

An Exploration on the Cultivating of Dual-Innovation Composite Talents Based on the Innovation Ability of College Students—A Case Investigation of Aircraft Manufacturing

Duquan Zuo^{a,*}, Yifan Gao^b, Guoling Ma^c, Ti Ye^d

College of Aviation Engineering, Civil Aviation Flight University of China, Guanghan, China
^ataiyanghefeng@cafuc.edu.cn, ^bgaogaoyf108@163.com, ^clingguoma@163.com, ^dyeti@cafuc.edu.cn
**Corresponding author*

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Abstract: In recent years, the state has made great efforts to cultivate compound talents for mass entrepreneurship and innovation to maintain social and economic balance. With the purpose of mass entrepreneurship and innovation, solving national social problems, promoting national development, and cultivating high-quality mass entrepreneurship and innovation talents with high cultivation, strong thinking, excellent skills and good communication skills are no lack of a road to everything. As the best booster for cultivating entrepreneurial practical ability, the mass maker space emerges as the times require. It is the carrier of mass entrepreneurship and innovation for hundreds of millions of compatriots, the fuel for expanding employment, and the key to driving economic development. Of course, it must continue to reform, make it better and better.

1. Introduction

Nowadays, college graduates in China are generally faced with the big problem of employment difficulties [1]. The culprit for this phenomenon is that the world has suffered from different degrees of the new coronavirus, especially in China, which has been plagued by the epidemic for three years, resulting in a large number of graduates' employment being blocked [2]. In response to this problem, colleges and universities across China have actively responded to the national call of "mass entrepreneurship and innovation", and have been constantly exploring and experimenting on the road of innovation and entrepreneurship (referred to as double creation). Especially in the post-epidemic era, driven by the new situation of "mass entrepreneurship and innovation", double creation has gradually become a way of employment choice for college students [3]. To this end, the revised talent training programs of colleges around the country have begun to benchmark. However, the general outline of cultivating more innovative thinking youths with the cultivation of bi-inventive talents as the core, and the direction of effective promotion of the national innovation system has remained unchanged [4]. The method of promoting the employment of college students in the form of entrepreneurship has become a new shortcut, and has been widely concerned and

recognized in today's society.

In view of the background of national entrepreneurship, the central government and various district and county governments have provided a large number of tendentious and preferential policies for college students' innovation and entrepreneurship. In addition, the innovation and entrepreneurship courses offered by colleges around the country can better guide college students to understand and cultivate their interest in it. Through similar methods to stimulate the high morale of college students, actively participate in the construction of innovation and entrepreneurship, and strive to create our own career with continuous exploration and innovation. However, due to various reasons, the current situation of college students' entrepreneurship is still not very ideal [5].

2. Hindered Factors for Development of College Students' Entrepreneurship and Innovation

The main factors that hinder college students' double creation are lack of entrepreneurial consciousness, the interest in entrepreneurship but lack of experience, and difficulty in choosing entrepreneurial projects.

2.1. Lack of Entrepreneurial Awareness

Higher education in our country is vigorously promoting the transformation of quality education to the direction of popularization and informatization. However, due to the relatively late development of our country, the entire education system has not completely shaken off its bondage. In recent years, the domestic education reform has achieved phased results, and gradually began to transform into quality education including "open education" and "double creative education" [6].

However, in general, compared with foreign universities, the innovation and entrepreneurship education in Chinese universities is still in a backward stage. Most colleges and universities, especially higher vocational colleges, have not yet integrated mass entrepreneurship and innovation education into the whole system of school talent training. Schools have not yet formulated a relatively complete mass entrepreneurship and innovation education model, and the establishment of mass entrepreneurship and innovation courses is still in the initial stage. The coverage of the course content is also relatively small and most of them stay on the written theory of knowledge, lacking the training and education of practical skills.

2.2. Interested in Entrepreneurship but Lack of Experience

The problems encountered by college students on the road to entrepreneurship are different from other entrepreneurs. The entrepreneurial experience and energy of college students in the early stage of entrepreneurship are very scarce, which is the most important part of the entrepreneurial process of an entrepreneur. Most of the entrepreneurial knowledge that college students learn at school is learned and acquired according to the talent training program set by the school. In addition, the double-creation education curriculum is not mature enough, and the teachers lack the experience of entrepreneurship and innovation, or their own ability of entrepreneurship and innovation is not rich enough. They can only impart the written meaning, but cannot be shared with the actual experience of mass creation, which cannot satisfy the entrepreneurial needs of college students who want to start their own business, and cannot stimulate their interest in double creation.

2.3. Difficulty in Choosing Business Projects

As there are many unknown problems in the path of entrepreneurship and innovation, the uncertainty of investment can be relatively reduced, if entrepreneurs choose a suitable

entrepreneurial project for themselves. However, for college students of mass entrepreneurship and innovation, whether to choose according to their professional knowledge and hobbies or to choose entrepreneurial projects according to market needs has always been a difficult problem faced by most college students.

3. Paths to Enhance the Ability of Mass Entrepreneurship and Innovation

3.1. Raise the Awareness of Mass Entrepreneurship and Innovation

Most college students don't pay much attention to innovation and entrepreneurship practice activities because they think textbook learning is still more important. In fact, it is not difficult to cultivate the consciousness of innovation and entrepreneurship, which can be developed from the aspects of their interests and hobbies. When there are things we like, our brain thinking runs faster, which is conducive to deepening our understanding of things.

3.2. Improve Personal Quality

After having the consciousness of mass entrepreneurship and innovation, college entrepreneurs should also actively participate in various types of practical competitions to accumulate experience for their future double creation ability. First, college students can actively participate in teachers' scientific research projects and follow teachers' scientific research training, during which they can make full use of university laboratories and scientific research resources, sublimate their understanding of the frontier of science, and improve their practical ability. Second, college students should take the initiative to participate in on-campus and off-campus discipline-related competitions, such as: software design competition, energy-saving vehicle design competition, Internet +, etc., which can greatly and quickly improve their learning ability and test their time management and project arrangement ability. Third, college students should take the initiative to participate in part-time activities inside and outside the school, exercise their professional skills, and understand the entire operation of their company's profits. Fourth, college students should take the initiative to participate in the industrial base or company to practice internships, while expanding social resources, clarify the company's basic operation process, and lay the foundation for their later entrepreneurship.

3.3. Choose the Right Entrepreneurial Direction

In addition to having a strong sense of double creation and social practice experience, college students must also have the ability to understand their own advantages and disadvantages, interests and shortcomings. Only in this way can entrepreneurs combine their own interests and advantages to choose the direction of mass entrepreneurship and innovation that suits them. Further, they should deeply understand the theoretical knowledge of the double creation direction and participate in relevant practical activities. For example, college students interested in aircraft manufacturing can participate in the National Future Aircraft Design Competition, China International Aircraft Design Challenge, etc. Students interested in mechanical design can participate in mechanical innovation competition and digital design competition of mechanical products. As students majoring in aircraft manufacturing, they should also pay attention to other competitions such as 'Internet +' and 'Challenge Cup'. In short, college students should allocate their time reasonably, study in projects and make progress in learning.

4. Double Creation Education Promotes the Cultivation of Compound Talents

Employment is a choice that graduates will face before entering the society. In order to solve the

dual pressure of employment and promote social and economic development, the state not only gives a large number of preferential policies for college graduates' independent entrepreneurs, but also proposes that college students receive double creation education in advance during the school period, so as to cultivate compound talents with innovation and entrepreneurship ability, so as to better help and support the employment of college graduates. Of course, this has also created a large number of jobs invisibly [7]. It can be said that under the education of mass entrepreneurship and innovation, the state strongly recommends the cultivation of compound talents, which is actually to solve the employment problem of social college students, develop and maintain the balance of social economy. Colleges and universities are the main battlefield of the implementation of double creation education. The purpose of mass entrepreneurship and innovation education is to promote the reform of talent training mode in colleges and universities, and comprehensively improve the comprehensive quality and practical ability of college students to become compound talents [8-9].

Composite talents, as the name suggests, are the mass talents with two or more professional abilities and basic abilities. They are talents who are proficient in many fields and aspects. They integrate knowledge skills, operational skills, ability compounding, and thought compounding. They have a common knowledge height, collective team awareness and coordination ability, and can quickly adapt to social progress and rapid economic development.

In addition to the above comprehensive abilities, compound talents also have high attainments in innovation ability, and solve problems with innovative knowledge. Nowadays, higher education has gradually begun to pay attention to the cultivation of compound talents based on entrepreneurship and innovation education to meet the needs of society and conform to social development. So how to cultivate compound talents under double creation education? The answer is to take innovation as the purpose, combined with the needs of social development, targeted training of comprehensive ability, quality cultivation, creative thinking in a body of innovative talents.

Innovative talents refer to those who have new inspiration, new ideas, and can put these ideas into action and turn them into something that actually exists, that is, people who dare to think and dare to try. Innovative talents have the characteristics of flexible thinking, novel cognition, open concept and innovative personality. At present, the world competition has become the competition with science and technology and economic development as the core. Innovative talents are the key for the country to face the world and the future. They are the only way to solve employment and improve China's economy, science and technology and core competitiveness. Therefore, as the main battlefield of cultivating innovative talents, schools should do heuristic education to stimulate students' enthusiasm, initiative and creativity, etc.

The specific method of heuristic education is—according to the teaching purpose, content, students' knowledge level and knowledge law, the heuristic induction method is used to impart knowledge and cultivate ability, so that students can learn actively. Compared with heuristic method, problem teaching method and self-study guidance method, heuristic education focuses on mobilizing students' enthusiasm and initiative in learning and emphasizing free thinking in the application of teaching methods. When discussing and researching problems, there is no conclusion, and people are not bound in a fixed way. In heuristic teaching inquiry, teachers should have flexible teaching methods and not be too rigid. Teachers should stimulate students' interest in exploring problems and innovative consciousness, develop students' innovative thinking, and cultivate their ability to research problems and innovate through choosing to identify problems, discussing to propose ideas, practicing to seek results, and verifying to draw conclusions. In addition, practice is the premise and foundation of innovation, and it is indispensable to cultivate innovative talents [10]. Innovative talents are an important part of promoting economic, knowledge and social development, and are urgently needed by the society to solve employment problems. In a word, it is urgent to cultivate innovative talents.

5. Maker Space Platform Helps Improve the Ability of Double Creation

In order to improve the innovation and entrepreneurship ability of college students and solve the fundamental problem of employment, in addition to the implementation of innovation and entrepreneurship education and a large number of preferential policies, the state also provides various platforms to support the innovation and entrepreneurship of college students. For example, the Maker space (also known as innovation incubator) was formally proposed in January 2015. After eight years, it has entered a period of rapid development. The mass maker space is an encouraging mode of double creation. College students can lay a solid foundation for entrepreneurship through the clever combination of theoretical knowledge and practical innovation in combination with this mode [11].

The maker space has three characteristics: low cost, convenience and total factor. First of all, on the road of start-up, most entrepreneurs often stop because of lack of funds and high risk coefficient or other issues. Therefore, Shanghai workingdom took the lead in providing cost-effective entrepreneurial services and low-cost entrepreneurial platform - Mass Maker Space, which effectively solved the problems of difficult office, expensive rent and high debt risk for entrepreneurs. Secondly, maker Spaces are usually located at subway exits, business centres and other places with a large flow of people, such as Workingdom TUBE in Kaihong Square, which solves the embarrassing situation of traditional office area's unsatisfactory geographical location, difficulties for entrepreneurs to find their way and expensive transportation [12]. In addition, the maker space is not a single entity. In the construction process, it is necessary to pay attention to not only the hard conditions such as facilities, equipment and venues, but also the soft conditions in terms of service and organization, so as to enhance the core value of the maker space in mass innovation and entrepreneurship [13]. In short, in addition to the necessary office facilities for entrepreneurship and innovation, it is also necessary to provide 'one-stop' services to the best of its ability, such as designing comfortable and convenient space for entrepreneurs, purchasing various humanized basic office measures, enhancing the motivation of entrepreneurs to join the maker space (bag-and-live), and increasing the refine services to attract entrepreneurs (resources, personnel, welfare and other equipment in entrepreneurship).

The maker space is made up of several unique individual platforms, which can provide different degrees of service and help to the majority of teachers and students. For college entrepreneurs, the maker space is a circle established through various training modes suitable for mutual discussion and learning among them, which can be described as an excellent practical platform that integrates double creation and learning. Entrepreneurs can express their views on the platform, gather different ideas, remove their dross, take their essence, and form a huge double-creation team to achieve the effect of resource sharing and mutual inspiration, so as to build a dream of entrepreneurship. In addition, driven by the maker space, various entrepreneurial teams cooperate with each other and make use of the activity space to directly provide intuitive and convenient exchange of views and display of achievements to student entrepreneurs [14].

In short, the existence of maker space is inevitable. It conforms to the needs of the development of the new era. It is the carrier of hundreds of millions of people's double creation, the cradle of expanding employment, and one of the ropes driving economic development.

6. Conclusions

With the rapid development of the current era and society, coupled with the enrolment expansion of college students, the popularization of compulsory education, and the attack of the global novel coronavirus epidemic, etc., the gold content of Chinese college students has decreased. At present, tens of millions of college graduates are facing greater employment pressure. It is no exaggeration to describe the current situation with the phrase "graduation is unemployment". To solve the above problems, it is particularly important and urgent to pay attention to the development of double-

creation thinking and keep pace with the times. Based on the analysis conclusion of this paper, it can be summarized as follows:

(1) Double creation is born in response to the times, which not only meets the current needs, but also improves the quality of college students' training.

(2) During the period of school, college students should improve their ability to combine theory with practice while learning professional courses, so as to enhance their entrepreneurial awareness and entrepreneurial ability.

(3) The road to entrepreneurship is difficult and challenging. In the process of entrepreneurship and employment, we should have the courage to compete, make a summary in time and learn from experience while facing short-term failures and gradually mature steadily. At the same time, we should also make good use of the platform of "maker space" to do something worth doing in the university and strive to be a double creation compound talent.

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