have innovated is small. There is an urgent need for entrepreneurship education in China to replace the standardized and indoctrinated teaching methods of the past, promote the reform of innovative talent training modes, and stimulate students' creativity. From the perspective of results transformation, innovation and creation are the sources of the ecological chain of innovation and entrepreneurship education. However, due to the inadequacy of the university evaluation mechanism, incentive mechanism, and the

³ Ministry of Education of the People's Republic of China (2018). Speech at the National Conference on Education. https://doi.moe.gov.cn/jyb_xwfb/moe_176/201802/t20180206_326931.html

impact of the social environment, the results transformation mechanism and the university guarantee system have not yet been established in a sound manner. A significant portion of the knowledge created by the university has been left unused, and its value has been called into question. Recently, although the government's investment in scientific research at universities has been increasing, the knowledge created by universities in China still falls short of meeting the needs of social innovation and development. In the face of the dilemma of entrepreneurship education, it has become an important issue for researchers and managers in entrepreneurship education to truly utilize the value of entrepreneurship education, promoting the transformation and development of entrepreneurship education and the social economy, and responding positively to the development of the global innovation economy era.

1.1.3 The Strategic Need for China to Move Towards a Human Resources Powerhouse

In August 2017, Xi Jinping replied to the college students of the 3rd China "Internet +" College Student Innovation and Entrepreneurship Competition "Youth Red Dream Building Journey" and put forward precise requirements for the higher education front to fully implement the fundamental task of establishing morality and cultivating people, further promote the reform of innovation and entrepreneurship education, and strive to cultivate promising talents with both ability and political integrity. At the National Education Conference, it was further emphasized that innovation and entrepreneurship education should be integrated throughout the entire talent training process. With the continuous development of the current economy and technology, the country is gradually transforming into an innovative country, the slogan of mass entrepreneurship and innovation is also put forward at this time, as the country attaches more and more importance to the innovation and entrepreneurship education of college students, major colleges and universities have also opened professional courses for enterprises, contemporary college students as a valuable resource of society, is not only the backbone of social development, but also an important reserve force, by guiding college students to innovate and start a business, thereby bringing more employment opportunities, It is of great significance for the country to develop into an

innovative country⁴. The cultivation of innovation and entrepreneurship abilities in college students is a problem that cannot be ignored in the art class. Research on the structure of innovation and entrepreneurship ability among college students is crucial for cultivating this ability, which aligns with the needs of national economic development, reform, and the development of innovation and entrepreneurship education, as well as the innovation of ideological and political education theory and practice.

The number of college graduates is increasing year by year. The number of college graduates during the five years from 2019 to 2023 was 8.34 million, 8.74 million, 9.09 million, 10.76 million, and 11.58 million, respectively. The number of graduates has exceeded 10 million since 2022, and the growth rate of the data shows that the number of graduates during the recent five-year period has increased by nearly 40%. The number of college graduates continues to rise, and the employment pressure on this group increases, ultimately creating a contradiction in employment demand that is becoming increasingly prominent. As a result, college students will face a more serious situation regarding entrepreneurship and employment. Secondly, in response to the demand for innovation and entrepreneurship, the traditional mode of talent training no longer plays a sufficiently positive role in social development. At present, dual-creation comprehensive talents are more in line with the needs of social development. Dual-creation talent refers to possessing a certain degree of professional knowledge and skills, as well as high-quality contributions to the country, and having the ability to innovate, be entrepreneurial, and understand market risks to create maximum social value through composite talent. However, contemporary college students are professional talents with deep theoretical backgrounds, which now constitute the main force of our country's scientific and technological innovation and have become important builders and promoters of China's innovative country.

For art and design college students, the current employment situation for art and design professionals is more challenging. Therefore, for major colleges and universities that strengthen art and design programs, cultivating the ability is particularly important for their students. In recent years, the number of students enrolled

in art examinations has continued to increase; through various means, including film, television, and new media, students have come to understand that the industry offers good employment prospects and aligns with their interests and hobbies. Although there is a phenomenon of art examination fever, the number of college students enrolled in art and design classes continues to increase, corresponding to the comprehensive development of art and design education. Guangxi A University of the Arts, in response to the education reform, has incorporated innovation and entrepreneurship education to enhance the entrepreneurial abilities of college students, such as introducing foundational courses to guide students in innovation and entrepreneurship. At A's university of the arts, career planning competitions and innovation and entrepreneurship competitions are held annually. This initiative aims to encourage students to invite master teachers or experts to the school to deliver lectures on entrepreneurship and career planning. The school also has a business incubation center that assists self-employed and entrepreneurial students. The university also has a business incubation center that assists independent entrepreneurial students and others. It can be seen that the University of the Arts A has made some efforts in innovation and entrepreneurship education. However, there are a few successful cases of innovation and entrepreneurship at the University of the Arts A. In this situation, it is crucial to explore ways to enhance students' entrepreneurship education. In this case, it is an important research direction to explore how to enhance the cultivation of students' innovative entrepreneurial awareness, ability, and comprehensive literacy, thereby increasing the success rate of innovative entrepreneurial projects.

1.1.4 The Construction of an Innovation and Entrepreneurship Education System in Art Colleges and Universities

For many years, numerous art universities have achieved notable successes in the field of innovation and entrepreneurship education, establishing a comprehensive education system in this area.

1.1.4.1 Objective and Orientation of Education

The basic task of art colleges is to cultivate the talents of “virtue and art” by constantly strengthening the students' innovative thinking, pioneering spirit and practical ability to enable them to adapt to the needs of the socio-economic and cultural development of the new era and to make full use of their professional strengths and

advantages to contribute to the development of the socialist market economy, culture and the Chinese Dream.

1.1.4.2 Teaching Resources and Platform Construction

The construction of teaching resources and platforms is the basic guarantee of an innovation and entrepreneurship education system in art colleges and universities. Currently, major art universities in China enrich their teaching resources and enhance students' learning experiences through regular collective lesson preparation meetings for innovation and entrepreneurship, lecture competitions, and external professional instructors. In the aspect of platform construction, we allocate special funds to build a teaching practice platform for innovation and entrepreneurship in schools and introduce external resources to establish a cooperative education platform involving “school, government, and enterprise.” This platform will facilitate the development of online and offline art products and services, providing a sales platform.

1.1.4.3 Course Setting and Teaching Mode

Curriculum setting and teaching mode are the key links of the innovation and entrepreneurship education system in art colleges and universities. To enhance students' practical skills and knowledge, various art colleges are revising and reforming their curricula and teaching methods. Currently, we can divide the innovation and entrepreneurship curriculum into three levels: basic courses, extended courses, and practical courses. The basic courses primarily offer students foundational knowledge and theories of innovation and entrepreneurship. The extended courses, in turn, explore specific entrepreneurial fields and case studies in depth, while the practical courses enhance students' entrepreneurial skills through hands-on project practice. To give students a better understanding of the current situation and needs in the field of entrepreneurship, schools also plan to teach students by inviting entrepreneurs, investors and industry experts and cooperating with enterprises to carry out practical projects and the establishment of an innovative entrepreneurship tutor system and other teaching models to expand student horizons further.

1.1.4.4 Practice Exploration and Transformation of Achievements

Practice exploration and achievement transformation are important embodiments of innovation and entrepreneurship education in art colleges and universities. At present, some art universities encourage students to actively participate

in various kinds of exhibitions and bi-creation competitions in the industry, as well as to build platforms for practice and cooperation with the community to educate people and to help students carry out innovative entrepreneurial activities to promote the transformation of results and the realization of commercial value. Additionally, it aims to translate the results of scientific research into practical applications by encouraging teachers and students to collaborate on scientific research projects. The school's legal team plays a crucial role in bolstering intellectual property protection, support, and implementing transformation evaluation measures, thereby enhancing the exploration and transformation of results. This will not only help promote students' innovative and entrepreneurial abilities but also enhance the school's social impact and social responsibility.

1.1.5 Problems in the Cultivation of Innovation and Entrepreneurship Ability of Art College Students

1.1.5.1 Weak Sense of Entrepreneurship

With the development of society and the times, the concept of "mass entrepreneurship and innovation" has become increasingly deeply rooted in the hearts of the people, having a profound impact on college education and teaching. Innovation and entrepreneurship education have become an increasingly important component of college education and teaching, aiming to cultivate more outstanding talents with entrepreneurial awareness, innovative spirit, and entrepreneurial ability. Art college students have unique advantages in entrepreneurship; colleges and universities are also paying increasing attention to cultivating the innovation and entrepreneurship abilities of art college students. However, although many art college students possess an innovative spirit, their entrepreneurial awareness is weak, and their enthusiasm for entrepreneurship is not high; the overall awareness of innovation and entrepreneurship among art college students needs to be further improved. For college students, there are certain constraints to entrepreneurship, including a lack of entrepreneurial funding and limited opportunities for creative projects. Art college students also face similar challenges; the lack of entrepreneurial funds and creative projects makes it difficult for them to carry out their innovation and entrepreneurship activities smoothly, and at the same time, has a significant impact on their entrepreneurial enthusiasm.

1.1.5.2 Lack of Innovation and Entrepreneurship Practices

Practice is an effective way for students to "apply what they have learnt" - the knowledge and skills they have mastered- and innovation and entrepreneurship practice is the key to cultivating the innovation and entrepreneurship ability of art college students. Some college teachers have an insufficient understanding of the importance of innovation and entrepreneurship education and mistakenly believe that college students' entrepreneurship is whimsical or even not a viable business, which significantly hinders the development of innovation and entrepreneurship practice activities among art college students and affects the cultivation of their innovation and entrepreneurship abilities. In addition, some art college students are hesitant about entrepreneurship and are reluctant to try it, so innovation and entrepreneurship often remain at the level of utopia, lacking practical experience. This limitation hinders the cultivation of innovation and entrepreneurship abilities among art college students.

Therefore, through the combination of theory and practice, this study first reviewed the literature related to innovation and entrepreneurship at home and abroad, examining the theories of entrepreneurship, its historical development, and the current state of college students' entrepreneurship education initiatives worldwide. Then, it researched the current situation of innovation and entrepreneurship education at Guangxi A University of the Arts and accurately analyzed the current situation of innovation and entrepreneurship ability among college students at A University of the Arts through a questionnaire survey using the Questionnaire Star small program. The questionnaire is then analyzed for reliability using SPSS 18.0 software. The results are statistically analyzed, according to which the existing innovation and entrepreneurship support policy and innovation and entrepreneurship mode will be improved to improve the success rate of innovation and entrepreneurship of college students of Guangxi A university of arts, provide implementation paths towards entrepreneurial universities and proposes to assist in improving the cultivation program of innovation and entrepreneurship education for college students. Innovative and entrepreneurial talents will be cultivated and then deployed to the country and regions to drive entrepreneurship-led employment and provide a strong foundation for building an innovative country.

1.1.6 Summary

Currently, China's innovation and entrepreneurship education is still in development, and most colleges and universities are exploring this field. In terms of Internet-based innovation and entrepreneurship education, there is a lack of effective education and teaching models, as well as relevant platform support. Based on this, this study constructs a teaching model of innovation and entrepreneurship education for college students from the perspective of "Internet+" based on systematically combing the current situation and related theories of innovation and entrepreneurship education for college students at home and abroad, develops the corresponding platform, and applies it in practice to test the teaching effect.

The high-quality development of the cultural economy in the new era has become one of the important directions of the national development strategy. In this process, the cultural and creative industry has gradually become a new driving force for economic growth, injecting a steady stream of vitality into promoting the high-quality development of the cultural economy. As a result, the demand structure of artistic talents has changed - the traditional cultivation of artistic talents focuses on the transmission of fundamental theoretical knowledge and professional skills, while the demand for high-quality, comprehensive artistic talents with innovative thinking, entrepreneurial spirit and practical ability is becoming more and more urgent in today's era.

The way to enhance the entrepreneurial ability of college students at an arts university needs to be further optimized. Firstly, the school level needs to strengthen faculty construction and improve the entrepreneurial education system. Secondly, the national government level needs to increase support for college students' entrepreneurial education. Ultimately, students themselves must take the initiative to enhance their comprehensive abilities proactively.

1.2 Research Questions

In view of the insufficient top-level design argumentation, system guarantee and supporting construction, the shortage of high-quality "double-innovation" teachers, and the low degree of integration with art major education, the author points out that the top-level design argumentation and supporting construction in the education of

innovation and entrepreneurship in art colleges and universities are not enough. The construction of the inter-school open platform lags, the flow of key resources is not smooth, the cross-border integration of thinking and capacity is insufficient, and the transformation level of results is low.

1. What are innovation and entrepreneurship, and what is their impact on a country's economic growth?
2. What role should the university community and the Chinese government play to support students in their pursuit of innovation and entrepreneurial skills?
3. Do cultural and contextual variables affect the development and implementation of innovative and entrepreneurial programs in art education majors in China?
4. What is the effective way to cultivate the innovation and entrepreneurship ability of art education majors?
5. What are the biggest barriers and challenges to developing and implementing innovative and entrepreneurial programs in arts education curricula? How can these barriers and challenges be overcome?

1.3 Objectives of the Study

The objectives of this study are as follows:

1. To describe what innovation and entrepreneurship are and their impact on the country's economic growth.
2. To describe the role that the university community and the Chinese government should play in supporting students in their pursuit of innovation and entrepreneurial skills.
3. To determine the impact of cultural and contextual variables on the development and implementation of innovative and entrepreneurial programs in art education majors in China.
4. To explore effective ways to cultivate the innovation and entrepreneurial ability of college students majoring in art education.
5. To analyze the greatest barriers and challenges to the development and implementation of innovative and entrepreneurial programs in arts education

curricula and how these can be mitigated.

1.4 Research Methodology

This study employed a mixed-methods sequential explanatory design to examine the participants' lived experiences. Sequential explanatory design is a two-phase approach in which the researcher initially gathers quantitative data, analyzes the findings, and subsequently devises a qualitative, open-ended plan to further enhance the quantitative research (Creswell, 2012). This study will focus on cultivating innovation and entrepreneurial abilities among college students in art colleges and universities, using the case study of Guangxi Arts University as its foundational starting point. A combination of qualitative and quantitative methods was employed, paving the way for the development of original research on cultivating innovation and entrepreneurial abilities among college students in art colleges and universities. A literature review method, a questionnaire survey, and interviews informed this approach.

1.5 Scope of the Study

Entrepreneurship is evident in many aspects of people's social lives. The country is vigorously advocating for the "dual-creation" era. As college students pursue higher education to become the mainstream of innovation and entrepreneurship, they are rich in dreams, passion, and a pioneering and innovative spirit, becoming a bright spot in the eyes of the people. However, in our country in 1990, Tsinghua University was not the first company established by college students to start their own business, which also indicates that these college students faced difficulties in independent innovation and entrepreneurship. Nevertheless, in 1990, Tsinghua University, the establishment of the first self-supporting company by college students, really embarked on the road of independent entrepreneurship of college students is not apparent, which also indicates that these college students' independent innovation and entrepreneurship are faced with difficulties; the community urgently needs college students to independently create several jobs in order to solve the employment problem to promote the development of the art of economic development. Therefore, the state introduced some preferential policies to encourage college students' innovation and

entrepreneurship, enabling more students to pursue an entrepreneurial path. However, most contemporary college students did not fully adopt this new employment mode, independent entrepreneurship. What is the reason for this? Where is the root cause? The subject has drawn the interest of pertinent academics. To find the reasons, the author intends to take the Guangxi A University of Arts to conduct in-depth interviews in the field through the case study analysis, from which the recent situation of college students' innovation and entrepreneurship quality is recognized, in order to put forward better measures to improve the entrepreneurial quality of college students.

1.5.1 Basic Information About the University of Arts

Guangxi Art College is located in Nanning City, Guangxi Zhuang Autonomous Region, and was founded in 1938. It is one of the eight comprehensive general undergraduate art colleges and universities in China. The school adheres to the philosophy of "rooted in the local community, diversified integration, inheritance and innovation, and service to the community"; takes the construction of "double first-class" as the lead; takes the road of characteristic development, the road of connotative development, and comprehensively promotes the reform of education and teaching and comprehensive reform of talent cultivation. The quality of talent cultivation continues to improve, and the situation regarding enrollment and employment remains favorable. The quality of talent cultivation has been continuously improved, and the enrollment and employment situation have also been continuously improving. The school promotes development through practice and pushes students to a broader stage. In recent years, several outstanding students with excellent professional qualities and reputations both domestically and internationally have emerged, including Liang Yuying, Chen Yongxin, Du Qinghua, Andy, and others.

Guangxi A university of arts, under the trend of "double creation", takes the initiative to combine students' employment with innovation and entrepreneurship education as the primary work of the university, keeps improving the innovation and entrepreneurship work system, and finds out a scientific development road with the characteristics of the university by stimulating entrepreneurship with innovation and accelerating employment with entrepreneurship.

1.5.2 Basic Information on Survey Respondents

This paper primarily utilizes two methods: questionnaires and interviews.

The questionnaire consists of two main sections: the first section gathers basic information, while the second assesses college students' knowledge structure related to innovation and entrepreneurship, their psychological qualities, and personality traits associated with these fields. Through the questionnaires, we aim to evaluate the current state of college students' innovation and entrepreneurship abilities. Subsequently, we will conduct in-depth analyses with independent entrepreneurial college students, entrepreneurship instructors, and school leaders to identify issues in cultivating innovative and enterprising skills among college students and provide suggestions for improvement. This study primarily focuses on freshmen, sophomores, juniors, and seniors of A University of the Arts as the survey subjects. The seed of "innovation" should be planted from the time of enrollment. It should be carried out throughout the entire process of talent cultivation, so that students can receive comprehensive, systematic, and sustainable education, form their self-awareness of innovation and entrepreneurship in thought and action with self-confidence, and integrate innovation and entrepreneurship into their daily lives.

Regarding the inclusion of innovation and entrepreneurship in their daily lives, the focus is on strengthening the fourth-year students, as this group will soon face employment and have a stronger understanding of innovation and entrepreneurship, as well as a more profound knowledge of these concepts and a greater sense of risk-taking. The distribution of student questionnaires primarily took place at the university's Student Innovation and Entrepreneurship Guidance Service Center. Training, lectures, and innovation and entrepreneurship classrooms, as well as other locations, were maintained for 2 weeks. A total of 600 questionnaires were sent, and 576 were received, of which 537 were deemed valid, resulting in a questionnaire acceptance rate of 96% and a valid acceptance rate of 89.42%.

1.6 Limitations of the Research Study

Firstly, the literature collection is not comprehensive enough, and the foreign language literature is not sufficiently organized. Although a substantial amount of literature has been compiled in the construction of the innovation and entrepreneurship competence model, the number of foreign-language literature sources

consulted is slightly insufficient due to language differences in foreign-language literature and the difficulty of downloading full-text articles, leaving room for improvement in the theory.

Secondly, there are limitations in the quantitative analysis method and errors in the data. During the process of questionnaire preparation, due to the limited conditions of reality, most data are collected through the questionnaire. During the data processing process, although best efforts were made to carry out the invalid screening, a few anomalies remain due to data differences. The error's result has an impact, so the model's construction is not entirely perfect.

Thirdly, the theoretical foundation is not solid enough; the final model constructed in this paper still has room for improvement, and the construction of the assessment system of innovation and entrepreneurship ability of college students in art colleges and universities and the division of the second-level dimensions of the power of action can be continued to explore in depth.

Fourthly, due to the time limitation, the research cycle for this study's survey respondents is relatively short, and it is not feasible to spend a considerable amount of time tracking and analyzing them. As a result, continuous data from the survey respondents regarding their actual innovation and entrepreneurship activities cannot be obtained. If certain individuals can be studied over a long period, this will provide a more scientific basis for the entire thesis, and it is hoped that in-depth discussions can be carried out in future research.

1.7 Significance of the Study

The study of innovation and entrepreneurship quality of college students is of great significance to improve the status quo of college students' "entrepreneurship difficulty", to improve the level of innovation and entrepreneurship of college students, and to promote the positive development of colleges and universities.

1.7.1 Theoretical Implications

This study found that, through a comprehensive review of the literature related to innovation and entrepreneurship, there is a general lack of research at the macro level. The theory of implementing operational aspects is not ideal, and the

practical effects are not immediately apparent, especially at A University of the Arts. Research on innovation and entrepreneurship among art college students is even rarer. This paper will expand the research field of innovation and entrepreneurship among college students, extend the research direction in higher education, and focus on exploring the quality of innovation and entrepreneurship among college students. As an integral part of higher education, quality training in innovation and entrepreneurship plays a vital role in fostering the innovation and entrepreneurship skills of college students. However, at present, China's research on the quality training of college students in innovation and entrepreneurship is scarce and lacks a certain degree of relevance. There are few research achievements, and most of them are still in the stage of theoretical exploration. The theory of entrepreneurship education will need to be gradually improved. This study will carry out further research on the quality of innovation and entrepreneurship in light of the reality of contemporary college students, which makes up for the gap in the cultivation of the quality of innovation and entrepreneurship of college students, broadens the research field of the quality of innovation and entrepreneurship, provides new ideas for the research of the quality of innovation and entrepreneurship of college students in China, and helps to enrich and develop the theoretical research of higher education.

Based on analyzing the current situation of innovation and entrepreneurship of college students in A university, this paper investigates the current situation of innovation and entrepreneurship of college students, finds problems from it, and puts forward countermeasures to solve the problems, to make the theoretical course of innovation and entrepreneurship of college students more fulfilling.

1.7.2 Practical Implications

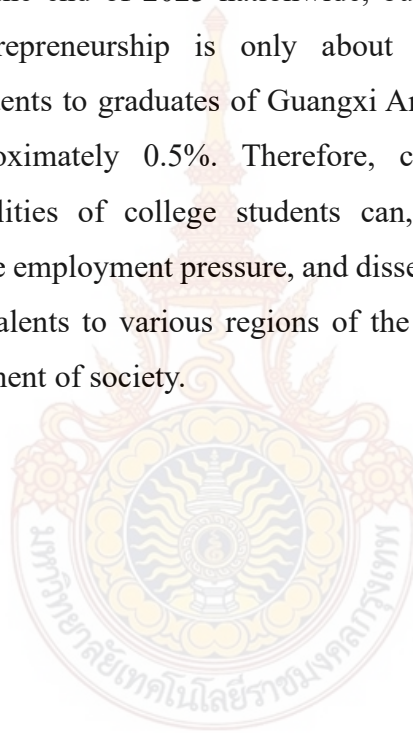
The practical implications of this paper are fourfold.

Firstly, for students, it helps enhance their innovation and entrepreneurial abilities, guides them in their entrepreneurial practice, and promotes their adaptation to the needs of the "dual-creation era", thus realizing the value of their lives.

Secondly, for teachers, this study enables them to scientifically assess the innovation and entrepreneurship abilities of students, accurately gauge the ability level of the target group, tailor their teaching to meet the students' needs, and carry out innovation and entrepreneurship education activities more effectively.

Thirdly, for colleges and universities, it is helpful to recognize the current situation regarding the innovation and entrepreneurship abilities of college students, focus on the problems, and accurately grasp the development direction of innovation and entrepreneurship education to provide a reference for exploring the practice path of innovation and entrepreneurship education.

Fourthly, for the government, from the scale of growth of college graduates, the employment situation is more severe; the state promulgated the college student entrepreneurship leading plan proposed to realize 1.5 million college students towards entrepreneurship by the end of 2023 nationwide, but at present, the success rate of college student entrepreneurship is only about 3%. The ratio of successful entrepreneurship students to graduates of Guangxi Arts University over the last three years is also approximately 0.5%. Therefore, cultivating the innovation and entrepreneurship abilities of college students can, to a certain extent, promote employment, alleviate employment pressure, and disseminate the cultivated innovation and entrepreneurial talents to various regions of the country, thereby promoting the harmonious development of society.



CHAPTER II

LITERATURE REVIEW

2.1 Definition of Concepts

2.1.1 Innovation Capacity

Innovation and entrepreneurial ability encompass a comprehensive set of abilities, which not only include personal qualities formed by congenital inheritance but also include the regenerative ability developed through acquired education, comprising a series of skills required for innovation and entrepreneurship.⁵ Li Na divided the structure of innovation and entrepreneurship ability into three first-level dimensions, namely, the internal driving force of innovation and entrepreneurship, the leadership of innovation and entrepreneurship, and the action of innovation and entrepreneurship, and used the model constructed by these three dimensions as the basis to evaluate the innovation and entrepreneurship ability of college students.⁶ Wang Xiao Fei believes that innovation and entrepreneurship ability is composed of three parts: management ability, learning ability, and practical ability;⁷ Bao Wen Li et al. divided innovation and entrepreneurship ability into entrepreneurial knowledge, innovative personality traits, interest motivation, and other different abilities;⁸ Wang Hui Qiong believes that the components of college students' innovation and entrepreneurship ability are knowledge and skills, innovative consciousness and innovative thinking, teamwork ability, and self-management ability.⁹

⁵ Ya, L, Y., Chao, Z & Ke, Z. (2024). Research on the Systematic Composition and Performance of College Students' Innovation and Entrepreneurship Ability. *Educational Theory and Practice* (18), 10-15.
<https://kns.cnki.net/kcms/detail/14.1027.g4.20240319.1724.002.html>

⁶ Na, L. (2019). Research on the Structure and Current Situation of College Students' Innovation and Entrepreneurship Ability in the New Era (*Master's Dissertation, Northeast Normal University*).

⁷ Fei, W, X. (2018). Analysis of the Constituent Elements of Innovation and Entrepreneurship Ability of Art College Students. *Journal of Jiamusi Vocational College* (02), 264.

⁸ Li, B, W & Dan, L. (2016). Research on the composition and cultivation strategy of college students' innovation and entrepreneurship ability. *Journal of Liaoning University of Science and Technology* (03), 100-101+104.

⁹ Qiong, W, H. (2023). Research on the Cultivation of College Students' Innovation and Entrepreneurship Ability Based on Ideological and Political Education. *Modern Vocational Education* (30), 137-140.

2.1.2 Innovation and Entrepreneurship Relationship

"Innovation" and "entrepreneurship" both emphasize "innovation", that is, emphasizing a meaning from 0 to 1, not just the transfer of resources, nor the application of models, nor the duplication of work. In layman's terms, "innovation and entrepreneurship" focuses on new ideas, while an innovative entrepreneur is a character who can ask questions, analyze problems, and devise solutions. In the broad sense of "entrepreneurship", it has an element of innovation, but in real life, this element is often not the main one. For innovation and entrepreneurship education, the connotation of "innovation" should be ingrained in the marrow, aiming to cultivate more outstanding and innovative entrepreneurs. The reason why the term "innovation and entrepreneurship" is put forward is that new concepts often have new connotations, and "innovation and entrepreneurship" shows a product of the times, combined with social development, and is a new driving force for the development of modern society.

To some extent, "innovation" and "entrepreneurship" are very closely related, but they cannot be generalized. As far as "entrepreneurship" is concerned, more attention is paid to the creation of business activities from scratch. In contrast, in the case of "innovation", more attention is paid to the creation of "material" from nothing. The strength of entrepreneurial ability permeates the social ability of the individual, and the strength of innovation ability permeates the practical ability of the individual; however, practical ability and social ability also have a particular intersection and cannot be treated equally. At the same time, for both high-level and low-level innovation and entrepreneurship, it is evident that different individuals possess varying innovative abilities. Low-level innovation and entrepreneurship tend to focus more on the "entrepreneurship" element, such as transforming operating models and restructuring production factors. High-level innovation and entrepreneurship pay more attention to "innovation", that is, the innovation of technology and its applications. However, whether it is high-level innovation and entrepreneurship or low-level innovation and entrepreneurship, both can promote societal development and meet the needs of individual survival and growth. In short, the ultimate goal of innovation and entrepreneurship education is to cultivate innovative talents who possess the ability to innovate and create social value through entrepreneurship.

2.1.3 Innovation and Entrepreneurship Education for College Students

"Innovation and entrepreneurship education for college students is a culture that encourages college students to be brave in innovation, consistent in knowledge and action, good at cooperation, and willing to take risks, and cultivates college students to form a positive and enterprising attitude and innovative way of thinking that is not afraid of setbacks and failures, so that college students can seek various ways to achieve their goals after graduation, whether they are facing further studies or employment, and can quickly adapt to any aspect of social life and any industry, and can successfully show their talents. The "entrepreneurship and entrepreneurship" education of college students in China started in 1998, and the "Tsinghua University Entrepreneurship Plan Competition" opened the prelude to the "entrepreneurship and entrepreneurship" education of Chinese college students. From 1998 to 2001, China's entrepreneurship and entrepreneurship education were in their infancy; 2002 to 2007 was the exploration period of China's college students' entrepreneurship and entrepreneurship education, and from 2008 to the present, China's colleges and universities have become a prairie fire."

2.1.4 The Ability and Quality of Innovation and Entrepreneurship of College Students

The innovation and entrepreneurship ability of college students refers to the dedicated ability, practical ability, innovation ability, and teamwork ability, among others, that college students develop through innovation and entrepreneurship education and practice, enabling them to plan the direction of their career development rationally. As China enters the Internet era, people's consumption is increasingly inclined towards personalized customization, and the era calls for a spirit of innovation. Practical work produces innovative results. Young people should unite all the forces that can be united in practical work, dedicate their expertise to the collective, and utilize the wisdom of the team to promote the realization of innovative results, thereby fostering the development of the entire society.

According to Liu Bijiang, "College students can complete the healthy and sustainable development of entrepreneurship, but also be able to complete the process of their transformation from self-employment to entrepreneurship in the process of forming the qualities that should be possessed, known as the entrepreneurial qualities

of college students."¹⁰ Therefore, in this paper, it is believed that under the influence of the innovation and entrepreneurship education environment, college students have established the necessary innovation and entrepreneurship spirit and innovation and entrepreneurship awareness, accumulated rich knowledge of innovation and entrepreneurship, practiced multiple innovation and entrepreneurship abilities, and, in practice, the process of innovation and entrepreneurship qualities in all aspects has been improved, which is known as the quality of innovation and entrepreneurship of college students.

2.1.5 University Students in Art Colleges

This term refers to college students who have majored in music, dance, art, design, film, and media, and who are being trained to possess professional knowledge in their respective fields and engage in the education and practice of those disciplines. As specialized institutions of higher education, art colleges and universities have students who not only possess professional skills but also exhibit active thinking, rich imagination, and strong hands-on abilities. Cultivating the innovation and entrepreneurship abilities of art college and university students can help promote high-quality employment opportunities for students and encourage the development and integration of the cultural industry.

1. Art colleges and universities have obvious advantages in innovation and entrepreneurship education for college students. With the rapid development of modern society, aesthetic education and art education are gaining increasing attention, and art colleges and universities have obvious advantages in innovation and entrepreneurship. First, with the rapid development of the economy, the demand for the art consumer market is significant and represents a potential resource, especially for children's art education. Therefore, there is a vast space for art education-related entrepreneurship among art college students. Secondly, students at art colleges and universities have active thinking, rich imagination and strong practical ability, and college students at art colleges and universities can combine creativity with culture and creativity with

¹⁰ Qiang, L. B., Shuang, Z., Qiong, L. M., Qiang, C. L., Bin, Y. W., Xiao, M & Abdurehman, M. (2014). Investigation and Research on College Students' Entrepreneurial Quality under the Background of Public Examination Fever. *China Light Industry Education* (03), 11-15+19.

profession to create professional works, such as Guangxi Arts Institute in recent years participating in innovation and entrepreneurship competition works related to the profession. Finally, it is easier for art college students to start their own business, and it is very common for them to participate in online or offline part-time jobs and engage in art training in art colleges and universities after class time. Many of their ventures are related to their majors, and the threshold for self-employment is low, allowing them to start their businesses or work in teams. The specialties of art colleges and universities help students develop innovation and entrepreneurship skills.

2. Broaden the employment channels for college students in art colleges. In recent years, with the expansion of higher education, the number of graduates from art colleges and universities in China has been increasing year by year. The number of graduates of art colleges and universities is increasing year by year. There are fewer job opportunities available to graduates of art colleges and universities, making it challenging to secure high-quality employment. Art colleges and universities that promote innovation and entrepreneurship education are conducive to broadening students' employment options, increasing employment opportunities, and ultimately achieving high-quality employment outcomes. First of all, innovation and entrepreneurship education help change the employment concept of art college students. College students in art colleges tend to pay more attention to professional training; however, their awareness of employment opportunities is often limited. Innovation and entrepreneurship education can help stimulate the innovative mindset of college students in art colleges and universities, driving the employment of students with entrepreneurial skills. Secondly, innovation and entrepreneurship education help improve the comprehensive abilities of art college students. College students in art colleges often focus on professional courses and rarely have the opportunity to engage with society, which can lead to a weakness in their problem-solving abilities. Innovation and entrepreneurship education can bring students closer to society, allowing them to understand social life at an early age and develop their comprehensive abilities. Finally, innovation and entrepreneurship education increase the employment opportunities of art college students. College students in art colleges have the advantages of strong specialization, a large market demand, and low entrepreneurial costs. Art colleges and universities attach great importance to innovation and entrepreneurship education,

seizing social demand and broadening the employment channels of art college students through their professional advantages.

3. Enhance the comprehensive quality of college students in art colleges. As the overall number of college students increases, enrollment in art colleges and universities is also growing each year. The goal of talent cultivation is no longer only to develop talents with professional theoretical knowledge and skills, but also to enhance the comprehensive abilities of students. One of the important ones is innovation and entrepreneurship. Standing at the height of national responsibility, it is necessary to take the initiative in adapting to national policy and strengthening the innovative thinking ability of college students in art colleges and universities, which helps to improve the comprehensive quality of students and creates more opportunities for their future lives. In the face of the severe employment situation and the enhancement of talent training objectives, innovation and entrepreneurship education have been one of the important contents in higher education. Art colleges and universities should emphasize the importance of innovation and entrepreneurship education, thereby enhancing the comprehensive quality, personal abilities, innovation, and entrepreneurial skills of art college students, which will benefit them in their employment.

2.2 Theoretical Foundation of Innovation and Entrepreneurship for Art College Students

2.2.1 Stages of Career Development Theory

Donald E. Super, an American scholar, put forward the theory of stages of career development.¹¹ He divided his career into five stages, as shown in Table 2.1 below.

¹¹ Jia, Q, K & Hong, Z. (2012). The Development Process and Influencing Factors of College Students' Career Exploration: A Study Based on Grounded Theory. *Youth Studies (06)*, 13-23+92.

Table 2.1 Super's Stages of Career Development Theory

Stage	Growth Stage	Discovery Stage	Build-Up Stage	Maintenance Stage	Recession (in economics) Stage
Age	0-14 years	15-24 years	25-44 years	45-64 years	65 years and over
Features	Identify and develop a self-concept, with career curiosity taking the lead, and gradually develop career competencies.	Role identification, career exploration, and initial employment are primarily achieved through a combination of theoretical learning and practical experience in school.	Obtaining the right field of work and seeking development .	Most people usually have a place at work and need to maintain the achievements and social status they have attained.	Most people are nearing the end of their professional careers, phasing out and retiring from their careers.

From Table 2.1, college students are currently in the second stage of exploring their career development. The promotion of "Double Creation" enables students to apply the theoretical knowledge they have learned in the classroom in practical settings. Through the role appraisal and self-examination of practical activities, they can further explore their interests and specialties, and consciously cultivate their professional, practical, innovative, and team cooperation abilities during the career exploration stage, laying a solid foundation for the next stage of career development (establishment stage).

2.2.2 Socio-Spatial Theory

Author A. Khademi-Vidra, in the article "Youth in the Space: Socio-Spatial Theories and Practices", mentions focusing on how young people understand and create space to perceive their identities and know themselves¹². Space is a mediator and a result of human social practices. Space is recognizable, relational, and historical. The space of college students' "dual creation" education is constantly expanding, from the traditional classroom space to the physical space of the incubator and then to the virtual space of the Internet, which is a manifestation of the historical and recognizable nature of space. Scholar Deng Chunyu believes that "the spatial shift of social theories has provided new perspectives for ideological and political education. The differentiation

¹² A Khademi-Vidra, "Youth in the Space: Socio-Spatial Theories and Practices," *Romanian Review of Regional Studies*, Vol. 11, 2015, 121- 128.

and integration of daily life and non-daily life, virtual society and real society, and public space and private space constitute an important part of the spatial construction of ideological and political education."¹³ It can be seen that the construction of space for college students is significant, and the sublimation of career views should not only be accomplished through traditional classroom settings, but it is also necessary to change from thoughts, consciousness, and concepts to behaviors, thereby realizing the unity of theory and practice.

2.2.3 Marxian Humanistic Thinking

Marx's human-centered thinking primarily emphasizes that it begins with the needs of human beings, focuses on practical applications, and aims for the comprehensive development of human beings.¹⁴ Drawing on the concept of Marx's humanistic thinking, we can utilize it to guide the innovation and entrepreneurship education of art college students. Starting from the needs of art college students, this initiative is student-oriented, based on the needs of students' growth and success, and aims to strengthen "double creation" education counseling, thereby realizing the development of students' personalities. Based on students' interests, "dual-creation" education can fully mobilize students' subjective initiative and stimulate their creative potential. Art universities actively build "dual-creation" mentor teams, establish "dual-creation" incubators, conduct "dual-creation" lectures and training, and refine the "dual-creation" curriculum system to facilitate students' individual development. The university is actively building "dual-creation" mentor teams, setting up "dual-creation" incubators, conducting "dual-creation" lectures and training, and perfecting the "dual-creation" curriculum system to help university students realize more comprehensive development.

2.3 Theoretical Studies on Innovation and Entrepreneurship

As innovation and entrepreneurship bring great value to society, more people are paying attention to these fields, and some scholars are also beginning to explore them, gaining a deeper understanding of innovation and entrepreneurship. The

¹³ Yu, D. C. (2013). Ideological and Political Education from the Perspective of Socio-spatial Theory. *Academic Forum* (04), 75-78. <http://doi:10.16524/j.45-1002.2013.04.039>

¹⁴ Ming. S. (2018). The Practical Implications of Marx's Humanistic Thought. *People's Forum* (32), 100-101.

entrepreneurial process is manifested as both an economic behavior and a social behavior; therefore, the theory of entrepreneurship encompasses a range of fields.¹⁵ Zhang Heli (2014) studied the development of entrepreneurship theory, which has progressed through two stages: a preliminary development stage and an enrichment stage. The first is the preliminary stage of entrepreneurship theory. The innovations of the technological revolution led to the rapid development of constant inventions and creations; however, in the 19th century, there were more innovative entrepreneurial activities. The view of the entrepreneurial process as a unique series of events became increasingly common in the early 19th century when Gene Baptiste Race proposed a theory that the profits gained from entrepreneurship were different from those generated by already owning capital. Gene Baptiste Race extended the theory of entrepreneurship. Then, at the end of the 19th century, the concept of entrepreneurship underwent a slight shift in emphasis, with a greater focus on those who profited by providing capital and those who profited through entrepreneurial endeavors. The second stage is the stage of enriching entrepreneurship theory. In the late 20th century, scholar Peter Drucker further enriched the theory of entrepreneurship by maximizing opportunities, thereby complementing the concept of entrepreneurship in which entrepreneurs can identify and act on opportunities.¹⁶ Parente, El Tarabishy, and Vesci (2018) argued that the theory of entrepreneurship should encompass three distinct concepts: entrepreneurial orientation, sustainable orientation, and human resource orientation. From this perspective, it can help to address the creation of a more sustainable world.¹⁷ Crawford, Aguinis, and Lichtenstein (2015) argue that, based on a long-standing assumption in entrepreneurship research, the normal distribution (i.e., the Gaussian distribution) accurately describes the variables relevant to both theory and practice. Variables that play a central role in entrepreneurship theories, based on resources, perceptions, actions, and environments, exhibit highly skewed power law distributions, with some outliers accounting for a disproportionate share of the total distribution.¹⁸ Zhu and Lin (2018)

¹⁵ Zhong, D. Z. (2015). A model of college students' entrepreneurial ability and a comprehensive assessment method. *Educational Theory Research* (06), 172-174.

¹⁶ Li, Z. H. (2010). The Development of Foreign Entrepreneurship Theory. *Human Resources Management* (10), 173.

¹⁷ Parente, R. E., Tarabishy, A & Vesci, M. (2015). The Epistemology of Humane Entrepreneurship: Theory and Proposal for Future Research Agenda. *Social Science Electronic Publishing*, 534-625.

¹⁸ Crawford, G. C., Aguinis, H & Lichten Stein, B. (2015). Power law distributions in entrepreneurship: Implications for theory and research. *Journal of Business Venturing*, 30(5):696-713.

identified three dimensions that comprise entrepreneurial perceptions: perceptions of collaboration, perceptions of planning, and perceptions of operations. Their findings show that external pressure and IT infrastructure maturity have a significant positive correlation with entrepreneurial perceptions. IT infrastructure maturity, which has a greater impact on collaboration perceptions and planning perceptions than external pressure, thus pointing the way to improving entrepreneurial perceptions.¹⁹ Jia R, Jie W, and Yong L (2014) argued that colleges and universities have a certain advantage in innovation and entrepreneurship, and they should fully leverage their university advantages to cultivate students' implementation and innovation talents, which is a key component of modern innovation education.²⁰ Yang Dan and Chen Jie (2013) argue that studying entrepreneurship theories from cross-disciplinary fields reveals multifaceted and multi-perspective views. It is generally studied from different perspectives, including individual characteristics, organizational characteristics, and the social environment. Each direction has a different research focus and presents viewpoints that gradually form a theoretical system framework. However, these ideas depend on various disciplinary backgrounds. Due to the complexity of entrepreneurship and its multidimensional nature, even a certain level of research may lead to one-sided explanations of certain problems. To develop an accurate and rigorous theory of entrepreneurship, it is necessary to study the theoretical framework of scenario control and process regulation and to synthesize multiple dimensions.²¹ Li Shanlin, Xiong Gan, and Wu Tingyan (2017) believe that new knowledge, science, and technology can create opportunities for entrepreneurship. Arts-based universities are the cradle of most new knowledge and technology currently. It is an annual knowledge spillover in terms of entrepreneurial activities. The study also found that, currently, research universities lack a mature and well-established method for utilizing the value of knowledge spillovers. Therefore, a new conceptualization of knowledge spillover pathways in academic entrepreneurship and student entrepreneurship would be very meaningful.²² Zhong

¹⁹ Zhu, Z & Lin, S, F. (2018) Understanding Entrepreneurial Perceptions in the Pursuit of Emerging e-Business Opportunities: The Dimensions and Driver. *Computers in Human Behavior*, 183-188.

²⁰ Jia R, Jie W, Yong L. Study on Training the Innovation Ability of College Students by Many Ways. *Research and Exploration in Laboratory*, 2014. 45-49.

²¹ Ming, L, W., Dan, Y & Jie, C. (2013). Multi-dimensional Research and Prospects of Entrepreneurship Theory: Evolution from Individual to Environment. *East China Economic Management (01)*, 154-159.

²² Lin, L, S., Gan, X., Yan, W, T & Dong, H, M. (2017). Knowledge Spillover Paths in Research Universities: Based on Knowledge Spillover Entrepreneurship Theory. *Science and Technology of Chinese Universities*

Yunhua and Luo Xi (2016) regarded entrepreneurial ability as a means and method of recognizing new concepts and ideas, or the ability to obtain the necessary resources from the market or develop new markets.²³ Yang, Xuelu (2018) argued that entrepreneurial competence can be divided into two dimensions: internal and external competence, and entrepreneurial experience has a positive effect on internal competence.²⁴ Rahmawati, Hartono, and Rahayu (2016) found that the dominant factors affecting innovation and entrepreneurship are the market environment, entrepreneurial experience, family burdens, and education level. The market environment encompasses credit access, market orientation, market experience, and government support.²⁵ Shilcof, Danie (2015) argued that entrepreneurship is increasingly recognized as inseparable from the contemporary knowledge economy. Entrepreneurial knowledge spillover theory has pioneered the idea that incumbent firms utilize knowledge, research, and development to create opportunities for entrepreneurship. These opportunities are leveraged through entrepreneurial activities, such as the establishment of new firms, which facilitate dynamic knowledge spillovers that drive economic growth. Empirical analysis suggests that firms in knowledge-intensive regions have significantly higher success rates; however, the composition of the regional knowledge stock is crucial, as a larger knowledge stock generates more entrepreneurial opportunities. Second, some theories emphasize the importance of special knowledge and human capital in identifying and exploiting entrepreneurial opportunities. University education in the entrepreneurial process provides a constant source of human resources, rather than labor market experience, for developing entrepreneurial talent. In addition, the findings suggest that public sector regulatory burdens, fiscal constraints, regional unemployment rates, and the construction of a local entrepreneurial culture can have a significant impact on regional entrepreneurial activity.²⁶ Cornwall, J., Kirkwood, J., and Clark (2015) concluded that

(06),68-70. <https://doi:10.16209/j.cnki.cust.2017.06.020>.

²³ Hua, Z, Y & Qian, L. (2016). Influencing factors and improvement paths of college students' entrepreneurial ability. *Modern Educational Management* (03), 124-128. <https://doi:10.16697/j.cnki.xdjjgl.2016.03.023>.

²⁴ Ru, Y, X. (2018). The Impact of Entrepreneurship Education and Prior Experience on College Students' Entrepreneurial Ability. *Journal of Technoeconomics and Management* (09), 36-41.

²⁵ Rahmawati, N., Hartono, S & Rahayu, L. (2016). Innovative and creativity as entrepreneurial ability of organic rice farmers in Bantul, DIY 25-27.

²⁶ Shilcof, Danie. (2015). Entrepreneurship in the knowledge-based economy: a spatial analysis of Great Britain. 2008-2010.

entrepreneurship education leads to a significant increase in entrepreneurial cognition, entrepreneurial competence, and knowledge; however, the increase in intention is not statistically significant.²⁷

To synthesize the existing research, the theory of entrepreneurship is still in its formation stage, which involves entrepreneurs creating greater value for society through innovative means. Scholars generally analyze and explore this concept from multiple perspectives, and the content and field are relatively broad. With the increase in the size of college students and the call of national innovative talents, the training of college students in colleges and universities should not only focus on academic and scientific research ability but also improve the innovation and entrepreneurship ability of college students in the future labor market, and the existing research lacks the research on the enhancement of entrepreneurial ability for college student groups. This paper synthesizes the above viewpoints to define entrepreneurship from the perspective of college students with advanced ideology and professional knowledge, as the process of creating social value through the application of college students' professional abilities and comprehensive literacy acquired during their university education.

2.4 Current Situation of Innovation and Entrepreneurship Training for University Students

2.4.1 Research on Innovation and Entrepreneurship Education for University Students

The innovation and entrepreneurship education provided to college students can promote their lifelong and comprehensive development, align with the trends of social and economic transformation, and support economic development under the new development pattern. John Richardson suggests that schools and society need to provide young people with a physical space where they can engage in creative conversations with their peers and broaden each other's horizons, supported by mentors who can help the youth's innovative work in the process, thereby participating in an ongoing

²⁷ Cornwall, J., Kirkwood, J & Clark, G, J. (2015). Can a short intensive course affect entrepreneurial ability, knowledge and intent, or further entrepreneurial study? An assessment of the SEED programme, Dunedin, New Zealand. *Industry and Higher Education*, 29(5):397-404.

dialogue.²⁸ This provides the theoretical basis for the creation of university incubators that foster innovation and entrepreneurship. “Dual-creation” education first originated in the United States, where entrepreneurship education classes have been offered since 1919, covering various areas, including financing, founding, and management. The process of 'dual-creation' education in the U.S. extends from elementary and middle school to graduate school. France's 'dual-creation' education places greater emphasis on cultivating practical skills, requiring universities to strengthen ties and cooperation with enterprises. It also encourages students to undertake internships in enterprises and related fields in a planned and purposeful manner. The UK implements 'dual-creation' education in the most mature manner. The UK believes that entrepreneurship education is mainly aimed at cultivating students' entrepreneurial spirit to meet the challenges of a globalized economy. Germany has implemented the 'dual system' education model in 'dual entrepreneurship' education, emphasizing the importance of practical aspects. They believe that the most important thing in conducting entrepreneurship education is to cultivate students' entrepreneurial spirit and independence, not just to enrich their entrepreneurial knowledge and skills.”²⁹

Research on the importance of innovation and entrepreneurship education for college students. Scholar Zhao Ying believes that innovation and entrepreneurship education constitutes the main content of contemporary higher education, especially the content of ideological and political education, professional foundation and vocational ethics integrated with the connotation of "dual-creation" education and matches with the requirements of "dual-creation" education, so "dual-creation" education has become an indispensable part of contemporary higher education. Therefore, "dual-creation" education has become an indispensable part of contemporary higher education.³⁰ According to Yang Jichun, as we enter the information age, the requirements of the knowledge economy have given birth to the creation and development of innovation and entrepreneurship education for college students. Innovation and entrepreneurship education are conducive to cultivating college students' sense of subjectivity, teamwork,

²⁸ John, R. (2010). What is Youth Work, Learning Matters Ltd Press.

²⁹ Yun, L. (2012). Characteristics and References of Entrepreneurship Education in Western Developed Countries. *Continuing Education Research* (07), 173-175

³⁰ Ying, Z. (2018). Concept change and strategy adjustment of college students' innovation and entrepreneurship ability training. *Science and Technology of Chinese Universities* (11), 94-96.
<https://doi:10.16209/j.cnki.cust.2018.11.027>

and innovation, and play a vital role in the growth and success of college students.³¹

Research on the content of innovation and entrepreneurship education for college students. According to scholar Zhao Ying, traditional "dual-creation" education is more prominent in selecting and cultivating competitive talents; however, the concept of "crowd creation" should be the basis of "dual-creation" education, providing both universal and differentiated guidance. In general, college students are required to receive a certain degree of "dual-creation" education. In practice, entrepreneurial guidance is provided to students according to their diverse needs.³² Qiu Cunjin believes that the "dual-creation" education program system is crucial for the content of innovation and entrepreneurship education in colleges and universities. The core work of the "dual-creation" program is to help college students form a comprehensive understanding of the "dual-creation" concept, cultivate their innovative spirit and entrepreneurial mindset, and develop their entrepreneurial skills. The core work of "dual-creation" courses is to help college students form a comprehensive understanding of the "dual-creation" concept, cultivate their innovative spirit and entrepreneurial consciousness, and enhance their "dual-creation" methods and abilities.³³

2.4.2 Research on the Cultivation of Innovation and Entrepreneurship Ability of College Students

Collaborative training of talents refers to a talent training model in which the main body of multi-party education cooperates in the process of talent training, jointly formulates talent training programs and sets up curriculum systems, fully excavates and utilizes multi-party education resources, gives full play to the advantages of multi-party education, promotes the comprehensive and sustainable development of students, and improves students' practical ability, innovation ability and creative ability.³⁴ From the perspective of collaborative education, the collaborative cultivation of college students' innovation and entrepreneurship ability in the two classrooms can maximize the

³¹ Chun, Y. J. (2016). Research on the Problems and Countermeasures of College Students' Entrepreneurship Education. *Journal of Northeast Normal University (Philosophy and Social Science)* (01), 179-182. <https://doi:10.16164/j.cnki.22-1062/c.2016.01.035>

³² Ying, Z. (2018). Concept change and strategy adjustment of college students' innovation and entrepreneurship ability training. *Science and Technology of Chinese Universities* (11), 94-96. <https://doi:10.16209/j.cnki.cust.2018.11.027>

³³ Jin, C. C. (2018). Research on the Curriculum System of Innovation and Entrepreneurship Education in Chinese Universities. *Jiangsu Higher Education* (11), 82-85. <https://doi:10.13236/j.cnki.jshe.2018.11.017>

³⁴ Wei, C. (2020). Revision of the structural model of college students' entrepreneurial ability and the construction of the evaluation index system. *Innovation and Entrepreneurship Education* (03), 97-103.

initiative of multiple education subjects, promote the education subjects such as "production, education, research and application" to actively play their respective advantages, and make the cultivation effect of college students' innovation and entrepreneurship ability continue to extend and expand.³⁵ In the context of "mass entrepreneurship and innovation", the collaborative cultivation of college students' innovation and entrepreneurship ability has become an inevitable trend in higher education, and it is a new requirement for colleges and universities to improve their innovation and entrepreneurship ability in the new era. To this end, the education unit needs to integrate multiple forces and educational resources deeply, expand the dimension and depth of collaborative talent training, and effectively improve students' innovation and entrepreneurial abilities.

The collaborative training of college students' innovation and entrepreneurship ability is a systematic project, which needs to start from the perspective of collaborative education, to improve students' innovation and entrepreneurship ability, build a collaborative training model and mechanism, innovate collaborative training programs and curriculum systems, optimize the construction of collaborative training platforms, integrate multiple forces and educational resources, carry out work creatively, create a good cultural atmosphere for innovation and entrepreneurship education, and promote the improvement of the collaborative training system and mechanism for innovative and entrepreneurial talents. Liu Chang analyzed the needs for training college students' innovation and entrepreneurship abilities, identified key problems in the collaborative cultivation of these abilities, and aimed to improve them collaboratively by focusing on "two focusses", accelerating "three transformations", strengthening "four combinations", implementing "five integrations", creating "six types of platforms", building a "2+3+4+5+6" two-classroom multi-subject collaborative training model, and establishing a financially independent research system that includes sharing, exchange, assistance, and guidance. The collaborative education system of innovation and entrepreneurship for college students integrated by the competition research and development creates a diversified education platform that integrates the cultivation of

³⁵ Lu, C. Y. (2018). Research on Collaborative Education Model Based on College Students' Innovation and Entrepreneurship Ability. *Journal of Jishou University (Social Sciences Edition)*, 39(S1), 181-183.

professional knowledge and basic skills of innovation and entrepreneurship, the progressive training and practical cooperation of innovation and entrepreneurship training projects and competition projects, and cultivates students' innovation and entrepreneurship ability in an all-round and whole-process manner.³⁶

2.4.3 Research on Strategies Influencing the Formation of Innovation and Entrepreneurship Abilities of College Students

The development of college students' entrepreneurial abilities is inextricably linked to innovation and entrepreneurship education. Entrepreneurial ability development is cultivated and formed through the process of entrepreneurship education. The ultimate goal of entrepreneurship education is to assist college students in independent entrepreneurship, enhance the level of entrepreneurship among college students, and improve their ability development. Compared with domestic and foreign countries, the development of entrepreneurship education in British and American colleges and universities is relatively mature. College students have developed a basic understanding of entrepreneurship. At the same time, at present, there are problems of entrepreneurial spirit, unreasonable entrepreneurial knowledge structure, lack of entrepreneurial ability, and incomplete entrepreneurial psychological quality in the entrepreneurial ability of college students in our country, and the main factors of these problems come from the government, the society, the school, and the family and other aspects.

From the government's perspective, it should adopt a series of policies to protect the innovation and entrepreneurship of college students and refine relevant laws to provide solid protection for the development of innovation and entrepreneurship. Firstly, the state should enact relevant legislation to promote innovation and entrepreneurship, increase awareness of these concepts across all sectors of society, and have a positive incentive effect on schools. This will help schools enhance their innovation and entrepreneurship initiatives. Secondly, the school must strengthen its study of the national innovation and entrepreneurship policy, fully understanding the connotation of the innovation and entrepreneurship policy through learning, and

³⁶ Xuan, M. (2020). Research on the Collaborative Education Mechanism of College Students' Innovation and Entrepreneurship Education. *Educational Theory and Practice (06)*, 6-8.

improve and innovate the school education system. Finally, the school should establish a series of encouragement mechanisms to foster innovation and entrepreneurship, and utilize the learning effects of innovation and entrepreneurship as a key reference index for scholarships and final learning outcomes to deepen students' understanding of innovation and entrepreneurship education continually. At the same time, with the continuous improvement of relevant national policies and regulations, the school's innovation and entrepreneurship education goals have been clarified, which is conducive to the rational allocation and utilization of educational resources.³⁷

At the school level, the development of science and technology, as well as the creation of an innovative country, requires many innovative and entrepreneurial talents to promote societal and economic development. Cultivating innovative and entrepreneurial talents depends on education in innovation and entrepreneurship.

Now, innovation and entrepreneurship education primarily operates in colleges and universities, and the overall quality of college students' innovation and entrepreneurship will directly reflect the quality of these institutions.

The effectiveness of innovation and entrepreneurship education. Deng Chengchao proposed, "The key to entrepreneurship education is to improve the quality of entrepreneurship."³⁸ Colleges and universities should update their approach to education, and scholar Mao Xia believes that "a single approach to talent cannot meet the needs of a modernized society, and colleges and universities should change the concept of talent cultivation."³⁹ Innovation and entrepreneurship education should not only develop the individual's practical ability, problem-solving ability, and communication skills, but also cultivate their perseverance and endurance, enabling them to effectively improve their competitiveness in the current complex social environment and efficiently apply the knowledge they have learned.⁴⁰ Lv Ling, in the

³⁷ Lu, L & Chu, H, Y. (2021). Influencing Factors and Cultivation Strategies of College Students' Innovation and Entrepreneurship Ability. *Cultural and Educational Materials* (07), 125-126.

³⁸ Chao, D, C. (2012). The key to entrepreneurship education is to improve the quality of entrepreneurship. *China Vocational and Technical Education* (24), 63-66.

³⁹Xia, M. (2014). An Empirical Study on the Cultivation of College Students' Entrepreneurial Quality Based on Structural Equation Model. *Journal of Chongqing Normal University (Natural Science Edition)* (03), 135-139.

⁴⁰Yan, P, H. (2022). Reflections on Deepening Students' Innovation and Entrepreneurship in Application-oriented Undergraduate Colleges and Universities in the New Era. *Journal of Higher Education* (33), 43-46.

article "Trying to Discuss the Improvement of College Students' Entrepreneurial Success Rate", focuses on emphasizing that "to truly implement the improvement of college students' entrepreneurial success rate, it is necessary to create a college students' entrepreneurship education system, entrepreneurial policy support system, entrepreneurial quality and ability training system and entrepreneurial social service system."⁴¹ However, the implementation of entrepreneurship education in China's higher vocational colleges and universities is more effective; it is worthwhile to learn from Xue Linglong and Ji Hong on China's higher vocational colleges and universities on the entrepreneurial qualities of college students and put forward the "four major systems", that is, the "goal system", "content system", "method system" and "guarantee system". To cooperate with these four systems to play a role and create a "basic model period" (career enlightenment, growth and incubation period), a "practice model" (teaching practice, driving practice and autonomous), and a "development model" (entrepreneurial cognition, entrepreneurial orientation, entrepreneurial behavior, entrepreneurial development). All four systems and models are designed to create a superior entrepreneurial culture.⁴²

From the perspective of students' personal level, entrepreneurial ability is the first condition for college students to start their businesses. Currently, many colleges and universities do not prioritize the development of college students' entrepreneurial abilities within their higher education programs, resulting in an unsatisfactory success rate among college students in entrepreneurship. The root of this issue is inextricably linked to the entrepreneurial qualities of college students. According to Lin Li from the School of Information at Guangdong University of Business, college students must possess five basic qualities to succeed in entrepreneurship: a strong entrepreneurial desire and consciousness, excellent entrepreneurial qualities, good entrepreneurial psychology, strong innovation and entrepreneurial abilities, and solid entrepreneurial knowledge.⁴³ Li Fangning and Zhang Jianzhe, in the article "Construction of

⁴¹ Ling, L. (2011). On the Improvement of the Success Rate of College Students' Entrepreneurship. *Heilongjiang Higher Education Research* (02), 112-114.

⁴² Long, X, L & Hong, J. (2011). Research on the Entrepreneurship Quality Training System of Higher Vocational College Students and Its Developmental Evaluation. *Education and Careers* (17), 30-32. <https://doi:10.13615/j.cnki.1004-3985.2011.17.072>

⁴³ Li, L. (2010). An Analysis on the Cultivation of College Students' Entrepreneurial Qualities. *Guide to Ideological and Theoretical Education* (08), 114-117.

Entrepreneurial Quality Model and Cultivation Path of College Students", conducted relevant research on the cultivation of the entrepreneurial quality of college students and constructed a relevant quality model, which considered that the entrepreneurial quality model of college students contains three dimensions: personality characteristics, entrepreneurial ability and knowledge structure.⁴⁴ However, in reality, college students often lack these basic entrepreneurial qualities, and problems include a lack of entrepreneurial awareness, a weak innovative spirit and entrepreneurial ability, a need to improve entrepreneurial psychology, and insufficient entrepreneurial knowledge reserves.

2.4.4 Review of the Current State of Research

(1) By combing the literature on college students' "dual-creation" education and ability cultivation, we can see that the research on college students' innovation and entrepreneurship had been conducted earlier, the system was more perfect, and the "dual-creation" education in developed countries, mainly the United States and the United Kingdom, had been developed for about one hundred years. Developed countries, primarily the United States and the United Kingdom, have experienced a hundred years of "dual innovation" education, which has not only developed a more comprehensive theoretical system but also laid a more solid foundation for the entire practice. Foreign universities have generally established a "dual-creation" curriculum system, and governments and enterprises also attach great importance to the development of "dual-creation" education and the construction of practice bases for college students. This paper draws on the concept of student-oriented "dual-creation" education in foreign universities, referencing innovative classroom teaching methods and practical training methods from foreign countries to enrich the relevant research on cultivating innovation and entrepreneurship abilities in college students in China.

(2) Research on the Cultivation of Creative and Entrepreneurial Abilities of Art Students

The first aspect is the research on the dilemmas facing the innovation and entrepreneurial abilities of art college students. Through the investigation of the

⁴⁴ Ning, L, F & Zhe, Z, J. (2011). Construction and cultivation path of college students' entrepreneurial quality. *Modern Educational Management* (08), 105-108. <https://doi:10.16697/j.cnki.xdjygl>

innovation and entrepreneurship abilities of college students at art universities, it was found that they face challenges such as limited awareness, insufficient knowledge reserves, a lack of understanding of entrepreneurship policies, and a lack of entrepreneurial experience. Through the questionnaire survey of college students in the School of Art and Design of Tianjin University of Science and Technology, it is found that the "double creation" faculty of college students is not perfect, the "double creation" platform is not perfect, and the training efforts of colleges and universities are not enough.

The second aspect is the research on cultivating the innovation and entrepreneurship ability of art college students. It primarily focuses on aspects such as students themselves, university education, government leadership, and enterprise support. Proposes solution paths for strengthening awareness, developing a teaching system, and establishing an assessment system. A precise teaching mode for students' self-selection and classified training is established. Through the classified training path of students choosing a professional foundation in admission, choosing a cultivation direction (vocational field) in the second year, choosing a practice platform (innovation project, entrepreneurship project, real-world project) in the third year, and strengthening employment or entrepreneurship in the fourth year, we strengthen students' vocational concepts and strengthen and sublimate the innovation and entrepreneurship education and innovation and entrepreneurship ability cultivation in the professional education. The cultivation of innovation and entrepreneurship

To sum up, there is no single, perfect professional discipline for innovation and entrepreneurship education in China, which requires the government, schools, and society to collaborate and reasonably divide the workload to serve entrepreneurs. Schools are responsible for the theoretical education of innovation and entrepreneurship. The government provides policy support, and enterprises offer students a platform for innovation and entrepreneurship practice, thereby realizing the perfect combination of theory and practice. In many colleges and universities, there is still a lack of innovation and entrepreneurship education, despite having a relatively well-established and mature framework system. Although colleges and universities have launched innovation and entrepreneurship education in recent years, the cultivation goal is not clear enough, and utilitarian thinking still exists. The Ministry of Education has launched a series of

science and technology competitions for university students' innovation and entrepreneurship. Although university innovation and practice projects promoted by science and technology competitions help mobilize the enthusiasm of teachers and students, they lack long-term mechanisms to cultivate college students' innovative thinking, logical thinking, and reverse thinking skills, which seriously affects their sustainable development ability. In addition, teachers with certain entrepreneurial experience are crucial in the process of entrepreneurship education; otherwise, they can only stay at the level of theoretical teaching. In the course of teaching, the teacher plays a guiding role, and theoretical teaching is relatively one-dimensional, which cannot meet the needs of diverse and complex environments in the actual process of innovation and entrepreneurship. The establishment of entrepreneurship courses is also in its exploratory stage, and high-quality, systematic courses still need time to develop. Therefore, it is necessary to enhance the entrepreneurial abilities of college students through continuous exploration, the accumulation of experience, and an in-depth understanding of innovation and entrepreneurship training mechanisms. Cultivating and improving the quality of innovation and entrepreneurship among college students in a comprehensive manner can not only alleviate employment pressure and contribute to building a harmonious society, but also promote economic growth and play a crucial role in advancing the construction of an innovative country.

2.5 A Review of Existing Research

It has been found that researchers at home and abroad are rich in the theory and practice of innovation and entrepreneurship education, but there is a lack of theoretical research on college students' innovation and entrepreneurship ability; practice research is not deep enough; the existing research on the cultivation of college students' innovative and entrepreneurial ability problems mainly comes from the university as a starting point; and comprehensive research from the country, the government, the enterprise, the student, the family and so on is not clear, causing the question to require further research.

First, based on the research content, most studies focus on college students' innovation and entrepreneurship education to cultivate their innovation and

entrepreneurship abilities, thereby helping them on the road to success. Currently, the theory and empirical research on entrepreneurial ability and enterprise preferential policies in our country cannot meet the needs of contemporary society and college students.

Secondly, from the research objects, most of the research objects are mainly concentrated in famous universities and vocational colleges, such as science and engineering, comprehensive, etc., such as Zhang Jianhua's "The four dimensions of promoting the entrepreneurial quality of higher vocational college students", Liu Yuexiu's "Research on the cultivation of entrepreneurial quality of agricultural college students under the background of new rural construction", Xu Shanshan's "Research on the cultivation of entrepreneurial quality of engineering college students", etc., and lack of more in-depth empirical research on college students' innovative and entrepreneurial quality.

Third, the research method. The researchers primarily employed the literature review method, the comparative method, and the case study method. Using comparative research methods, such as the capital university students entrepreneurial quality investigation task force on "college and university students entrepreneurial quality training" comparative analysis; For example, Shen Peifang published a study on entrepreneurial quality of college students, taking Ningbo University as an example, Huang Juan, who also studied a teacher's college, wrote a master's thesis on the Jiangxi Normal University "A study on the strategy of cultivating entrepreneurial literacy among college students", there are few questionnaires and interview outline used in the research on college students' innovative and entrepreneurial ability, which makes the research lack strong data and reliability.

Based on the summary of existing research results on innovative and entrepreneurial ability, research on the innovative and entrepreneurial abilities of college students still lacks in-depth theoretical studies. The main foothold is practical research on cultivating innovative and entrepreneurial abilities, as practical research without in-depth exploration of the theory of innovation and entrepreneurship faces certain difficulties in practice. The existing research provides valuable references for this study; however, some shortcomings still need to be addressed. With the advent of the knowledge economy era, China's higher education is facing unprecedented

opportunities and challenges. As a crucial group of national innovation capability, cultivating college students' innovation abilities is not only the historical mission of colleges and universities but also a vital measure to enhance China's innovation capacity, making it urgent to strengthen the cultivation of college students' innovation abilities.⁴⁵

2.6 Components of Art College Students' Innovation and Entrepreneurship Ability

The fuzzy vector of the factor index is multiplied by the weight matrix of the factor index to obtain the fuzzy vector of the factor index.

Table 2.2 Judgement Matrix of First-Level Index

	Very Inconsistent	Disaccord	General	Conform	Very Much In Line
Entrepreneur	0.064	0.159	0.265	0.266	0.246
Innovative	0.039	0.112	0.244	0.301	0.304
Innovation	0.027	0.080	0.190	0.281	0.422

Table 2.2 above shows the evaluation results of the entrepreneurial human capital of 600 college students in art universities. The score of entrepreneurial human capital for college students is obtained according to the score of "very satisfied" (90 points), "satisfied" (80 points), "generally satisfied" (70 points), "not very satisfied" (60 points), and "very dissatisfied" (50 points). We classify scores of 80 and above as excellent, scores between 70 and 80 as good, and scores between 60 and 70 as qualified. Multiply the fuzzy vector and the numerical scoring matrix [20 40 60 80 100] to get the scores of the three factor indicators:

⁴⁵ Xue, L, X. (2022). Key Links and Implementation Measures for the Cultivation of College Students' Innovation Ability from the Perspective of High-quality Development. *Economic Research Guide* (24), 129-131.

Table 2.3 Entrepreneurial Human Capital Scores of Art University Students

	Very Incongruous	Disaccord	General	Conform	Very Much in Line	Mark	Grades
Entrepreneurial human	0.0681	0.0916	0.1281	0.3556	0.3574	75.68	Good
Entrepreneur sense	0.0651	0.0664	0.1137	0.3637	0.3910	69.42	Qualified
Innovative spirit	0.0592	0.0867	0.1481	0.3714	0.3371	74.38	Good
Innovation and	0.0920	0.1520	0.1171	0.3078	0.3310	79.82	Good

In the context of "mass entrepreneurship and innovation", in order to help art college students seek better development, cultivating art college students' innovation and entrepreneurship ability is very important. The formation of innovation and entrepreneurial ability requires several key elements to be built. This study believes that innovation and entrepreneurship ability consists of three parts, namely management ability, learning ability, and practical ability, as shown in Table 2.4 below.

Table 2.4 Three Parts of Innovation and Entrepreneurship Ability

Innovation and Entrepreneurship Ability	Competency Elements
1. Management capabilities	Leadership, communication skills, teamwork, and risk assessment
2. Ability to learn	Professional knowledge, general knowledge, and educational literacy
3. Practical ability	Professional skills, innovation skills, and adaptability

In the author's survey of the three abilities of art college students in Guangxi, it is found that, first of all, management ability is the most lacking ability of art college students, and it is mainly reflected in the lack of communication skills and risk

assessment; of which less than 32.3% of art college students master communication skills, and less than 8.33% of students have risk assessment ability. Secondly, the learning ability of art college students remains relatively solid, allowing them to utilise their strengths fully. However, their mastery of general knowledge is lacking, which significantly hinders their comprehensive development. Finally, in terms of practical ability, art college students possess strong professional practice skills but lack innovation skills and adaptability. Therefore, in the future, it is necessary to cultivate students' innovation and entrepreneurship abilities through an analysis of the constituent elements of art college students' innovation and entrepreneurship abilities.

2.7 Principles of Teaching Model Design

According to a comprehensive understanding of the theories of connectivity learning and constructivist learning, teaching interaction is the core of connectivity learning and a key to success. At the same time, student-centeredness is an important strategy in constructivist learning. In view of this, the following five basic principles should be followed when constructing the teaching mode of innovation and entrepreneurship education for college students:

1. Establish a learning model centered on "cultivating students' abilities" and "attaching importance to students' individualized development" as its key principles. Pay attention to the individualized development of students and help them achieve personalized knowledge construction and innovation abilities.

2. Take learners as the main body and enhance the learning connection process. Connected learning must be a student-oriented process that enhances process connectivity. In the teaching design process of innovation and entrepreneurship education for college students from the perspective of "Internet+", it is necessary to strengthen the active participation of learners in learning, independent thinking, hands-on practice and the connection between nodes and, at the same time, enhance the cultivation and practice process of teamwork ability.

3. Utilize "Internet +" to facilitate the sharing and co-construction of learning resources, as well as the reform of learning tools and methods. Then, establish a knowledge network system.

4. Do a good job in the teaching guidance process of teachers and comprehensively improve students' ability and literacy. Connected learning requires "mutual ability". In the process of teaching design for innovation and entrepreneurship education to college students from the perspective of "networking+", teachers should pay attention to the design of teaching situations, planning and arranging teaching practice activities, and organization.

5. Adopt a diversified teaching evaluation mechanism. According to the different functions of teaching evaluation, it can be divided into diagnostic, formative, and summative evaluation. Through data tracking, students' learning effectiveness and contribution in this field are assessed.



CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This study employed a mixed-methods sequential explanatory design to examine the participants' lived experiences. Sequential explanatory design is a two-phase approach in which the researcher initially gathers quantitative data, analyzes the findings, and subsequently devises a qualitative, open-ended plan further to enhance the quantitative research (Creswell, 2012). This study focuses on cultivating innovation and entrepreneurial abilities among college students in art colleges and universities, using the case study of Guangxi Arts University as its fundamental starting point. A combination of qualitative and quantitative methods was employed, paving the way for the development of original research on the cultivation of innovation and entrepreneurial abilities among college students in art colleges and universities, in line with the literature research method, questionnaire survey method, and interviews.

The first stage of the study is theoretical research. It involves reviewing and synthesizing the existing literature on the development of entrepreneurship among college students at home and abroad in recent years, and summarizing the current research findings. The second stage of the research is empirical research. By investigating and analyzing the cultivation of entrepreneurial ability of college students in Guangxi A University of Arts, as well as interviewing college students, summarizing, screening, and grasping the data from the interviews, and then forming a structured questionnaire through the questionnaire survey method, collecting data, and researching and analyzing them, confirming the test, and putting forward the application suggestions. The third stage of the study: Through the above research, countermeasures to improve innovation and entrepreneurship are explored and proposed at three levels: school, government, and students, respectively.

3.2 Research Population and Sample

3.2.1 Population

Art college students, representatives of college students majoring in art at Guangxi A University of Arts, the main interviewees are entrepreneurial students in the creative space of Guangxi A University of Arts and students involved in innovation and entrepreneurship courses for college students and various competitions, which involve college students of different genders, academic qualifications, grades, and majors, and involve 10 different majors, such as music, dance, fine arts, design, film and television, media, humanities, and other majors. The university has 15,000 college students. The study aims to sample 600 participants for the survey and select two graduated entrepreneurial students and five current college students for interviews.

3.2.2 Data Collection Methods

3.2.2.1 Literature Research Method

The literature related to this study primarily originates from the China Knowledge Network, Wanfang Database, Duxiu Academic Search, educational news, newspapers, and the official website of the Ministry of Education. Most of the referenced literature consists of academic journals, excellent master's and doctoral dissertations, and core educational journals. By collecting, identifying, and organizing the relevant research literature, we categorize and analyze the research content and results and form a scientific understanding of the current status of the literature (research problems, research content, research trends, etc.). An in-depth study of previous research results forms the basis for conducting this research effectively. Based on systematically sorting out the theoretical research results about innovation and entrepreneurship education and competence cultivation, absorbing and drawing on the existing theoretical viewpoints so that this study can be constructed on a solid theoretical foundation, on the other hand, searching for the gaps and shortcomings in the previous research, finding the entry point of this study, and carrying out in-depth investigation.

3.2.2.2 Questionnaire Method

One of the most widely used methods of data collection in social research studies is the questionnaire method. A "questionnaire" is any set of written questions, and a "survey" is both a set of questions and a process of collecting, summarizing, and

analyzing the answers to those questions. Combining the object and content of the study, this research adopts the questionnaire method. The object of the research is A's art college students, to collect the required data and conduct a scientific statistical analysis. This study is designed as a "multiple-choice questionnaire", in which the respondent chooses to fill in the answers according to the questions asked in the form; the research scales are all formed based on mature scales at home and abroad, combined with the educational situation in China and through communication with experts and peers, which ensures that the questionnaires are designed in a standardized way.

3.3 Data Collection

Adopting the random sampling method, based on combining the existing studies, focusing on mining the elements of competence presented in the interviews with the innovative entrepreneurs, and combining the existing research basis and the experience of civic and political work, we compiled the "Questionnaire on Innovative and Entrepreneurial Competence of Art College Students", which has a total of 18 items in the questionnaire. Firstly, 600 students from Guangxi A University of Arts were surveyed using the paper version of the questionnaire, taking into account their academic level, gender, grade, discipline category, and other relevant factors. A total of 600 questionnaires were issued; 576 questionnaires were retrieved, excluding invalid questionnaires (including omissions and wrong answers); 537 valid questionnaires were obtained, giving a questionnaire validity rate of 96%, which is close to the ideal number of highly efficient samples; and then the data were statistically analyzed using software such as SPSS 18.0. This survey and its results possess a certain representativeness and comparability, rendering this sampling survey reasonable and scientifically robust.

3.4 Research Instrument

Hardware environment: Windows operating system computer, with an Ali Cloud server as the service host for the entire system. Software environment: The interface development is based on the MicroLetter small program, utilizing

Questionnaire Star for questionnaire surveys. The validity of the data is ensured through SPSS 18.0 analysis, and the Questionnaire Star system statistics are used to analyze the problem.

3.5 Content Validity and Reliability

The research is combined with the actual status quo of A art college, which involves the research questions and objectives being extracted after the school in the development of innovation and entrepreneurship work; questionnaires and conversation interviews are set according to the characteristics of the students' majors in A art college, and by the research plan to carry out the implementation of questionnaires and interviews with the students, the results of the research were analyzed by the data in order to pave the way for the next step of the research. The content and data of the study are reliable and valid.

3.6 How to Train the Innovative and Enterprising Ability of Art College Students

3.6.1 We Should Focus on Building an Environment for Innovation and Entrepreneurship

Based on the analysis of the elements of innovation and entrepreneurship ability of art college students, it is found that the management ability of art college students is very deficient. Suppose we want to cultivate the management ability of art students, which is a key factor in innovation and entrepreneurship. In that case, it is crucial to pay attention to the environment's construction and create an atmosphere that fosters innovation and entrepreneurship among students. To this end, first of all, arts colleges and universities should have more students to undertake innovation and entrepreneurship-related organizational activities, such as campus entrepreneurial community activities, entrepreneurial competitions, and lectures on innovation and entrepreneurship knowledge. Thus, through these meaningful and in-depth campus entrepreneurial activities, they can create a favorable environment on campus that fosters a campus entrepreneurial atmosphere. Secondly, colleges and universities should actively publicize the laws and policies related to innovation and

entrepreneurship, so that awareness of innovation and entrepreneurship becomes mainstream in society. Families will become the soil for the development of students' innovation and entrepreneurship, letting students get better innovation and entrepreneurship growth under the common support of family and society, to create a “mass entrepreneurship, mass innovation” atmosphere for innovation and entrepreneurship and provide a guarantee for the development of students' innovative and entrepreneurial ability.

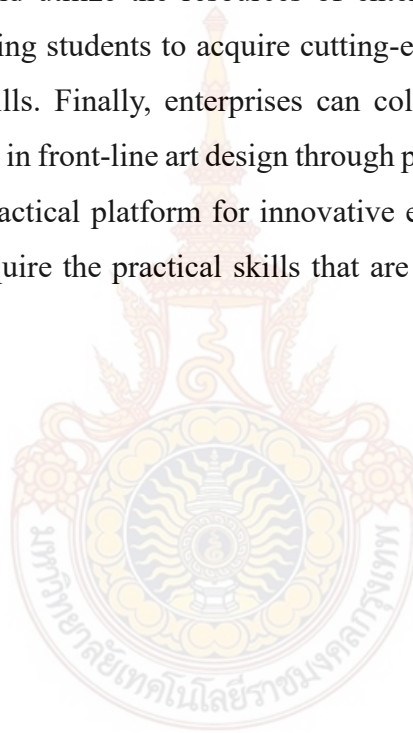
3.6.2 Construct the Knowledge System of Innovation and Entrepreneurship

In the process of helping art college students acquire elements of entrepreneurial ability, it is key to cultivate students' learning ability to construct an innovative entrepreneurial knowledge system. Specifically, the author believes that the curriculum system for art specialties should be based on a professional knowledge curriculum, supplemented by a general knowledge curriculum and an innovative and enterprising thought curriculum, through the combination of these three, to promote students' comprehensive quality and abilities. First, in the professional knowledge curriculum, the vast majority of art colleges' and universities' curriculum systems have been improved. In the future, colleges and universities can combine their national conditions with adjustments to professional knowledge curricula. As for the general knowledge courses, the author believes that, in addition to the public courses, we can also include courses on quality education, vocational planning, employment guidance, and mental health education, thereby enhancing the power of innovation and entrepreneurship. Finally, during innovative thinking, besides the course of introduction to entrepreneurship, we can also develop the course of success study and entrepreneurship for students and introduce some typical cases for students so that students always keep the awareness of innovation and entrepreneurship in order to help students acquire the learning ability, which is a key element of innovation and entrepreneurship.

3.6.3 We Will Build a Practice Platform for Innovation and Entrepreneurship Education

As a key element of innovative and entrepreneurial ability, it is crucial to establish a platform for innovative and entrepreneurial education if we aim to enhance

the practical skills of art students and foster the integration of resources within and outside the university. Firstly, art colleges should establish art research institutes for students and, simultaneously, create practice bases for them, thereby providing more opportunities for students to practice and realize the transformation of knowledge and ability. Secondly, art colleges should strengthen their cooperation with enterprises, allowing teachers to visit enterprises to learn, and promote the transition from knowledge-imparting teachers to knowledge-applying teachers. In this way, it can guarantee the improvement of students' practical abilities. In addition, colleges can hire professional tutors and utilize the resources of enterprises to enable more in-house tutors to teach, allowing students to acquire cutting-edge knowledge of the times and promote practical skills. Finally, enterprises can collaborate with schools to enable students to participate in front-line art design through practical training and other means, thereby building a practical platform for innovative entrepreneurship education. This can help students acquire the practical skills that are key elements of innovation and entrepreneurship.



CHAPTER IV

RESULTS ANALYSIS

This chapter utilizes statistical analysis software to analyze and process the questionnaire data collected in this study. It conducts descriptive statistics and correlation tests on the research data, performs variance analysis on the data, and analyzes and summarizes the results of the tests.

4.1 Contents of the Questionnaire

Table 4.1 Questionnaire

Serial Number	Questions	Strong Objections	Opposition	Neither Agree	Couldn't Agree More
1	I have a clear and comprehensive understanding of the innovation and entrepreneurship education system implemented by the school.				
2	I believe I can gain a great deal from participating in innovation and entrepreneurship courses, as well as various related activities.				
3	I have extensive knowledge of college student entrepreneurship policy.				
4	I understand the learning about innovation and entrepreneurship.				
5	I am aware of my ability to innovate and start a business.				

Serial Number	Questions	Strong Objections	Opposition	Neither Agree	Couldn't Agree More
6	I am well aware of the college student entrepreneurship competition.				
7	I think the competition work is related to the majors.				
8	I believe that cutting-edge knowledge can be acquired in the teaching process of innovation and entrepreneurship education.				
9	I have a basic understanding of the school's innovation and entrepreneurship incubation base.				
10	I have little or no experience in innovation and entrepreneurship.				
11	In my opinion, the lack of substance and a well-defined curriculum in entrepreneurship courses is ineffective.				
12	In my opinion, entrepreneurship education lacks a sound curriculum system.				
13	I think entrepreneurship education should include courses in law, finance, and management.				
14	I think there is a shortage of teachers in entrepreneurship education.				
15	I believe college students need sufficient capital to start their businesses.				

Serial Number	Questions	Strong Objections	Opposition	Neither Agree	Couldn't Agree More
16	I believe schools should offer relevant policy guidance and services to support entrepreneurship education.				
17	I think college students need perfect knowledge to start their own business.				
18	In my opinion, college students need practical training experience in starting a business.				

4.2 Data Source and Sampling Plan

The questionnaire scale for the formal investigation was revised based on the pre-test questionnaire, and the final questionnaire assessing college students' innovation and entrepreneurship ability was completed. The survey data can provide a more direct basis for the empirical assessment of the innovation and entrepreneurship abilities of college students majoring in art, as well as whether there is a positive correlation between professional ability and innovation and entrepreneurship ability. The survey takes the monitoring of the innovation and entrepreneurship ability of college students in China jointly carried out by the China University Innovation and Entrepreneurship Incubator Alliance and other units as the platform carrier, distributes and recycles the electronic questionnaire in the form of Questionnaire Star, and conducts a questionnaire survey on the students of Guangxi A university of arts, to accurately understand the status quo of the teachers, curriculum, educational practice and other aspects of innovation and entrepreneurship education in A's university of Arts. Based on the results, the existing problems in innovation and entrepreneurship education, along with their causes, were analyzed. The contents and methods of the investigation are as follows: Aiming at innovation and entrepreneurship education in a university, the information, quality, and ability of students' innovation and entrepreneurship learning, as well as the state of students' innovation and

entrepreneurship, are carefully examined through a questionnaire survey. The subjects are from A university in Guangxi, and the Questionnaire Star system is used to send out a total of 18 test questions. A total of 600 questionnaires were sent out; 576 questionnaires were recovered; invalid questionnaires (including missed answers and wrong answers) were excluded; and 537 valid questionnaires were obtained, with an effective rate of 96%. Then, SPSS 18.0 was used for validity analysis and statistical analysis using the Questionnaire Star system. From the distribution of sample data, it is evident that the sample comprises college students from various grade levels and different majors. According to the definition of relevant concepts in this paper, the objects of investigation in this study include two categories: (1) college students majoring in art who have founded companies and enterprises, and (2) college students majoring in art who have not started businesses. The reason why part of entrepreneurial college students are included in the sample is to compare the difference in the level of innovation and entrepreneurship ability between the two types of research objects and further prove that actual entrepreneurship can significantly improve the level of innovation and entrepreneurship of college students.

4.2.1 Basic Information About Sampled College Students

Among the 537 valid questionnaires, the basic information about the respondents is shown in Table 6:

Table 4.1 Basic Information about the Respondents

Items	Types	Percentage
Gender	Male	32.55%
	Female	67.45%
Grade	Freshman Year	0.70%
	Sophomore Year	6.79%
	Juniors	52.10%
	Seniors	30.22%
	Graduated	10.19%
	Fine Arts	20.36%
	Design Class	50.89%
Types of arts majors	Music	8.32%
	Dance Category	7.31%

Items	Types	Percentage
The matching degree between the major and the ability of innovation and entrepreneurship	Drama, Film and Television	7.31%
	Other types	5.42%
	Strong	18.83%
	Stronger	53.67%
	Average	17.65%
	Weaker	5.76%
	No relation	53.1%

From the distribution of the survey samples, as the objects of this experiment are college students in art colleges and universities, limited by the characteristics of art colleges themselves, the ratio of men to women is inconsistent. Female students are the majority, comprising a ratio of 3:7. In terms of grade distribution, it is evident that the survey primarily focuses on juniors and seniors. However, there are still some freshmen, sophomores, and graduate students, among whom freshmen can be ignored.

The matching degree between a student's major and their innovation and entrepreneurship ability determines that the selection of opportunities based on professional skills and the effective use of those skills are the decisive factors in choosing innovation and entrepreneurship. This is because students majoring in art with strong personal ability can better obtain the resources needed for their innovation and entrepreneurship from the professional knowledge they have learnt. The traditional view is that students lack the necessary resources to start a business, and this lack of resources will inevitably lead to the failure of entrepreneurial activities. However, in reality, students majoring in art can effectively identify opportunities based on their professional abilities and knowledge of innovation and entrepreneurship, so that the lack of resources does not necessarily limit their choice of entrepreneurial models. In addition, entrepreneurs possess a strong ability to apply and transform knowledge, and the learned knowledge can be integrated with resources to drive technological innovation.

4.2.2 The Information on Innovation and Entrepreneurship Learning of the Sample Collected by Questionnaire Among the 537 Valid Questionnaires

The learning information of the respondents' innovation and entrepreneurship courses is shown in Table 4.2.

Table 4.2 Learning Information About Respondents' Innovation and Entrepreneurship Courses

Projects	Categories	Percentage
Number of innovation and entrepreneurship education courses received	5 + courses	16.28%
Number of innovation and entrepreneurship education courses received	3-5 doors	53.16%
	3 doors or fewer	14.17%
Actively participate in relevant innovative and entrepreneurial organizations or activities	Unclear	16.39%
	Lectures on innovation and entrepreneurship	25.18%
	Competition in the innovation and entrepreneurship category	23.45%
Actively participate in relevant innovative and entrepreneurial organizations or activities	Innovative and entrepreneurial organizations	18.58%
	Other	9.86%
	Unattended	22.93%

In Table 4.2, 68.44% of the students have taken more than three courses in innovation and entrepreneurship education, with 16.28% having taken more than five courses in this field. Additionally, 16.39% of the students are unclear about the number of courses they have taken. For some college students, distinguishing between courses that focus on innovation and entrepreneurship education can be challenging, mainly because their majors are related to business management, human resources, and technology, and these fields often incorporate elements of innovation and entrepreneurship education. Therefore, they cannot distinguish whether these courses are related to innovation and entrepreneurship education or not. Because, from their understanding, these courses are more professional. In the item of "actively

participating in organizations or activities related to innovation and entrepreneurship", 78.07% of the students have participated in organizations or activities related to innovation and entrepreneurship. Among them, a relatively large number of students have participated in lectures on innovation and entrepreneurship; however, 22.93% of the students have never actively participated in organizations or activities related to innovation and entrepreneurship.

4.2.3 The Questionnaire Collected Information About the Status of Innovation and Entrepreneurship of the Respondents

Among the 537 valid questionnaires, the status information for the respondents' innovation and entrepreneurship is shown in Table 4.3:

Table 4.3 Information About the Status of Innovation and Entrepreneurship of the Respondents

Projects	Categories	Percentage
Innovation and Entrepreneurial experience	Do not want to engage in innovative and entrepreneurial activities	24.17%
	Have ideas, but not giving actual action	53.16%
	There have been actual actions, but no persistence	14.28%
	Are you still in business, or have you started a successful business	8.39%

As can be seen from Table 8, 24.17% of the students have no intention of innovation and entrepreneurship. In art colleges and universities, the primary employment direction for these students is to work as teachers, and some choose to become civil servants or pursue postgraduate studies. It is worth noting that 53.16% of the students have the intention or idea of engaging in innovative and entrepreneurial activities. However, due to the influence of certain factors, they ultimately did not participate in these activities. This factor may stem from the students' social environment and may also be influenced by their psychological characteristics. Among the 22.67% of students who engage in actual behavior activities, 8.39% still insist on and are eager to pursue innovation and entrepreneurship activities, indicating that some students remain committed to realizing their value through these activities.

4.2.4 Current Situation of Professional Skills in Innovation and Entrepreneurship

Table 4.4 shows the status of the respondents' innovation and entrepreneurship professional skills based on the 537 valid questionnaires.

Table 4.4 Status of Respondents' Innovation and Entrepreneurship Professional Skills

The Situation of Mastering Innovation and Entrepreneurship Skills	Frequency	Percentage (%)
Fully equipped with entrepreneurial expertise	55	10.24
Have only a little expertise in innovation and entrepreneurship	270	50.28
Not sure whether to master the professional skills of innovation and entrepreneurship	166	30.91
Never understood entrepreneurial expertise	46	8.57
Total	537	100

Only by mastering the skills of innovation and entrepreneurship can we excel in them. Without skills, we cannot do anything. As shown in Table 4.4, only 10.24% of the students believe that they fully possess the professional skills of entrepreneurship, 50.28% of the respondents think that they possess only a limited set of professional skills in entrepreneurship, and 31.53% of the respondents are unsure. Even 8.57% of the respondents have never understood entrepreneurship.

4.3 Cultivation Mode of Innovation and Entrepreneurship Ability of Art Major College Students

The construction of an innovative and entrepreneurial ability training model for art major college students lays a foundation for the empirical evaluation of the overall level of innovation and entrepreneurial ability training in Chinese art colleges and universities. Based on questionnaire survey data, the paper assigns weight

to the elements of the innovation and entrepreneurship training mode of art college students through the analytic hierarchy process, uses fuzzy comprehensive evaluation to conduct empirical evaluation of the innovation and entrepreneurship training mode of art college students in China, and analyzes the relevant differences of the sample data. It is further demonstrated that the evaluation indicators align with the characteristics of the innovation and entrepreneurship training mode and the general principles of entrepreneurship. Based on the evaluation results, the main problems and causes of the innovation and entrepreneurship training mode are analyzed.

(1) Established hierarchical structure model.

Table 4.5 Indicators of Innovation and Entrepreneurship Ability Training Mode of Art College Students

No.	Primary Element Index	Secondary Factor Indicators	Tertiary Factor Indicators
1	Entrepreneurial sense	Entrepreneurial motivation	Realistic need
2			Achievement
3		Entrepreneurial confidence	Rational
4			Entrepreneurial
5	Innovative spirit	Passion for innovation	Not sticking to
6			Be pioneering
7			Initiative
8			Problem awareness
9		Questioning the spirit	Critical Spirit
10			Willingness to
11		Spirit of cooperation	Understanding
12			Mutual benefit
13	Keep a Covenant		
14	Innovation		
15	Individual		
16	Innovation and entrepreneurial abilities	Innovation ability	Innovative
17			Knowledge
18		Knowledge learning ability	Knowledge
19			Knowledge
20		Ability to transform	Technology

Based on index element screening and evaluation index construction, the hierarchical structure is established, as shown in Table 10 above.

(2) Construct a pair comparison judgement matrix

Take the weight calculation of first-level indicators as an example: In this study, a total of 10 experts were invited to analyze and judge each indicator according to the above rules; they are 5 founders of university entrepreneurial enterprises, 2 scholars of innovation and entrepreneurship research, and 3 mentors of university innovation and entrepreneurship centers. Extreme judgement information in the expert individual judgment matrix needs to be eliminated, and the specific process is as follows: Firstly, the arithmetic mean and standard deviation of each information element in the expert individual judgement matrix are calculated; secondly, the individual judgement information exceeding the arithmetic mean by 2 standard deviations is eliminated, and then the arithmetic mean is calculated again, which is used as the comprehensive judgement information of the expert group on this element in this study; and finally the expert group judgment matrix is synthesized, as shown in Table 4.6 below.

Table 4.6 Judgement Matrix of First-Level Index of Human Capital Evaluation Index of College Students' Entrepreneurship

	Entrepreneurial Awareness	Innovative Spirit	Innovation and Entrepreneurial Abilities	Weight	Maximum Feature	CI	CR
Entrepreneurial awareness	1	2	1/2	0.312	3.054	0.027	0.046
Innovative spirit	1/2	1	1/2	0.198			
Innovation and entrepreneurship ability	2	2	1	0.49			

Therefore, it can be considered that the expert comprehensive judgment matrix has satisfactory consistency, and the characteristic vector calculated is acceptable; that is, the index of college students' innovation and entrepreneurship ability corresponds to the weight of each secondary index. Lastly, we can consistently calculate

the weights of all the tertiary indicators. Finally, it is concluded that the ownership weights of the elements in the training mode of innovation and entrepreneurship ability among art college students are shown in Table 4.7 below.

Table 4.7 Weight Setting of Factors of Innovation and Entrepreneurship Training Mode of Art College Students

First-level Index	Weights	Secondary Indicators	Weights	Three-level Index	Weights
Entrepreneurial sense	0.312	Entrepreneurial motivation	0.50	Realistic need	0.50
		Entrepreneurial confidence	0.50	Achievement	0.50
		Passion for innovation	0.443	Rational assessment	0.50
				Entrepreneurial	0.50
Innovative spirit	0.198	Questioning spirit	0.387	Not sticking to	0.211
				Be pioneering	0.241
		Cooperative spirit	0.169	Initiative	0.548
				Problem awareness	0.25
Innovation and entrepreneurial abilities	0.49	Innovation ability	0.152	Critical Spirit	0.25
		Knowledge learning ability	0.133	Willingness to reform	0.50
		Ability to transform results	0.174	Understanding	0.387
		Product Development	0.113	Mutual benefit	0.170
		Ability to grasp	0.109	Keep the Covenant	0.443
		Resource integration	0.132	Innovation results	0.327
		Team building skills	0.120	Individual innovation	0.260
		Operational management	0.067	Innovative thinking	0.413
				Knowledge	0.376
				Knowledge acquisition	0.149
				Knowledge transfer	0.474
				Knowledge production	0.260
				Technical absorption	0.260
				Technology	0.327
				Technology transfer	0.413
				Product research and	0.5
				Product application	0.5
				Opportunity	0.333
				Entrepreneurial	0.667
				Resource	0.5
				Resource usage ability	0.5
				Team-building ability	0.169
				Team execution ability	0.387
				Communication and	0.443
				Strategic management	0.311
				Market development	0.199

(3) Result analysis of weight assignment for evaluation indices

The results of the evaluation of the importance degree of factors in the training model of college students' innovation and entrepreneurship ability show that in the index structure of the training model of college students' innovation and entrepreneurship ability, the weight of entrepreneurial consciousness is 0.312, the weight of innovative spirit is 0.198, and the weight of innovative and entrepreneurial ability is 0.49. The weight of innovation and entrepreneurial ability is the highest, and its importance is the most prominent. In contrast, the weight and importance of entrepreneurship consciousness and innovation spirit are inferior to those of innovation and entrepreneurial abilities. This finding is highly consistent with the objective requirements of entrepreneurial activities, specifically the need for practical ability. The weight and importance of entrepreneurial consciousness are second only to innovation and entrepreneurial abilities, indicating that entrepreneurial consciousness is of high importance to the training of entrepreneurial human capital of college students. The weight and importance of the spirit of innovation are lower than those of innovation, entrepreneurial ability, and entrepreneurial consciousness. The reason may be that the innovative spirit is a more recessive and latent characteristic of human capital elements. Compared with innovation, entrepreneurial ability, and entrepreneurial consciousness, the innovation spirit has weaker externality, which leads to a lower understanding of its importance among survey subjects.

In evaluating the elements of entrepreneurial consciousness, the weights assigned to entrepreneurial motivation and entrepreneurial confidence are 0.5 each, indicating that these two factors are equally important to the concept of entrepreneurial consciousness. In evaluating the elements of innovation spirit, the weights of innovation passion and questioning spirit are higher, at 0.443 and 0.387, respectively. The weights of initiative spirit, reform willingness, and adherence to contract are also higher in the three indices, indicating that these factors are of high importance to innovation spirit. In evaluating the elements of innovation and entrepreneurial ability, the weight of achievement transformation ability is the highest, and the weights and importance of innovative thinking, knowledge production ability, and technology transformation ability are higher in the three-level indicators. In addition, the weight of innovation ability is second only to the ability to transform results, while the weight

of operation and management ability is relatively low. The analysis may be attributed to the lack of experience in entrepreneurship and the insufficient enterprise management abilities of entrepreneurial college students in China's art universities, resulting in insufficient attention to operational and management skills among the survey respondents.

4.4 Presentation of the Qualitative Section

Through in-depth interviews, we can gain insights into the current state of entrepreneurship education for college students at School A. The interviews are then summarized, screened, and the data captured to identify the qualities and abilities required for innovation and entrepreneurship among college students, which will inform the design of the questionnaire.

4.4.1 Synopsis of the Interview

Table 4.8 Synopsis of the Interview

Serial Number	Conversations
1	Self-introduction.
2	Purpose, content, and scope of use of this interview, and confidentiality measures.
3	Basic information about the interviewer: gender, grade, and major.
4	What do you understand by innovation and entrepreneurship?
5	What do you think is the impact of entrepreneurship education in colleges and universities on college students in the current context?
6	Do you think there are any problems in the current context of entrepreneurship education in colleges and universities in terms of faculty, curriculum, teaching process, etc.?
7	What advice would you give to college entrepreneurs?

4.4.2 Interviewees

Case interviews were conducted with two successful entrepreneurs who graduated from College A and five current college students. The current state of entrepreneurship and entrepreneurship education was examined in depth and summarized, and relevant records were compiled. Between April 2023 and June 2023, two graduates and five college students were interviewed.

4.4.3 Interview Process

The first step involved creating the outline. Based on the literature review summarized in Part II, a structured interview outline was developed to address the research questions posed in this paper. The main content is presented from two aspects: the first part, which includes introductory remarks prior to the interview. In the second part, the interviews mainly focused on four questions: the understanding of entrepreneurship, what specific impacts colleges and universities have on college students in terms of entrepreneurial education in the current environment, whether there are any problems in terms of faculty, curriculum, teaching process, etc., and what advice they would like to give to college student entrepreneurs. See Appendix A.

(1) Contacting the interviewees. Since the two interviewees who had graduated were busy with their work and often traveled, they made appointments by phone and agreed on different times to conduct the relevant interviews. We conducted face-to-face interviews with five current students.

(2) Establishing mutual trust. Initially, the purpose of this visit needs to be made clear to the interviewees, as well as the scope of use for the content after the interview. They are promised to keep the private information of the interviewees strictly confidential and use it only for the dissertation research and exploration in order to gain the trust of the interviewees.

(3) Conducting the interview. The interviewer meets with the interviewee at an agreed-upon time and place and is provided with an outline of the interview to review and answer any questions the interviewer may have. The interviewer is given the outline to review, and any questions are answered. The interviewer is then asked to ask questions about each of the topics in the outline and to discuss their own experiences and feelings, adjusting their responses according to the actual situation encountered during the interview.

(4) Interview transcription, in communication and coordination with the interviewees, the content of the interview through the two types of transcription, and a tape recorder

Real-time recording is achieved by combining various recording methods. This approach ensures that the recordings remain complete and accurate throughout the interview process.

4.4.4 Interview Summaries

In response to the four questions in the interview outline, each interviewer had unique insights, and the results are summarized below after summarizing the interview transcripts:

First, the progress of innovative and entrepreneurial education can contribute to the development of society and serve as a model for the effective training of talent.

This approach represents an inevitable trend, embodies an innovative concept of education, and is a result of educational reform. To implement it effectively, it can be achieved through a matching education and teaching system, effective teaching methods, a well-structured teaching process, a qualified teaching staff, a robust guarantee system, and other relevant measures. It is of enormous significance to cultivate several innovative talents for the construction and development of an innovative country.

Secondly, innovation and entrepreneurship education is a comprehensive and integrated form of quality education, especially for college students. This comprehensive quality education has cultivated students' innovative and entrepreneurial awareness, fostering their innovative thinking and entrepreneurial abilities, with a positive impact on their overall development. It can help students not only master professional entrepreneurial knowledge, skills, and qualities but also establish a correct entrepreneurial outlook and enhance their entrepreneurial consciousness; additionally, it provides support for students with entrepreneurial plans and increases the success rate of entrepreneurship. At the same time, it can also aid students with entrepreneurial plans and promote the success rate of entrepreneurship. Through education and guidance, a correct view of employment and entrepreneurship should be established. Educational objectives should be consciously internalized, innovative entrepreneurial knowledge should be actively taught, and innovative entrepreneurial skills should be actively cultivated.

Thirdly, in the process of implementing innovation and entrepreneurship education, there is a shortage of professional innovation and entrepreneurship teachers at College A. Teachers who lack professional experience in entrepreneurship education are unable to meet the needs of entrepreneurship courses. College A does not consider

entrepreneurship a distinct field of study and sporadically integrates courses into its curriculum. The role of the entrepreneurship program instructor group is limited. Full-time entrepreneurship teachers are often rich in theoretical knowledge. However, most of them lack practical experience in entrepreneurship, which prevents them from meeting the demand for practical guidance, resulting in a disconnect between theory and practice. In addition, schools often hire external entrepreneurs or experts to serve as tutors; however, this situation often lacks systematization, and the time allocated for guidance is limited, or the limited number of lectures can only play a short-lived role. Although students favor this kind of arrangement, it has its drawbacks. These instructors lack experience in teaching, and their teaching effect sometimes fails to meet the school's teaching standards. The curriculum also lacks a systematic and unified approach, primarily in the form of a single course. Entrepreneurship education needs to break away from the traditional teaching mode and increase the proportion of various forms of education, such as entrepreneurship training, practical simulations, and practical experiences in entrepreneurship courses. Secondly, the number of courses is limited. Statistics from Part III show that there are only 8 innovative and entrepreneurial courses available in the personality development elective, of which 7 courses are 2 credits in weight and 1 course is 1 credit, so if each student only takes one or two innovative and entrepreneurial courses, he or she can obtain and complete the task requirement of 2 credits. In addition, the entrepreneurship courses in University A only exist in the general education and major courses, and there is no special "entrepreneurship management discipline", and these courses still have problems, such as insufficient segmentation of the courses, which is not suitable for different types and inadequate training support for students at the same level.

Fourth, there is a lack of a broader social and cultural climate and policy environment. For example, allowing and extending the time for college students to leave school to retain their student status, relaxing the criteria for business loans for college students, and reducing the tax burden for college students to start a business have a very limited impact on education. There are no relevant implementation rules to support entrepreneurship education overall, which affects its desired effect in terms of implementation. Entrepreneurship is a high-risk business for students, so they must be cautious and manage their risks when engaging in entrepreneurial activities.

Through interviews, more specifically, both at the national level and at the individual level, it is necessary to gain an in-depth understanding of the state of innovation and entrepreneurship-oriented education at the current stage of college students in college A to study the effectiveness of their innovation and entrepreneurship-oriented education, which is of practical significance. Additionally, the interviews offer strong argumentative support for writing the paper. Against the backdrop of economic globalization and cultural globalization, the inherent requirements of national education and teaching reform have led the state to introduce innovative and entrepreneurial education policies, which provide impetus for the development of innovative and entrepreneurial education and facilitate its rapid growth. With the advancement of science and technology, the social demand for talent has also evolved. Traditional talents can no longer keep pace with the rapid development of society. The slogan of "lifelong learning" has been revived, emphasizing the importance of enhancing self-competitiveness and adapting to societal development. Only by boldly seizing the opportunities and effectively addressing these challenges can we ensure the effectiveness of innovation and entrepreneurship education for college students and meet the economic and social development needs of innovative talents.

4.4.5 Ways to Cultivate the Innovation and Entrepreneurship Ability of Art College Students

The findings from the interviews suggest that there are various positive and effective ways to cultivate the innovation and entrepreneurship abilities of art college students in China, which are as follows.

4.4.5.1 Pay Attention to the Construction of the Innovation and Entrepreneurship Environment

Through the analysis of the constituent elements of art college students' innovation and entrepreneurship ability, it is found that the current management ability of art college students is lacking, so the author believes that if you want to cultivate better the management ability of art college students, which constitutes a key element of innovation and entrepreneurship ability, it is critical to pay attention to environmental construction and create an innovation and entrepreneurship atmosphere for students. To this end, first of all, art colleges should carry out more organizational

activities related to innovation and entrepreneurship for students, such as campus entrepreneurial club activities, entrepreneurial competition activities, innovation and entrepreneurship knowledge lecture activities, etc., to carry out these connotative and in-depth campus entrepreneurial activities, build a good situation of a hundred flowers blooming within the campus, and create a campus entrepreneurial atmosphere for students. Secondly, colleges and universities should actively publicize the laws and policies related to innovation and entrepreneurship so that the awareness of innovation and entrepreneurship becomes the mainstream of society, lets the family become the soil for the development of students' innovation and entrepreneurship, and lets students get better innovation and entrepreneurship growth with the common support of family and society, to truly create an innovative and entrepreneurial atmosphere of "mass entrepreneurship and innovation" and provide a guarantee for students to obtain the development of innovation and entrepreneurship ability.

4.4.5.2 Build a Knowledge System of Innovation and Entrepreneurship

In the process of helping art college students develop the elements of entrepreneurial ability, building an innovation and entrepreneurship knowledge system for students is key to cultivating their learning ability. Specifically, the author believes that the professional course system in art should be based on professional knowledge courses, supplemented by general knowledge courses and courses that foster innovative and entrepreneurial thinking, thereby promoting students' comprehensive quality and ability through the combination of these three elements. First, in terms of professional knowledge courses, the vast majority of art colleges and universities have improved their curriculum construction. In the future, colleges and universities can combine China's national conditions to make targeted adjustments to professional knowledge courses. In terms of general knowledge courses, the author believes that, in addition to the public courses offered in the past, quality education courses, career planning courses, career guidance courses, and mental health education courses can also be added to provide impetus for innovation and entrepreneurship. Finally, in terms of innovative thinking courses, in addition to the introduction to entrepreneurship courses, they can also carry out courses on success and entrepreneurship for students and introduce some typical cases for students so that students can always maintain their awareness of innovation and entrepreneurship to help students acquire learning ability,

which constitutes a key element of innovation and entrepreneurship.

4.4.5.3 Build a Practice Platform for Innovation and Entrepreneurship Education

Practical ability, as a key element of innovation and entrepreneurship, is crucial for enhancing the practical skills of art college students. This can be achieved by integrating internal and external resources and establishing a practice platform for innovation and entrepreneurship education. Firstly, art colleges should establish art research institutes for students and, simultaneously, build practice bases for them, providing students with more practical hands-on sessions to facilitate the transformation of knowledge and ability. Secondly, art colleges should strengthen cooperation with enterprises so that teachers in the academy can gain a deeper understanding of the practical aspects of enterprises and further transition from knowledge transfer to knowledge application, ensuring the improvement of students' practical abilities. In addition, colleges can also hire professional tutors with the help of enterprise resources to enable more enterprise tutors to teach within the institution, allowing students to acquire more up-to-date knowledge and promoting the improvement of practical skills. Finally, enterprises can participate in front-line art design through school-enterprise cooperation and allow students to participate in front-line art design through practical training and other means, which is the embodiment of building a practical platform for innovation and entrepreneurship education for students, which can help pupils acquire practical ability, which constitutes a key element of innovation and entrepreneurship ability.

4.4.5.4 Conclusion

In conclusion, the results suggest that innovation and entrepreneurship education convey a key insight: higher education should adapt to the evolving needs of social and economic development. It caters to the trend of social development. As an important place to cultivate innovative and enterprising qualities in college students, colleges and universities have significant responsibilities and tasks. The ability of college students to innovate and engage in entrepreneurship will directly impact their self-entrepreneurial skills.

Based on a large number of documents and materials and combining the basic concepts of college students' innovative and entrepreneurial ability, this paper

selects the innovative and entrepreneurial ability of college students of Guangxi A university as the research object, by using the method of literature, questionnaire and interview, this paper obtains the basic data of A university students' innovative and entrepreneurial ability, finds out the problems and reasons, and puts forward the corresponding countermeasures and suggestions. I hope that through their research, they will attract the attention of relevant departments to promote the development of innovation and entrepreneurship education in colleges and universities.

The reason this research chooses “A university student innovation and entrepreneurship development path research” as the object of the thesis is mainly because current university student innovation and entrepreneurship face many problems. Some colleges and universities prioritize the education of innovation and entrepreneurship, which hinders college students' ability to innovate and engage in entrepreneurship to a certain extent, and affects their self-esteem.

4.5 The Summary of This Chapter

Through data analysis, it is evident that actual entrepreneurial college students have undergone the baptism and tribulations of entrepreneurial practice, as well as entrepreneurial failure. However, in the entrepreneurial process, they often accumulate a wealth of personal ability and experience, which is unmatched by non-entrepreneurial college students. Therefore, entrepreneurship is a career path that can significantly enhance their comprehensive ability, which is one of the fundamental reasons why the state has recently vigorously advocated for college students' innovation and entrepreneurship.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

Innovation and entrepreneurship, as a driving force behind societal development, play a crucial role in a country's national economy. College students, characterized by their advanced knowledge, wealth, and strength, as well as active thinking and eagerness to adopt new ideas, are a vital force in innovation and entrepreneurship, serving as a reserve force for the nation's future development. Therefore, college students must receive better education on innovation and entrepreneurship. Colleges and universities should also adapt to current development trends and adjust the content of innovation and entrepreneurship education promptly to meet the needs of society and college students for innovation and entrepreneurship. For this reason, it is necessary for colleges and universities to constantly reform and improve the construction of teaching staff, education and teaching system, guarantee system, etc., to be conducive to the smooth development of innovation and entrepreneurship education, gradually improve the quality of teaching and learning of innovation and entrepreneurship education, and truly serve the innovation and entrepreneurship activities of college students so that more college students can grow up and become successful in learning and entrepreneurship.

The primary purpose of this study is to construct a more standardized, scientific and systematic set of indicators of innovation and entrepreneurship ability of art college students in line with China's national conditions and the laws and characteristics of college students' innovation and entrepreneurship development and to empirically evaluate the overall development level of innovation and entrepreneurship ability of art college students in China by using fuzzy comprehensive evaluation to reveal the problems existing in the structure of various indicators of innovation and entrepreneurship ability of art college students in China. The relationship between professional ability, innovation, and entrepreneurship ability in art college students was tested. The main conclusions of the study are as follows:

- (1) This study constructs a set of indicators for the innovation and

entrepreneurship abilities of art college students, aligning with the characteristics of innovation and entrepreneurship as well as the developmental principles in art colleges and universities in China. These indicators encompass three levels: entrepreneurial awareness, innovative spirit, and overall ability in innovation and entrepreneurship.

(2) Based on the constructed evaluation index of entrepreneurial human capital among art college students, the overall level of entrepreneurial human capital among art college students in China is empirically evaluated through fuzzy comprehensive evaluation. The evaluation results indicate that among the evaluation indicators of entrepreneurial human capital among college students in art colleges and universities in China, the score for entrepreneurial ability is the highest, followed by the score for innovative spirit, and the score for entrepreneurial awareness is the lowest.

(3) Theoretically, the internal mechanism of generating college students' innovation and entrepreneurship abilities is discussed, and a research hypothesis is proposed that there is a positive correlation between the professional ability of art college students and their innovation and entrepreneurship. The results indicate that the professional ability of art college students has a significant positive correlation with innovation and entrepreneurship.

5.2 Recommendations

The study of innovation and entrepreneurship education for college students in art colleges and universities is insufficient to rely solely on cultivation at the college level; it also requires the cooperation of individual efforts. The effectiveness of cultivation is ultimately reflected in the individual actions of college students; therefore, they should fully utilize their subjective initiative and actively cultivate their innovation and entrepreneurship.

5.2.1 Individual Level

5.2.1.1 Changing the Concept of Employment and Establishing a Sense of Innovation and Entrepreneurship

Interest is the best teacher, which is fully reflected in the innovation and entrepreneurship of college students. It also shows that internal factors are the basis for the development of things and that students' interests and other internal factors play a

significant role in the emergence of entrepreneurial awareness. Students' knowledge of entrepreneurship, entrepreneurial attitude, entrepreneurial interest, and other internal factors will affect the cultivation of entrepreneurial awareness. College students themselves significantly influence the development of their entrepreneurial consciousness, as they are the primary recipients of innovative and entrepreneurial education. Colleges and universities can only serve as guides and educators in cultivating college students' entrepreneurial awareness, which is considered an external factor. Students are ultimately responsible for implementing the effectiveness of the cultivation. If individual college students have a flawed understanding of entrepreneurship, external education and guidance will be filtered out by them, and they will persist in their original attitude towards entrepreneurship. Therefore, if the cultivation of college students' entrepreneurial awareness is to be effective and the guidance of college students' entrepreneurship is to be truly integrated into their cognitive system, the first step is to encourage college students to take full initiative and change their attitudes towards entrepreneurship. In the current employment climate, pressure is immense to change the traditional concept of employment and establish a sense of self-employment; entrepreneurship is not lost as a new employment channel. To establish a clear view of career choice, change one's attitude and perspective on entrepreneurship to open up their vision and adopt a longer-term perspective. College students should consciously revise their employment concepts and view innovation and entrepreneurship in a correct and rational manner.

5.2.1.2 Actively Participate in Practical Activities to Cultivate Innovative Thinking

College students should cultivate their innovative thinking in practical activities. Innovative thinking is an advanced form of thinking, characterized by a process that draws on one's own experience, discovers new things, and creates new ways to solve existing problems. If college student entrepreneurs cannot effectively apply innovative thinking, they will lose their core competitiveness in the entrepreneurial process, and their market activities will be difficult and unsustainable. Regarding the research on the significance of college students' participation in practice, most researchers primarily explain the role of social practice in students' ideological and political education, the cultivation of college students' hands-on abilities, and the

enhancement of interpersonal relationship skills. However, the saying "practice produces true knowledge" suggests that the primary purpose of social practice is to enhance knowledge. As the saying goes, "reading a thousand books is not as good as travelling ten thousand miles," which also shows that college students can help themselves accumulate knowledge in various aspects by participating in social practice. Social practice provides a valuable platform for college students to engage with the outside world, which helps them understand national conditions and society, and thus accumulate more knowledge. The generation of innovative thinking among college students is not groundless, and it requires certain knowledge for preparation. The improvement of college students' knowledge level lays the foundation for their innovative thinking. From this perspective, social practice promotes the development of college students' innovative thinking by improving their knowledge level. A strong environment for cultivating innovative thinking has a positive impact on the active participation of college students in social practice. College students should actively participate in innovation and entrepreneurship projects, climbing programs, the Challenge Cup and other social practice and innovative thinking closely integrated with the practical activities, and in the specific social practice activities, focus on the development of their innovative thinking ability so that innovative thinking in the specific social practice activities can be constantly improved.

5.3 Higher Education Level

The continuous reform and optimization of the innovation and entrepreneurship education system in art colleges and universities is a guarantee for schools to achieve their goal of innovation and entrepreneurship, and an important way to improve the quality of education and teaching, as well as the employability of students. To further enhance the level of education and teaching, as well as the comprehensive quality of students, this thesis explores and summarizes the following ideas and countermeasures for teaching reform based on the experimental education and teaching conducted in this school.

5.3.1 Strengthening the Top-level Design Argument and Promoting the Improvement of Institutional Mechanisms

Art colleges and universities should regularize the top-level design and optimization of innovation and entrepreneurship. Following the national guidance, at the school level, regularly organize the innovation and entrepreneurship authorities with experts of various professions and representatives of "politics and enterprises" to fully demonstrate and plan the objectives, contents, methods and standards of the innovation and entrepreneurship education system of the school and summarize the stage-by-stage innovation and entrepreneurship education experience. Ensure that the construction direction and goal of the innovation and entrepreneurship education system are clear and highly consistent with the discipline construction and discipline development planning. On this basis, the school innovation and entrepreneurship authorities should continue to broaden their horizons, fully emancipate their minds, integrate the resources of teachers, laboratories, practice bases and scientific research of music and dance, art and design, theatre, film and television and other disciplines in the mindset of "the whole school double-creative chess", and continuously improve the relevant management and incentive mechanisms to promote the healthy development of the innovation and entrepreneurship education system. The university will continue to enhance the relevant management and incentive mechanisms, promoting a benign cycle and high-quality development of the innovation and entrepreneurship education system.

5.3.2 Strengthening Teacher Training and Promoting In-depth Integration with Professional Arts Education

Teachers are both researchers of innovation and entrepreneurship education theories and practitioners of implementing innovation and entrepreneurship education activities. They are also the backbone of promoting the deep integration of innovation and entrepreneurship education with art professional education. During the process of developing teachers, we can enhance teacher training by formulating professional competence standards for innovation and entrepreneurship education teachers, clarifying their professional requirements and evaluation standards, establishing a scientific evaluation and incentive system, and assisting teachers in determining their development goals. This approach aims to fully mobilize teachers'

enthusiasm for participating in innovation and entrepreneurship education. Secondly, "internal training and external attraction" is promoted simultaneously to build a reasonable structure of the teaching team. Strengthening the investment in the training of the faculty, focusing on the cultivation and guidance of dual-teaching and dual-capable teachers who are "multi-talented" at the same time, improving the performance appraisal method to enhance the effectiveness of management. When promoting the deep integration with art education, we can learn from the idea of ideological education and add the cultivation of innovative thinking and entrepreneurial ability into the curriculum and teaching process of art majors so that the combination of "curriculum dual-creation" and "dual-creation course" can continuously promote the innovation and entrepreneurship education and art education. The combination of "curriculum bi-creation" and "bi-creation course" continuously promotes the deep integration of entrepreneurship education and art professional education.

5.3.3 Strengthening Linkages and Building an "Open, Diversified and Digital" Cooperation Platform

Strengthening intra-school and inter-school linkages and building an "open, diversified, and digital" platform for exchange, cooperation, and resource sharing is one effective way for comprehensive colleges and universities to improve the quality of education and teaching, as well as innovation and entrepreneurship. In terms of internal linkage, schools can reform the management mode, improve the flexibility and adaptability of management, and establish a more open, innovative, and flexible management system. Schools can foster cooperation and communication among disciplines and facilitate the exchange of essential resources by establishing a smooth information communication mechanism and other methods. In terms of inter-school linkage, a platform for exchanges, cooperation, and resource sharing has been established through the model of "mutual learning, progress, common construction, and sharing." Using "mutual assignment of teachers", "collective lesson preparation", "sharing of teaching resources" and "scientific research co-operation", we can realize the complementary advantages in education and teaching, which can not only promote the innovation and entrepreneurship of each art university but also promote the innovation and entrepreneurship of each art university. The complementary advantages of education and teaching can not only promote the high-quality development of

innovation and entrepreneurship education in art universities but also improve the construction of disciplines in this field of exchange and cooperation. It is especially important to note that in the construction of an open exchange and sharing platform, blockchain, big data, artificial intelligence, and other technologies should be used (e.g., an online platform can be built based on the micro-service architecture of cloud computing and containerization technology; blockchain technology can be used to protect the copyright of learning materials such as textbooks, lesson plans, cases, and teaching videos; artificial intelligence technology can be used to sniff and analyze policy and industry information, etc.).

5.3.4 Promote Interdisciplinary Cross-fertilization and Strengthen Inputs for Results Transformation

Cross-border integration is a vital part of innovation and entrepreneurship education. In art colleges and universities, cross-fertilization between disciplines such as art, design, engineering, and management can be encouraged to enhance the cross-border fusion thinking and abilities of teachers and students. We can cultivate innovative talents with a broader vision and richer ways of thinking through interdisciplinary approaches. For example, interdisciplinary teaching of innovation and entrepreneurship projects can be organized so that students from different disciplines collaborate to complete the projects, thereby promoting the exchange and integration of different professional fields.

Strengthening investment in the transformation of achievements is the basis for improving the rate of transformation, and it is also the best way to produce rapid results at this stage. Colleges and universities can increase their funding sources for transformation by seeking project funding from the government, collaborating with enterprises on project development, and establishing a fund for scientific research results. Colleges and universities can also establish an effective supervision system to enhance the investment and management of funds allocated for transforming the innovative results of teachers and students. In addition, by encouraging teachers and students to apply for patents and intellectual property protection and opening courses related to patents and intellectual property protection, teachers and students can understand the ways and processes of patents and intellectual property protection and

improve the awareness and ability of intellectual property protection to increase the guarantee and benefit of the transformation of achievements. Organize to participate in or hold various kinds of fruit fairs, technology transfer events, and other ways to expand the exposure of fruit transformation, increase the opportunities for cooperation, and further improve the transformation rate.

5.4 Research Shortcomings and Prospects

Due to the limited time and capacity to conduct the research, this study remains deficient in several aspects. It will subsequently continue to build upon existing research and conduct more in-depth exploration in this and related areas.

5.4.1 Shortcomings of the Study

The study examined research on innovation and entrepreneurship education pathways with scientific rigor and adherence to standard research criteria. The following limitations and shortcomings may still exist in the study.

Firstly, the study faces constraints in terms of sample measurement and data. The primary focus of this study is on the current college students in Guangxi art colleges and universities, rather than investigating and following up on the innovation and entrepreneurship situation of graduated students. Geographical restrictions and population limitations also limited the study's sample, and future research aims to cover a diverse group of potential entrepreneurs. The researcher only collected cross-sectional data, but longitudinal data may provide more effective research support for entrepreneurship research.

Secondly, although the measurement scales used in this study are adapted from established scales developed by foreign experts and scholars, they have been modified through translation and cultural adaptation. These mature scales have been validated in China and demonstrate good reliability and validity for this study; however, situational differences between the original scales may lead to measurement errors. Therefore, it is necessary to develop new scales for Chinese scenarios in future studies and to conduct follow-up surveys on the study sample to obtain more scientific data.

Lastly, the limitations of the structural model are examined. This study analyzes research on innovation and entrepreneurship education for college students

from the perspectives of innovation and entrepreneurship education, the construction of innovation and entrepreneurship systems, and effective ways of innovation and entrepreneurship, which are representative variables in the complex process of entrepreneurial decision-making and entrepreneurial actions. There may be other variables that influence the generation of entrepreneurial intention and the achievement of entrepreneurial behavior. At the same time, other social characteristics of individuals, such as their growth environment, family background, working and non-working environments, and other factors, are likely to affect the results of innovation and entrepreneurship education to a certain extent. Therefore, in future research, we can attempt to incorporate other social characteristics of individuals into the model of entrepreneurship and entrepreneurship education to conduct more in-depth research.

5.4.2 Directions for Future Research

The results of empirical studies show that innovative entrepreneurship education has a significant impact on the entrepreneurial attitudes and entrepreneurial intentions of university students. Nonetheless, generalizing these results to higher education practice may still be an open question.

Little is known about the potential causal relationship between certain educational variables (participant choice, past entrepreneurial exposure, course content, teaching methods, the professional profile of teachers, available resources, etc.) and entrepreneurial intentions, as well as individual entrepreneurial behavior. The question of how the process of developing a business plan influences individual intentions warrants rigorous empirical research. How does the type of pedagogy (active vs. passive, face-to-face vs. online learning, etc.) affect the level of intention? How do educators' profiles and backgrounds affect students' intentions? How do educators' entrepreneurial intentions affect their students' entrepreneurial intentions? How does the content of entrepreneurial education programs (theoretical and practical knowledge) affect students' intentions? Future research could also explore several related issues, such as the interrelationship between students' entrepreneurial intentions and the quality of entrepreneurial learning, as well as the development of entrepreneurial competencies within the educational environment. The above questions regarding innovation and entrepreneurship education research require further consideration and exploration in future studies.

5.5 Summary of this Chapter

Based on the research results of the previous papers, this chapter obtains relevant research conclusions, summarizes the main innovations of this paper, puts forward targeted research enlightenment for the rational development of innovation and entrepreneurship education for college students in China's art colleges, and summarizes the research shortcomings and future research prospects of this paper. To effectively develop innovation and entrepreneurship education for college students in art colleges and universities, it is essential to establish a collaborative cultivation mechanism known as the "dual-core drive," which involves both individuals and universities. College students themselves should conform to the trend of the times, change their employment concepts, and establish entrepreneurial awareness; actively participate in practical activities and cultivate innovative thinking; based on the perspective of innovation and entrepreneurship ability training, art colleges and universities should update the concept of talent training and clarify the value of innovation and entrepreneurship education. Strengthen the effective integration of innovation and entrepreneurship education with professional education; promote collaborative innovation and establish a platform for industry-university-research cooperation and innovation; optimize the curriculum system and build a high-level teaching team; enhance traditional teaching forms and strengthen the practice of innovation and entrepreneurship.

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