

Investigation Report on Influential Factors of College Students' Innovation and Entrepreneurial Ability

---Taking Taizhou College of Nanjing Normal University as an Example

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Abstract

Strengthening the cultivation of college students' innovation and entrepreneurial ability is not only the urgent need of the construction of national innovation system, but also the need to adapt to social development, alleviate employment pressure and cultivate innovative talents. Taking Taizhou College of Nanjing Normal University as an example, through the investigation of the influencing factors of College students' innovation and entrepreneurial ability and the situation of College students' innovation and entrepreneurial ability, the research group understands the current situation of College students' innovation and entrepreneurship education, and analyzes the key factors affecting college students' innovation and entrepreneurial ability, Finally, it puts forward some suggestions and measures to improve the innovation and entrepreneurial ability of college students.

Keywords: college student, innovation and entrepreneurship, influence factor

1. Introduction

With the rapid development of economic globalization, innovation and entrepreneurship has gradually become an important source of economic development, and the cultivation of innovation and entrepreneurship talents has gradually become the main trend of higher education reform. In 2015, the general office of the State Council issued the implementation opinions on deepening the reform of innovation and entrepreneurship education in colleges and universities, which proposed to "further promote the reform of innovation and entrepreneurship education, take improving the quality of talent training as the core, and enhance students' innovative spirit, entrepreneurial awareness and innovation and entrepreneurial ability". In the same year, China State Council issued the opinions on Further Doing a good job in employment and entrepreneurship under the new situation, which proposed to "actively promote entrepreneurship to drive employment, and comprehensively promote the employment of key groups such as college graduates". In 2017, the report of the 19th National Congress of the Communist Party of China once again emphasized "encouraging entrepreneurship to drive employment and promoting multi-channel employment and entrepreneurship of young groups such as college graduates". It can be seen that strengthening the cultivation of College students' innovation and entrepreneurial ability is an urgent need for the construction of the national innovation system, the fundamental basis for promoting the implementation of the innovation driven strategy, and has gradually become an important measure to promote the reform of higher education and promote the high-quality entrepreneurship and employment of college graduates. In recent years, the innovation and entrepreneurship education system in colleges and universities has

been continuously improved and the model has been continuously updated, and great progress has been made in improving the quality of talent training and promoting employment and entrepreneurship. In the process of cultivating innovation and entrepreneurial ability, accurately identifying the key factors affecting the improvement of college students' innovation and entrepreneurial ability and analyzing the relationship between the factors is not only the key link to improve the effectiveness of innovation and entrepreneurship education, but also the key to further promote the development strategy of innovation and entrepreneurship. For this reason, taking Taizhou College of Nanjing Normal University as an example, through interviews and questionnaires, the research group identifies and deeply analyzes the key factors affecting college students' innovation and entrepreneurial ability, so as to provide reference for scientifically evaluating the effect of innovation and entrepreneurship education and comprehensively promoting the reform of innovation and Entrepreneurship Education in colleges and universities.

2. Questionnaire Design and Data Collection

This survey uses self-made scales and variable topics of objective judgment to investigate college students in Taizhou College of Nanjing Normal University, so as to comprehensively understand the overall level of college students' innovation and entrepreneurial ability and the key factors affecting innovation and entrepreneurial ability, and pave the way for the empirical research on the cultivation of college students' innovation and entrepreneurial ability.

2.1 Research Design and Implementation

The research mainly adopts the questionnaire method, on the basis of combing the literature, combined with the existing research basis and the innovation and entrepreneurship work experience of the members of the research group, focuses on excavating the key factors affecting college students' innovation and entrepreneurial ability, and prepares the self-assessment form of college students' innovation and entrepreneurial ability. The questionnaire includes "individual background", "innovation and entrepreneurship environment", "entrepreneurship character" "Innovation and entrepreneurship awareness", "innovation and basic entrepreneurship ability", "innovation and entrepreneurial core ability", "innovation and entrepreneurial thinking ability" and "social coping ability", 8 variable items and 47 specific questions. "Individual background" and "innovation and entrepreneurship environment". The objective variable judgment single choice questions or multiple topics are used, and the questions of the other six types of variable topics are measured by the five-point Likert Scale. This survey takes the students in Taizhou College of Nanjing Normal University as the sample. Because the freshmen and sophomores have a short time in school, they focus more on curriculum study and pay less attention to issues related to innovation and entrepreneurship. The junior and senior students have studied relevant innovation and entrepreneurship courses, and close to graduation, need to face employment pressure and pay more attention to entrepreneurship information. Therefore, the survey objects of the research group focus on junior and senior students. After the focus is determined, in order to ensure the scientificity and authenticity of the survey, the research group randomly selects 287 people. A total of 287 questionnaires were distributed using the questionnaire Star software, and 287 questionnaires were actually recovered, with a recovery rate of 100%. There were 287 effective questionnaires, and the effective rate was 100%. The research group used SPSSAU platform for data statistics and analysis, The reliability coefficient of Cronbach α is 0.922 and kmo is 0.916. The reliability and validity of the questionnaire are high.

2.2 Sample Characteristics

2.2.1 Basic Personal Information

The survey team made statistics on the distribution of the background information of the respondents. The basic information of the sample is shown in Table 1. As the university is a liberal arts university, there are fewer boys and more girls, 55 boys and 232 girls. In terms of whether it is an only child or not, the number of non only children is slightly higher than that of only children; in terms of residence distribution, the number of rural people is far lower than that of urban people.

Table 1. Sample basic information statistics

category	features	quantity	proportion
Gender	male	55	19.16%
	female	232	80.84%
grade	Freshman	76	26.48%
	Sophomore	28	9.76%
	Junior	90	31.36%
	Senior	93	32.4%
Only child	yes	126	43.9%
	no	161	56.1%
Place of residence	countryside	79	27.53%
	town	49	17.07%
	county-level city	63	21.95%
	Prefecture level city	62	21.6%
	provincial capital	34	11.85%
total		287	100%

2.2.2 Association Activities

According to the previous research experience, college students have student cadre experiences, internship and part-time experiences, innovation and entrepreneurship practice activities, innovation and entrepreneurship courses and competitions, which will affect the innovation and entrepreneurial ability levels of college students to a certain extent. Therefore, the innovation and entrepreneurship experience of college students in school is investigated. The survey results are shown in Table 2.

Table 2. Distribution of sample school experience

association activity	features	quantity	proportion
Student cadre experience	yes	133	46.34%
	no	154	53.66%
Internship or part-time experience	yes	181	63.07%
	no	106	36.93%
I have studied innovation and entrepreneurship courses	yes	143	49.83%
	no	144	50.17%
Participated in innovation and entrepreneurship competition / innovation and entrepreneurship scientific research projects	yes	72	25.09%
	no	215	74.91%
Participated in innovation and entrepreneurship lectures or forums	yes	125	43.55%
	no	162	56.45%
Participated in innovation and entrepreneurship associations	yes	25	8.71%
	no	262	91.29%
total		287	100%

2.2.3 Cognition of innovation and entrepreneurship

(1) In the question of whether they have considered entrepreneurship during university, 44.6% of the students chose to consider it but did not take action; 2.79% have already started a business; 2.44% have considered and taken action but failed. It shows that there are a large number of students who are willing to start a business, and the entrepreneurial action of college students can be promoted through correct and reasonable guidance. (2) Among the main reasons why college students choose to start a business, 39.02% are to realize their personal ideals; 33.1% are to earn more money. It can be seen that the pursuit of ideals and economic benefits are the main reasons why college students choose to start a business. (3) among the main reasons why they do not intend to innovate and start a business, see Figure 1. Their lack of ability and experience are the major factors.

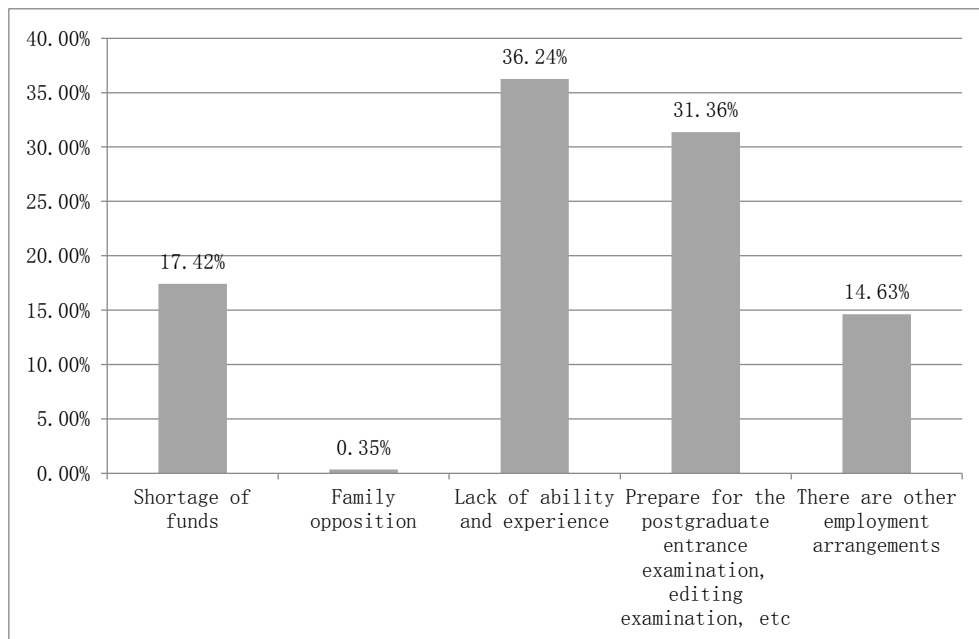


Figure 1. Main reasons for not planning to start a business

(4) In the survey on which factors have the deepest impact on the formation and development of your innovation and entrepreneurial ability, the top four are family economic status, guidance of innovation and entrepreneurship tutors, innovation and entrepreneurship courses and innovation and entrepreneurship practice experience. See Figure 2.

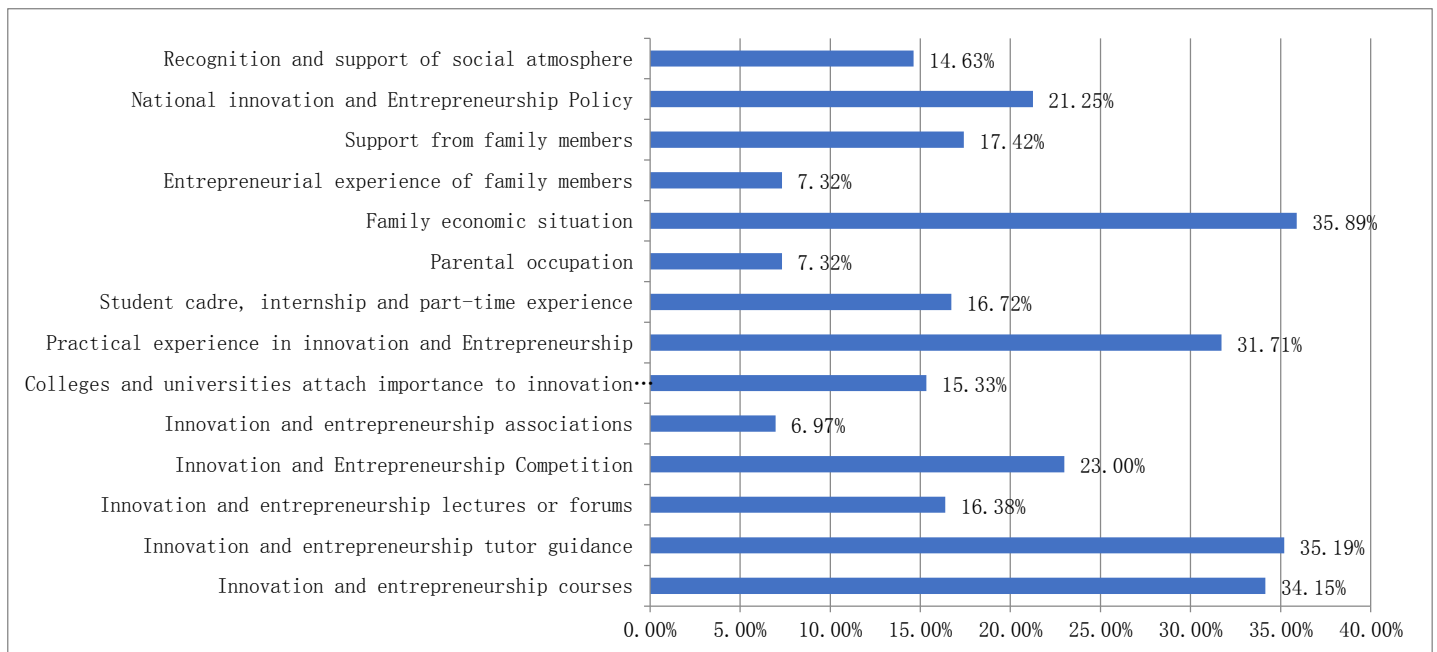


Figure 2. Influential factors of College students' innovation and entrepreneurial ability

2.2.4 Innovation and Entrepreneurship Environment

In the question "how about the innovation and entrepreneurship related courses in your university", the general proportion that students think related courses are effective is 33.45%; on "what is the innovation and entrepreneurship cooperation platform between your university and the outside world?" Of the questions, 45.99% of the students thought that the operation of the platform was just so-so; on "how often do your universities carry out innovation and entrepreneurship community activities?" Of the questions, 44.6% think the frequency of activities is normal. As for whether you know about the incubation practice platform of innovation and entrepreneurship projects in your school, only 18% think you know better and know very well, and more than 50% of the students don't know and don't know very well. This also reflects the work of the school in creating an innovation and entrepreneurship atmosphere, innovation and entrepreneurship courses and building an innovation and entrepreneurship platform's weakness.

2.2.5 Innovation and Entrepreneurship

The descriptive statistical results of college students' innovation and entrepreneurship are shown in Table 3. The survey results show that the overall average score of College students' innovation and entrepreneurship is low, especially the obviously insufficient "responsibility" in entrepreneurial character. The scores of other indicators are also at the lower middle level. On the one hand, there may be low relevant innovation and entrepreneurial ability, on the other hand, there may be students lacking of self-confidence or other reasons. Both of these two situations should be highly valued by the school.

Table 3. Statistics of all levels of college students' innovation and entrepreneurial ability

variable	sample size	minimum value	Maximum	average value	standard deviation	median
Brave exploration	287	1	5	2.561	1.001	2
Responsibility bearing	287	1	5	1.868	0.746	2
Optimistic and confident	287	1	5	2.129	0.845	2
Interest in innovation and Entrepreneurship	287	1	5	2.864	1.057	3
Innovation and	287	1	5	2.833	1.09	3

entrepreneurship motivation							
Innovation and entrepreneurship exposure	287	1	5	3.258	1.105	3	
learning ability	287	1	5	2.369	0.838	2	
practical ability	287	1	5	2.341	0.878	2	
Analytical ability	287	1	5	2.449	0.851	2	
organization skills	287	1	5	2.397	0.886	2	
leadership	287	1	5	2.376	0.896	2	
Executive ability	287	1	5	2.617	1.01	3	
Opportunity control ability	287	1	5	2.449	0.838	2	
Understanding thinking ability	287	1	5	2.383	0.819	2	
Problem solving ability	287	1	5	2.282	0.767	2	
Innovative thinking ability	287	1	5	2.537	0.868	3	
Interpersonal skills	287	1	5	2.373	0.867	2	
Teamwork ability	287	1	5	2.324	0.83	2	
Risk tolerance	287	1	5	2.397	0.87	2	
Crisis management capability	287	1	5	2.352	0.783	2	

2.3 Correlation Analysis

The research group divides college students' innovation and entrepreneurial ability into six primary indicators: Entrepreneurial character, innovation and entrepreneurship awareness, basic innovation and entrepreneurial ability, innovation and entrepreneurship core ability, innovation and entrepreneurship thinking ability and social coping ability, and 20 secondary indicators: brave exploration, responsibility, optimism and self-confidence, innovation and entrepreneurship interest, innovation and entrepreneurship motivation, innovation and entrepreneurship contact degree and learning ability, practical ability, analytical ability, organizational ability, leadership, executive ability, opportunity control ability, understanding thinking ability, problem solving ability, innovative thinking ability, interpersonal communication ability, teamwork ability, risk tolerance ability and crisis handling ability. Through the statistical analysis of SPSSAU platform and Pearson correlation coefficient, this paper discusses the impact of relevant factors on innovation and entrepreneurial ability factors. See Table 4.

Table 4. Correlation analysis

Pearson correlation coefficient							
Primary index	Secondary index	Gender	Innovation and entrepreneurship cooperation platform between universities and the outside world	Have you considered entrepreneurship during college	Have you participated in innovation and entrepreneurship societies during your university*	Do your parents support you in starting a business	National entrepreneurship policy
Entrepreneurial	Brave exploration	0.229**	0.253**	0.273**	0.173**	0.369**	0.181**

Innovation and entrepreneurship consciousness	character	Responsibility bearing	0.175**	0.153**	0.262**	0.161**	0.212**	0.148*
		Optimistic and confident	0.211**	0.236**	0.173**	0.164**	0.250**	0.231**
		Interest in innovation and Entrepreneurship	0.248**	0.265**	0.479**	0.194**	0.346**	0.256**
		Innovation and entrepreneurship motivation	0.316**	0.188**	0.492**	0.180**	0.334**	0.147*
Basic ability of innovation and Entrepreneurship		Innovation and entrepreneurship exposure	0.234**	0.242**	0.367**	0.263**	0.262**	0.291**
		learning ability	0.151*	0.282**	0.205**	0.240**	0.271**	0.240**
Core competence of innovation and Entrepreneurship		practical ability	0.210**	0.248**	0.238**	0.134*	0.286**	0.193**
		Analytical ability	0.247**	0.270**	0.234**	0.178**	0.292**	0.245**
		organization skills	0.229**	0.251**	0.261**	0.139*	0.268**	0.204**
		leadership	0.165**	0.270**	0.192**	0.144*	0.262**	0.257**
Innovative and entrepreneurial thinking ability		Executive ability	0.228**	0.183**	0.297**	0.201**	0.283**	0.166**
		Opportunity control ability	0.166**	0.225**	0.182**	0.151*	0.288**	0.198**
		Understanding thinking ability	0.293**	0.180**	0.211**	0.175**	0.288**	0.171**
Social coping ability		Problem solving ability	0.237**	0.252**	0.194**	0.195**	0.331**	0.225**
		Innovative thinking ability	0.230**	0.277**	0.220**	0.134*	0.353**	0.233**
Social coping ability		Interpersonal skills	0.199**	0.209**	0.249**	0.176**	0.226**	0.234**
		Teamwork ability	0.223**	0.277**	0.216**	0.151*	0.279**	0.193**
		Risk tolerance	0.202**	0.336**	0.212**	0.212**	0.306**	0.198**
	Crisis management capability	0.242**	0.240**	0.252**	0.186**	0.300**	0.223**	

* p<0.05 ** p<0.01

We can draw the following conclusions: "gender" has a positive correlation with innovation and entrepreneurial ability; college students with entrepreneurial intention have a positive correlation with innovation and entrepreneurial ability; "entrepreneurial experience". It has a positive correlation with entrepreneurial intention; the innovation and entrepreneurship cooperation platform between colleges and universities and the outside world has a positive correlation with innovation and entrepreneurial ability; at the same time, national policies, parental support and participation in innovation and entrepreneurship associations during school also have a positive correlation with innovation and entrepreneurial ability. Through the above researches, it can be known that the national innovation and entrepreneurship policy points out the direction for students' innovation and entrepreneurship practice and ability development direction, put forward requirements and provide help to promote the improvement of college students' innovation and entrepreneurial ability; the participation of innovation and entrepreneurship activities and entrepreneurial associations can positively promote the improvement of college students' innovation and entrepreneurial ability; among the influencing factors of College students' innovation and entrepreneurial ability, the influence of family level on college students is also

particularly important; the construction and application of college innovation and entrepreneurship platform is also the key factor of improving college students' innovation and entrepreneurial ability.

3. Countermeasures and Suggestions

Colleges and universities should continuously guide and enhance college students' entrepreneurial intention through all-round and multi-channel, and effectively improve college students' entrepreneurial enthusiasm. The government and schools need to follow the action law of the factors affecting entrepreneurial intention and formulate targeted support strategies for college students' innovation and entrepreneurship.

3.1 Pay Attention to Individual Differences and Improve the Entrepreneurial Enthusiasm of Female College Students

According to the survey results, college students have differences in their own innovation and entrepreneurial ability due to gender differences, individual personalities, characteristics and behavior styles. According to gender differences, it is of certain practical significance to examine the differences in innovation and entrepreneurial ability of students of different genders and put forward targeted countermeasures. The research group put forward the improvement measures from the following three aspects. Firstly, the university should strengthen the education of college students' innovation and entrepreneurship awareness. There are more girls in liberal arts colleges, and the secondary colleges also focus on liberal arts majors. They should select typical entrepreneurship cases, knowledge and policies of corresponding disciplines to promote them to college students, so as to enhance the sense of substitution, pertinence and attraction of cases, and help students broaden their horizons and increase their competitiveness. Develop knowledge and enhance the awareness of innovation and entrepreneurship. At the same time, pay attention to the weak innovation and entrepreneurial ability of female students in the school, design targeted ability improvement programs, and constantly improve the entrepreneurship enthusiasm and entrepreneurship ratio of female students. Secondly, do a good job in the training program of innovation and entrepreneurship talents, do a good job in the top-level design, and guide the new junior college students to pay attention to and intervene in innovation and entrepreneurship. Thirdly, the influence of family on college students' entrepreneurship can not be ignored. The project selection and initial goal formulation of College students' entrepreneurship should fully consider their family economic conditions and pay attention to the correspondence and effectiveness of entrepreneurship guidance.

3.2 Create a Good Atmosphere for Innovation and Entrepreneurship and Stimulate Students' Enthusiasm for Innovation and Entrepreneurship

The innovation and entrepreneurship environment has a subtle effect on the improvement of college students' innovation and entrepreneurial ability. Creating a good innovation and entrepreneurship atmosphere can stimulate students' innovation and entrepreneurship enthusiasm and enhance their participation in innovation and entrepreneurship activities. In order to create a good entrepreneurship atmosphere, it is necessary for the government, colleges and universities and other relevant responsible departments to strengthen cooperation and form a joint force. Therefore, all local employment departments of the district government and relevant responsible departments need to issue relevant rules and implementation measures according to the national policy documents and in combination with the development needs of the region to promote the implementation of national policies. Colleges and universities should do a good job in the publicity and implementation of innovation and entrepreneurship policies of superior departments, and do a good job in the communication and liaison between entrepreneurial college students and the competent employment department, so as to give full play to "College Students - Universities - society". At the same time, colleges and universities should also continue to strengthen the construction and application of innovation and entrepreneurship practice platforms, promote the popularity and utilization of innovation and entrepreneurship platforms, strengthen the guidance of innovation and entrepreneurship project incubation, and truly give full play to the practice and application of innovation and entrepreneurship practice platforms' educational function.

3.3 Optimize the Innovation and Entrepreneurship Education Mode and Promote the Construction of Innovation and Entrepreneurship Talent Training System

Entrepreneurship education is the key factor to enhance college students' entrepreneurial intention. First, colleges and universities should constantly optimize entrepreneurship education courses, urge college students to systematically learn basic entrepreneurship knowledge and improve the effectiveness of innovation and entrepreneurship education; second, they should teach students according to their aptitude and set up entrepreneurship courses to enhance the quality of students' entrepreneurship education and entrepreneurial intention; third, improve the level of innovative and entrepreneurial teachers, increase teacher training in the school, and attract foreign social elite teachers with practical experience in innovation and entrepreneurship;

finally, build an innovative and entrepreneurial talent training system from an all-round and multi angle, incorporate the innovative and entrepreneurial talent training into the key construction scheme of the school, and build a "University-Society-Government". An ecological structure of innovation and entrepreneurship with integration and three linkages.

References

- An, J., Zhang, S., & Tao, J. L. (2020). Analysis on innovation and entrepreneurial ability of college students in Jilin Province. *Cooperative Economy and Science and Technology*, (1), 160-161
- Ashourizaden, S. (2017). *Iranian Entrepreneurs at Home and In Diaspora: Entrepreneurial Competencies, Exporting, Innovation and Growth-expectations*. Iranian Entrepreneurship: Springer International Publishing.
- Kshetri, N. (2014). *Global Entrepreneurship: Environment and Strategy*. Routledge.
- Kuh, G. D. (2009). The National Survey of Student Engagement: Conceptual and Empirical Foundations. *New Direction for Institutional Research*, 141, 5-21.
- Kyndt, E., & Baert, H. (2015). Entrepreneurial competencies: Assessment and predictive value for entrepreneurship. *Journal of Vocation Behavior*, 25(7), 13-25.
- Li, J. (2019). On the deep optimization and integration of College students' innovation and entrepreneurship education and professional education. *China Adult Education*, (5), 38-41.

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