

Research on Optimizing the Innovation and Entrepreneurship Education Mechanism for College Students in Local Universities in China

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Abstract: This paper studies the mechanism for cultivating the entrepreneurial ability of college students in local universities. By investigating local undergraduate colleges in Guangdong Province, China, the current situation and problems are analyzed using questionnaires and interviews. The study found that college students have insufficient knowledge of entrepreneurship education, the curriculum is out of touch with practice, the level of teachers is different, and the innovation atmosphere and support system need to be improved. Based on this, this paper proposes improvement suggestions such as optimizing curriculum settings, strengthening teacher construction, improving practice platforms, increasing student participation, and improving support systems and evaluation feedback mechanisms. The purpose is to optimize the mechanism for cultivating the entrepreneurial ability of college students in local universities through these measures and provide talent support for the national innovation-driven development strategy.

1. Introduction

In the context of globalization and informatization, the innovation-driven development strategy has become a key driving force for the sustainable development and transformation and upgrading of the national economy and society. As an important base for knowledge innovation and technological innovation, colleges and universities shoulder the important task of cultivating innovative and entrepreneurial talents. With the rapid development and popularization of higher education, the number of college students has increased sharply. Faced with the challenges of the new normal and new situation of the economy, the concept of "mass entrepreneurship and innovation" has inspired young people's entrepreneurial enthusiasm. However, there is a gap between ideals and reality. College students often have difficulties on the road to entrepreneurship due to lack of social experience, network resources and financial support (Miao Sihong, 2024)^[1].

Therefore, improving college students' innovation and entrepreneurship capabilities and providing solid support have become urgent issues to be solved in innovation and entrepreneurship education in colleges and universities. With the rise of Generation Z youth, the demand for talents by enterprises has undergone profound changes, and they pay more attention to the innovation ability of talents, the consistency of growth direction and business strategy, and comprehensive and diverse ability and quality (Wang Xinchun, Teng Lili, 2024)^[2]. Building a talent training system oriented towards innovation and entrepreneurship will not only help cultivate students' innovative thinking and practical ability, but also meet the diversified needs of enterprises for talents.

In recent years, although colleges and universities have strengthened their attention to innovation and entrepreneurship education, overall, my country's innovation and entrepreneurship education is still in its infancy, with problems such as a single teaching model, uneven teacher quality (Zhou Zhifang, 2020)^[3], disconnection from professional education, and weak practical teaching (Jiang Junyu, Yi Miaoqing, 2019)^[4]. These problems restrict the quality and effectiveness of innovation and entrepreneurship education and affect the cultivation of college students' innovation and entrepreneurship capabilities. The Party and the State attach great importance to innovation and entrepreneurship, regard it as an important strategic support for national development, and have introduced a series of incentive policies and measures. As the main force of the innovation and entrepreneurship wave, the growth and development of college students is related to the future of the country. Therefore, strengthening the cultivation of innovative and entrepreneurial talents in colleges and universities is not only a positive response to the national strategy, but also an inevitable requirement for the development of higher education. From a theoretical perspective, innovation and entrepreneurship education has enriched the content of modern education and changed the traditional education model (Xia Yan, 2021)^[5]; from a practical perspective, it can provide talent reserves for national economic development, alleviate employment pressure, and promote social harmony and stability.

As a major province of innovation and entrepreneurship, Guangdong Province has active innovation and entrepreneurship activities and achieved remarkable results. At the same time, students in local colleges and universities account for a high proportion of enrolled students in universities across the country. Taking 2020 data as an example, students in local colleges and universities account for more than 90% (China Education Finance, 2024)^[6], which is an important part of higher education. Therefore, this article uses local undergraduate colleges in Guangdong Province as a case study to obtain first-hand data on the cultivation of innovation and entrepreneurship among college students through questionnaires and interviews.

This article uses a combination of questionnaire survey and in-depth interviews to conduct a survey on teachers and students of a local undergraduate university in Guangdong Province. The questionnaire design covers the curriculum, teaching staff, practice platform, policy support, etc. of innovation and entrepreneurship education, aiming to comprehensively understand the current situation of innovative and entrepreneurial talent training in colleges and universities, and reveal the existing problems and their causes in the training of innovative and entrepreneurial talents in colleges and universities. At the same time, through in-depth interviews, we further explore the true feelings and needs of teachers and students for innovation and entrepreneurship education, explore the expectations and suggestions of teachers and students for innovation and entrepreneurship education, and provide a reference for building a more scientific and efficient innovation and entrepreneurship talent training mechanism.

2. Current Status and Problems of Talent Cultivation of Innovation and Entrepreneurship in Local Universities

This study uses questionnaire survey and interview methods. In the questionnaire survey, students from local undergraduate colleges and universities in Guangdong Province were selected as the survey subjects, and the questionnaire survey was conducted by randomly distributing questionnaires on campus and distributing questionnaires online. A total of 380 questionnaires were distributed, and 316 valid questionnaires were collected, with an effective recovery rate of 83.16%. The questionnaire survey was carried out from many aspects. At the same time, in order to further fully grasp the situation, we conducted in-depth interviews with teachers from 5 local colleges in Guangdong Province to solicit relevant information on the current situation, existing problems, countermeasures and suggestions for the cultivation of innovative and entrepreneurial talents in colleges and universities. The questionnaire survey and interview information are now sorted out.

2.1. Students' cognition and attitude towards innovation and entrepreneurship education

The survey results show that students' awareness of innovation and entrepreneurship education is generally low. Only 4.49% of students said they are very familiar with innovation and entrepreneurship education, while 44.87% of students know part of it, 42.95% of students know little, and 7.69% of students know nothing at all. This data reveals that students' awareness of innovation and entrepreneurship education is insufficient, indicating that colleges and universities are insufficient in popularizing and promoting innovation and entrepreneurship education.



Figure 1. Understanding of innovation and entrepreneurship education for college students

Further analysis of students' attitudes towards innovation and entrepreneurship education, as shown in Figure 2, 46.79% of students believe that it is acceptable and necessary; 41.03% of students believe that it is necessary for students in certain majors. This shows that most students have a positive attitude towards innovation and entrepreneurship education, but some students still disagree with it, which may be related to students' lack of understanding of the value of innovation and entrepreneurship education.

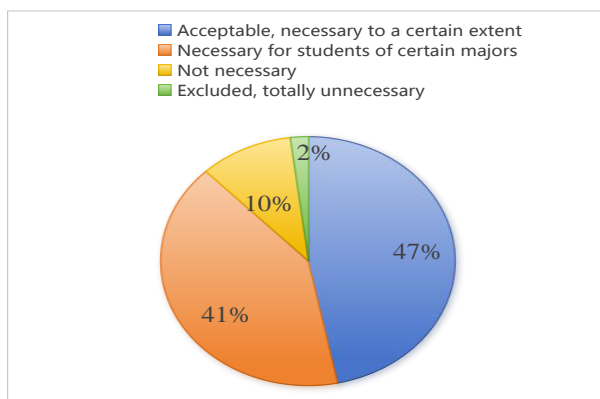


Figure 2. College students' attitude towards innovation and entrepreneurship education

2.2. Satisfaction with curriculum setting

In terms of curriculum setting, 40.98% of students believe that the school's curriculum setting cannot meet the needs of the goal of cultivating innovative and entrepreneurial talents, 47.83% of students believe that it can basically meet the needs, and only 11.2% of students believe that the curriculum setting fully meets the needs of the goal of cultivating innovative and entrepreneurial talents. This shows that most students are not satisfied with the current curriculum setting of the school.

2.3. Satisfaction with the innovation and entrepreneurship atmosphere

As shown in Figure 3, more than half of the students believe that the school's innovation and entrepreneurship atmosphere is average, and 30.77% of students agree that "the school's innovation and entrepreneurship atmosphere is very good." This shows that the school's innovation and entrepreneurship education atmosphere needs to be improved.

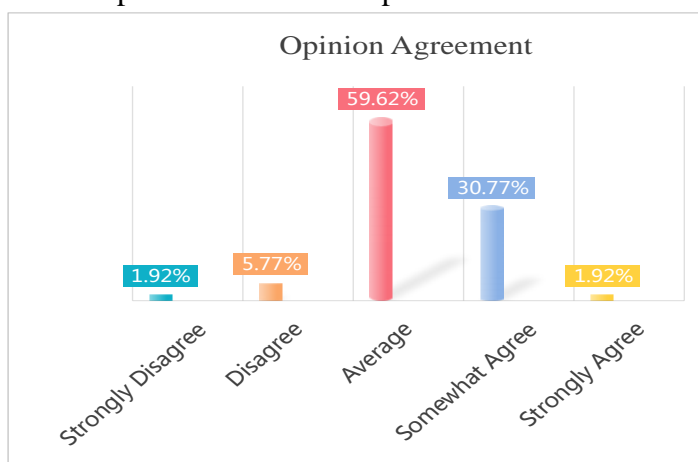


Figure 3. Agreeing with the view that "the school has a good atmosphere for innovation and entrepreneurship"

2.4. College students' entrepreneurial intention and influencing factors

The survey also examined students' entrepreneurial intention and influencing factors. 64.74% of students did not have entrepreneurial ideas, while 35.26% of students did. Among the factors

affecting entrepreneurship, financial status and personal ability are the two main factors (see Figure 4). This shows that in the process of entrepreneurship, students generally believe that funds and personal ability are the main obstacles to their entrepreneurship.

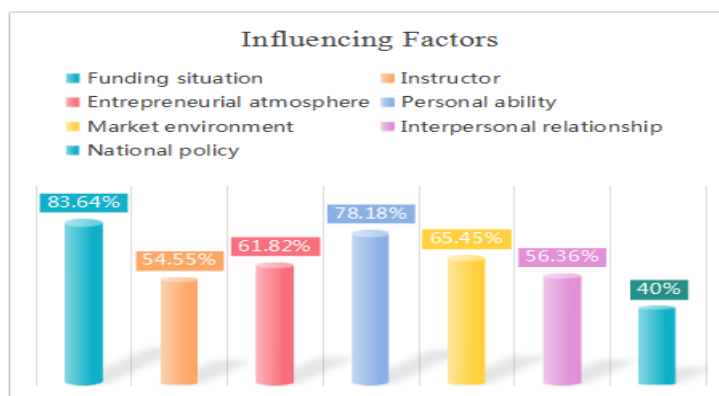


Figure 4. Factors affecting entrepreneurship

2.5. Attitudes and specific measures of schools and teachers

We conducted in-depth interviews with 5 teachers through the interview method. The teacher interviews showed that the school had revised the talent training program many times, added elective courses related to innovation and entrepreneurship, and encouraged students to participate in practical projects to enhance their innovation and entrepreneurship capabilities. These revisions have achieved high student satisfaction, indicating that students have a positive attitude towards innovation and entrepreneurship education and a need for practical opportunities.

Teaching strategies are also an area that teachers generally said they pay more attention to in class. Teachers said that many teachers now intentionally adopt a variety of strategies in class to promote students' innovative thinking and entrepreneurial awareness, including open classroom discussions, project practice, creative divergence and brainstorming, and participation in entrepreneurial practice activities. These methods are aimed at cultivating students' business thinking, problem-solving skills, decision-making ability and entrepreneurial experience. In terms of student training and activities, teachers will actively participate in and organize student training and entrepreneurship lectures, cooperate with the School of Art to carry out design entrepreneurship projects, and provide students with more comprehensive innovation and entrepreneurship education through interdisciplinary cooperation.

3. Analysis of Existing Problems

3.1. Challenges of cultivating innovative and entrepreneurial talents from the perspective of teachers

In the interview, the teachers said that although the school and teachers are working hard to make adjustments, there are still some practical problems that affect the cultivation of innovative and entrepreneurial talents.

Insufficient courses and practice bases: In the interview, the teachers reflected that although the school has revised the talent training program and added courses related to innovation and entrepreneurship, the curriculum is still not complete enough, and there is a lack of practice bases that are closely integrated with the actual entrepreneurial environment, which affects the cultivation of students' innovative and entrepreneurial abilities.

Differences in the professional level of teachers: There are differences in the professional level of innovative and entrepreneurial education among the teaching staff. Some teachers lack practical entrepreneurial experience and find it difficult to provide targeted guidance and help to students.

Low student participation: Students' participation in innovative and entrepreneurial education is not high. Some students lack the willingness to start a business and lack the understanding of innovation and entrepreneurship, which leads to the obstruction of the promotion and implementation of innovative and entrepreneurial education.

Imperfect resources and support system: The school has deficiencies in providing students with innovative and entrepreneurial support, including financial support, policy preferences, entrepreneurial guidance, etc., and has failed to form an effective support system.

3.2.Areas of entrepreneurship education that need improvement from the perspective of students

Through a satisfaction test with a full score of 5 points, we learned that students believe that the lack of entrepreneurship knowledge and practical operation of the teachers is a major reason for their dissatisfaction with the innovation and entrepreneurship courses, and the satisfaction rate is only 2.76. The satisfaction rating of the teachers in timely updating the teaching content, introducing new trends and developments in the discipline, and linking theory with practice is only 2.8. In addition, students believe that the school's incentives and support for students to participate in entrepreneurship activities are not enough, and the satisfaction rate is 2.66. Students believe that the course setting is not perfect, there are not many courses that can really meet their needs, and they complete some innovation and entrepreneurship courses just to "make up credits", and the satisfaction with the course setting is 2.36.

In summary, local universities have achieved certain results in cultivating innovative and entrepreneurial talents, but there are also problems such as insufficient cognition, insufficient supporting support, low student participation, teacher problems, and mismatch between courses and needs. The existence of these problems limits the effectiveness of innovation and entrepreneurship education in colleges and universities, and requires colleges and universities to improve and optimize in terms of policy support, curriculum construction, and teacher training.

4. Survey on the Demand for Innovative and Entrepreneurial Talent Training in Local Universities

4.1.Survey on Students' Demand for Innovative and Entrepreneurial Education

When analyzing the purpose of students receiving innovative and entrepreneurial education, most students hope to improve their personal abilities and enrich their university life through innovative and entrepreneurial education. This shows that students have clear personal development goals for innovative and entrepreneurial education, and also expect education to meet these needs (see Table 5). In terms of the abilities they expect to improve, students are more concerned about improving basic abilities such as interpersonal communication skills (78.21%) and learning abilities (76.92%). Applied abilities such as market research ability (73.08%) and decision-making ability (72.44%) are second.

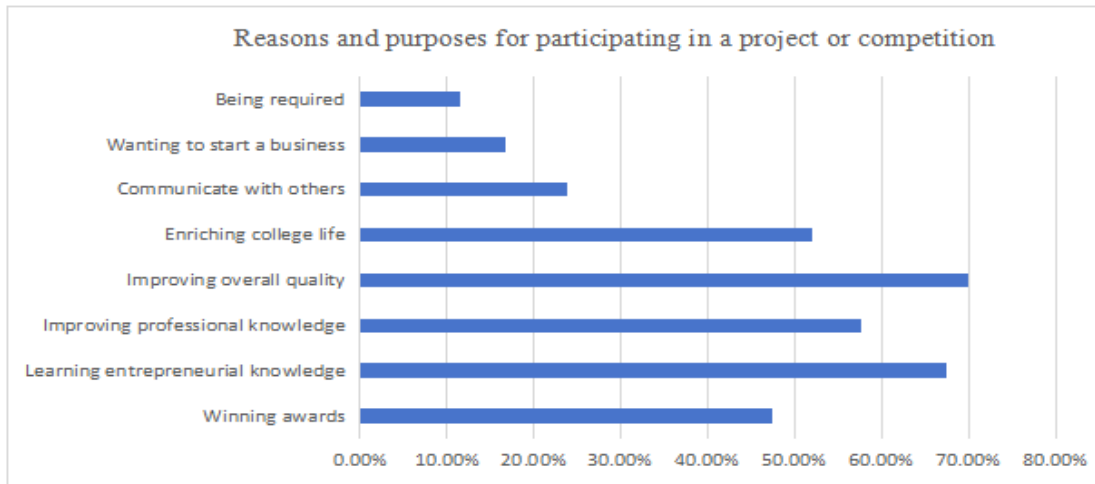


Figure 5. The most important factors to pay attention to when participating in innovation and entrepreneurship projects or competitions

In terms of students' views and needs on innovation and entrepreneurship courses, students generally believe that innovation and entrepreneurship education should be multi-faceted, multi-level and diversified, and hope to gain comprehensive ability improvement through innovation and entrepreneurship education. They prefer courses that are more inclined to practical knowledge such as innovation and entrepreneurship (71.15%) and professional skills (71.79%). They believe that these courses can effectively improve their practical operation ability and make their concept of innovation and entrepreneurship more concrete. Secondly, about half of the students believe that it is necessary to open courses on cultivating innovation and entrepreneurship awareness (58.97%), business management courses (53.85%) and career guidance courses (51.28%).

In terms of teachers' teaching methods, they prefer teachers to adopt situational simulation (71.79%), case-based (64.1%) and experimental practice (60.26%) teaching methods. They don't like to simply let them discuss, as they believe that discussions between inexperienced students are not very helpful in improving their abilities.

Regarding students' requirements for teachers, students said that they prefer teachers with relevant practical backgrounds and do not like to just talk about theories. They also hope that the course can provide enough credit incentives. At the same time, the course content provided by the teacher is also an important basis for their evaluation (see Figure 6).

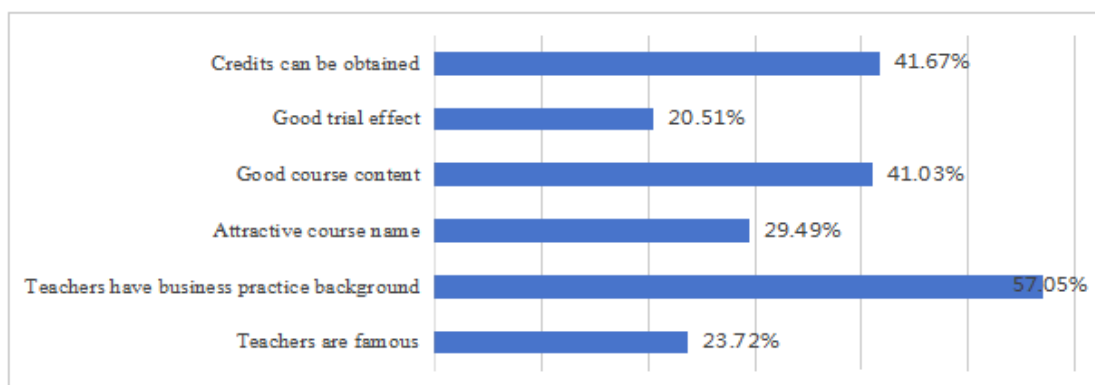


Figure 6. Reasons for taking innovation and entrepreneurship courses

4.2. The Need for Entrepreneurship Education Reform from the Perspective of Teachers

Through interviews, we found that teachers are more concerned about the cultivation of innovative and entrepreneurial talents. Teachers generally believe that innovative and entrepreneurial talents should have market insight, business awareness, perseverance, decision-making ability, teamwork and leadership, learning ability and adaptability. These characteristics and abilities are essential for students to discover business opportunities, promote projects, effectively cooperate and update knowledge.

Based on the above needs of students and teachers for course construction, we believe that the needs are concentrated on the needs for capacity training, the needs for professional skills improvement, the needs for teacher professionalism, and the needs for course setting and incentives.

5. Suggestions for Improving the Cultivation of Innovative and Entrepreneurial Talents in Local Universities

Based on a comprehensive review of the current status of innovative and entrepreneurial talent training in local universities, an analysis of existing problems, and an in-depth demand survey, this study puts forward a series of strategic suggestions aimed at optimizing and upgrading the innovative and entrepreneurial talent training mechanism in universities.

First, in response to the problem of mismatch between curriculum setting and practical needs, it is recommended that universities optimize the curriculum system and strengthen the deep integration of theory and practice. Specific measures include: first, increase the proportion of practical courses, such as introducing simulated entrepreneurial projects, corporate internships, and entrepreneurial competitions, to enhance students' practical operation capabilities; second, update course content, teachers should keep up with the forefront of the discipline, introduce new dynamics and new developments, and enable students to master the latest industry trends and technological developments through lectures by industry experts and case analysis; third, encourage interdisciplinary course design, such as combining art with entrepreneurship, to cultivate students' innovative thinking and cross-border cooperation capabilities.

Secondly, in response to the problem of uneven professional levels of teachers, it is recommended to strengthen the construction of the teaching staff and improve the professional quality of teachers. On the one hand, colleges and universities should actively introduce teachers with practical entrepreneurial experience, or cooperate with enterprises to invite entrepreneurs and industry experts to serve as part-time teachers to provide students with more practical guidance; on the other hand, strengthen the training of in-service teachers, including teaching methods, industry knowledge updates, etc., to improve their teaching level and professional ability. At the same time, establish a teacher incentive mechanism, such as setting up teaching innovation awards and research achievement awards, to stimulate teachers' enthusiasm and creativity in innovation and entrepreneurship education.

Furthermore, in view of the problem of imperfect practice platforms, it is recommended that colleges and universities improve the construction of practice platforms and strengthen school-enterprise cooperation. By establishing a stable cooperative relationship with enterprises, jointly building an innovation and entrepreneurship practice teaching base, providing students with opportunities to contact society, enterprises and actual projects. In addition, strengthen the construction of laboratories and incubators to provide necessary material and technical support for students' innovation and entrepreneurship projects. At the same time, regularly hold various innovation and entrepreneurship competitions, such as business plan competitions, technology innovation competitions, etc., to promote learning through competitions and stimulate students' enthusiasm for innovation and entrepreneurship.

In view of the problem of low student participation, it is recommended that colleges and universities take measures to improve student participation. By establishing credit incentives, bonuses and other systems, students are encouraged to actively participate in innovation and entrepreneurship activities and courses. At the same time, we should increase the publicity of innovation and entrepreneurship education, and improve students' awareness and willingness to participate through campus media, lectures, workshops, etc. In addition, we should provide personalized innovation and entrepreneurship education paths according to students' interests and specialties, such as setting up a master's degree in entrepreneurship management, professional + entrepreneurship pilot classes, etc.

In view of the problem of imperfect support system, it is recommended that colleges and universities improve resources and support systems to provide students with all-round support. On the one hand, we should set up an innovation and entrepreneurship fund to provide financial support for students' entrepreneurial projects, including start-up funds, venture capital, etc.; on the other hand, we should cooperate with the government to provide students with policy support such as tax exemptions and site rental discounts. At the same time, we should establish a professional entrepreneurship guidance team to provide students with all-round entrepreneurship guidance services such as business plan writing, market analysis, and legal consultation.

Finally, in order to ensure the effectiveness and continuous improvement of innovation and entrepreneurship education, it is recommended that colleges and universities strengthen the construction of evaluation and feedback mechanisms. Regularly evaluate the curriculum setting, teaching effect, and student satisfaction of innovation and entrepreneurship education, and promptly identify problems and make adjustments. At the same time, provide students and teachers with feedback channels, such as suggestion boxes and online surveys, to collect their opinions and suggestions for improving educational practice. In addition, follow-up surveys will be conducted on graduates who have participated in innovation and entrepreneurship education to understand their career development and evaluate the long-term effects of education.

Through the implementation of these measures, local universities are expected to achieve more significant results in cultivating college students' entrepreneurial capabilities, thereby providing solid talent support for the country's innovation-driven development strategy.

In summary, local universities have made certain efforts and achieved initial results in cultivating college students' entrepreneurial ability, but they still face many challenges. Problems such as students' lack of understanding of entrepreneurship education, mismatch between curriculum setting and practical needs, the need to improve the atmosphere of innovation and entrepreneurship, and an imperfect support system have restricted the cultivation and improvement of college students' entrepreneurial ability. Therefore, local universities urgently need to comprehensively review and optimize the existing entrepreneurship education system, and provide stronger support and guarantee for the cultivation of college students' entrepreneurial ability through measures such as strengthening popularization and publicity, improving curriculum settings, strengthening the construction of practice bases, improving the professional level of teachers, creating a good innovation and entrepreneurship atmosphere, and improving the support system, so as to contribute more high-quality talents to the country's innovation-driven development strategy.

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References

- [1] Miao Sihong. *Research on the impact mechanism of entrepreneurship education on students' entrepreneurial behavior*[J]. *Employment and Colleges*, 2024(01):130-133.
- [2] Wang Xinchun, Teng Lili. *Research on the cultivation of innovative ability of high-quality technical and skilled talents from the perspective of new quality productivity*[J]. *Journal of Zhejiang Vocational and Technical College of Industry and Trade*, 2024, 24(3):1-5,33.
- [3] Zhou Zhifang. *Cultivation of college students' innovation and entrepreneurship ability in the Internet era*[J]. *Journal of Jiangxi Electric Power Vocational and Technical College*, 2020,33(05):61-62.
- [4] Jiang Junyu, Yi Miaoqing. *Problems and suggestions on college students' entrepreneurship and innovation under the sharing economy model*[J]. *Special Zone Economy*, 2019(05):152-154.
- [5] Xia Yan. *Analysis of personalized model strategy for cultivating college students' innovation and entrepreneurship ability*[J]. *Industrial Research*, 2021(05):112-114.
- [6] China Education Finance, *Analysis of the investment status of local general undergraduate colleges and universities*, 2024-06-28, https://www.eol.cn/shuju/tongji/jingfei/202406/t20240628_2620114.shtml