Research on the Cultivation of College Students’ Innovative Ability

Ke LIU¹,a,* , Meng-Han CHEN²,b

School of Economics and Management, Zhengzhou University of Light Industry, Zhengzhou, 450000, China

ªliuke_liu@163.com, b114738673@qq.com
*Corresponding author

Keywords: Mass Entrepreneurship and Innovation, Creativity, College Students, Education Concept.

Abstract. As a reserve base for national elites, college students have drawn much attention from all walks of life in their cultivation of innovative abilities. This paper first leads to the connotation of innovation ability and the necessity of its cultivation by explaining the current background of innovation and a series of the literature review on the cultivation of innovation ability, then analyzes the existing problems in the cultivation of university students’ innovative capability and solutions. Finally, the article concludes that the cultivation of college students' creativity is of great importance to the future development of China.

Introduction

Nowadays, with the increasingly fierce international competition, all countries in the world are continuously strengthening the construction of the national innovation system, and all walks of life in society are also exploring the path of innovation. Innovation has become the theme of the 21st century. Innovation is the soul of a country, the unremitting impetus for the prosperity of a nation and strategic support for the realization of the great rejuvenation of the China dream. The innovative spirit has become one of the fundamental foundations for liberating the productivity and developing the economy. Whether it is the "mass entrepreneurship and innovation" or "innovation" at the top of the five major development concepts, we can conclude that innovation has been placed at the core of the national development strategy. Cultivating innovative talents is the only way to realize the "China dream". The key to innovation lies in talents. As the main force for nation-building, the undergraduates shoulder the important mission of enhancing the capability of national innovation. However, the current undergraduates are lack innovation consciousness and entrepreneurial ability. How to improve undergraduates' capability of innovation under the background of "mass entrepreneurship and innovation" and cultivate the talents who meet the needs of the times are the main issues of the cultivation of Chinese contemporary innovation ability. To explore the cultivation of contemporary university students' creativity is the inevitable choice to upgrade the quality of our higher education and create creative talents.

Literature Review

The foreign research on innovative education ability and innovative quality education is relatively early. The western educational researchers can realize earlier that developing students' creativity not only has direct meaning to the development of knowledge and science and technology but also is a crucial guarantee for promoting social development and enhancing national power. Through consulting, research and information found that most of the foreign theory of innovation focused on the field of economics, with strong theoretical. In 1912,
Schumpeter proposed innovation theory from the field of economics in "Economic Development Theory". He considered innovation as a new perspective of resource reorganization and allocation. Schumpeter explained the economic development by the process of creative destruction, pointing out that the economic development process of capitalism is a creative process of destruction, and the fundamental driving force of the process comes from the innovation activities [1]. In the 1970s, the education community in the United States regarded the cultivation of innovative talents as its educational goal and enacted the "2061 Plan," and proposed to train a group of highly qualified and creative talents oriented to the 21st century to improve the country's capability of technological innovation. In 1985, the American psychologist J. P. Guilford's book "Creative Talents" that described innovative talents had enabled the study of innovative talent to begin to enter the academic and public viewpoints [2].

In China, the research on cultivation of students' innovative abilities mainly began in the 1990s. Ya-Juan Wang (2011) argues that innovation ability is an ability with innovative potential under the control of creative intelligence to create innovative agent behaviors [3]. According to Zhan-Jie Ju (2016), cultivating the innovative ability of college students is an urgent need to implement an innovation-driven development strategy [4]. Under the background of deepening the innovation and entrepreneurship education reform in universities, colleges pay more attention to the cultivation of college students' initiative spirit and creative capability. The difference between home and abroad scholars about the summary of the concept of cultivating innovative abilities confirmed unanimously that innovation abilities are the ability to create new things or new knowledge.

The Theoretical Outline of College Students' Creative Ability

The Connotation of "Mass Entrepreneurship and Innovation"

At present, the concept of "mass entrepreneurship and innovation" is gaining popularity. At the Summer Davos Forum in September 2014, Premier Ke-Qiang LI called for "mass entrepreneurship and innovation" for the first time in public. In 2015, Premier Ke-Qiang LI once again put forth "mass entrepreneurship and innovation" in his report on the government work. The "general public" of "mass entrepreneurship and innovation" is stated as "the mass force based on millions of working people, university students and research institutes and agencies as the main force, as well as enterprise employees, overseas personnel and peasants Workers, laid-off unemployed, including all the masses". "Mass entrepreneurship and innovation" allow and encourage the entire society to bravely create, vigorously liberate and develop productivity, and ultimately promote the realization of common prosperity for the entire society [3]. The new trend of "mass entrepreneurship and innovation" is essentially a revolution, which is of great significance to Chinese new economic development.

The Connotation of Innovative Ability

Taken literally, innovation is to fabricate new things. From a deep level, innovation is a practice process of updating, changing and creating new things. It is not a simple tinkering but a revolutionary breakthrough. The prime power and internal driving force of the innovation are innovative ability. Innovative ability is an ability that the individual under the inspiration of subjective awareness applies knowledge and theory by exploring their potential for innovation in various fields of practice to provide valuable new ideas, new theories and new methods, resulting in a series of higher social value products. In other words, innovation is an integrated ability to discover new things, come up with new ideas, and solve new problems. The essence of innovative ability is the ability to make new progress due to the role of subjective initiative in conducting exploration and practical activities. The innovative ability can effectively
stimulate innovation, and influence the outcome of innovation from different angles. Today's society is an era of innovation as its theme [4]. It is of epoch-making significance to foster the innovation capability of contemporary college students for promoting the long-term development of China's economy with efficiency, stability and soundness.

**Necessity of Cultivating College Students' Innovative Ability**

Judging from the current international competition, the contest of comprehensive national power is increasingly reflected in the competition of talent. The innovative talents are the key factors to determine the economic development of a country, which has become the consensus of all countries in the World. In the fierce international competition, the core competition is the competition of innovative talents. If any country or nation loses innovative talents, it will lose the most advantageous "weapon" in its modern competition. Scientific and technological innovation and cultural innovation are the important components of hard power and soft power. The cultivation of creative capability of undergraduates can enhance the two strengths to some extent. Therefore, to meet the challenges posed by economic globalization in our country and build a truly innovative country, we must attach great importance to the training of innovative capabilities of university students [5].

From the historical mission of college students, college students shoulder the historical mission of becoming rich and powerful, rejuvenating the nation as the future and pillars of the nation and are the primary force of youth in building an innovative nation in our country. Whether college students have a certain level of innovative thinking and innovative capability is directly concerned to the prosperous development of the country's future society. The innovative capability of university students directly determines the innovation ability of a country. Therefore, to foster the sense of innovation of university students and improve the innovative capability of university students are the necessary choices for the reform of China's modern education.

From the perspective of realizing "China dream", "China dream" is the notion of the times that the Chinese people are pursuing their ideal and fully realizing their values. The proposal of "China Dream" not only depicts to us a blueprint for the future development of China but also presents us with new challenges and demands. To realize the innovation and development of the productivity in our country, we must first tackle the cultivation of innovative talents. This not only emphasizes the importance of innovative talents but also affirms the direction of the cultivation of innovative talents. Strengthening the cultivation of university students' innovative capability is of great significance to the "China Dream" of raising the level of productivity, developing the national economy and eventually achieving the great rejuvenation.

**Analysis of Problems in the Cultivation of College Students' Creative Ability and Countermeasures**

**Problems in Cultivating College Students' Creative Ability**

College students lack of initiative to cultivate innovative ability. The premise of innovation is the consciousness and concept of innovation. However, many college students are still not aware of the importance of innovation and lack of strong creative spirit. Relevant survey results show that college students in the usual study and life obviously lack of active innovative ideas and innovative awareness. The reasons for the undergraduates' lack of initiative in the cultivation of their innovative abilities can be summed up in two points: the lack of motivation for innovation and the shackles of traditional learning methods. The lack of consciousness of
college students for the importance of innovation will not be conducive to the cultivation of college students' innovative capability [5,6].

The single teaching mode ignore the individual differences of students. At present, most colleges and universities teaching philosophy is to impart professional knowledge rather than improve students' innovative awareness and ability to innovate. Teachers tend to pay more attention to what students have mastered to get into society better, and do not care too much about improving students' actual creative ability. The single teaching mode neglect the cultivation of students' creative ability, a unified teaching plan and consistent training programs make teaching students according to their aptitudes an empty talk. These factors not only affect the expansion of students' knowledge, but also not conducive to the cultivation of innovative thinking and innovative ability of students.

The relevant systems is at the flaw condition. College students to cultivate innovative ability and to carry out innovative activities need the relevant departments to provide them with the necessary funds, personnel, equipment and other security, but also need a set of matching management system. However, at the present stage, in addition to funding for the scientific research and innovation of some key universities, the relevant departments in our country lack the special financial support for most of the students in scientific research activities. This directly leads to the reduction of students' enthusiasm for innovation activities and the suppression of cultivation of students' creative ability.

The social environment is influenced by the idea of profit-seeking. The utilitarianism in modern society gradually goes beyond the pursuit of realization of self-value. The teachers' specific assistance to the students that are eager to find a stable job is to coach them in examination of civil servants, while cultivation of innovative abilities is in a subordinate position. Because of the uncertainty of the formation and implementation of innovative capabilities, they are often discarded as impracticality.

Countermeasures Analysis

The colleges and universities should adapt to the development of the times and change the concept of education [7]. In today's era, with the deepening of the concept of innovative education, to cultivate the innovative ability of college students and to create innovative talents should become a particularly important content in the educational concept of modern college. The colleges should focus on the establishment of innovative education model to promote the education reform of the diversification of college students and vigorously enhance the cultivation of creative capability of college students. The advanced educational concept embodies the spirit of the times and plays a guiding and regulating role in the educational behavior of the colleges and universities. It is the ideological foundation for cultivating innovative talents. The education sector and the nation should attach great importance to the promoting effect of educational philosophy on the cultivation of creative capability of college students.

Society should create a well environment for innovative education and a personalized teaching atmosphere. In the concept of innovative education, a university campus should be an environment full of academic atmosphere. The concept of freedom, equality, fairness and harmony should permeate the atmosphere of the entire university. In order to foster the innovative capability of university students, the colleges and universities must change the traditional teaching mode of "teacher-based and student-supplemented", establish a new type of teacher-student relationship based on equality of teachers and students, and focus on the cultivation of teaching ideas based on students' abilities, which make the enthusiasm of students can be completely mobilized. The college in the process of curriculum design should
give students full choice, and constantly promote personalized teaching to give students enough space to show their personality [8].

To create an innovative social atmosphere, the relevant departments should build a cultivation mechanism of innovative capacity. First of all, society should step up the publicity on the importance of innovation ability cultivation, create an innovative social environment, and promote the development of innovative thinking among university students. Second, the society should fulfill the social responsibility of cultivating the innovative capability of college students, strengthen the capital investment, and provide an adequate financial guarantee for the cultivating of creative capability of college students. Finally, the relevant departments of society should establish the cultivation mechanism of college students' innovative abilities so that the cultivation of innovative capability of college students can proceed smoothly.

Case Analysis

In recent years, all colleges and universities attach great importance to the cultivation of innovative ability of college students. Take the Zhengzhou University of Light Industry for example, in 2002, the Zhengzhou University of Light Industry that combined with professional characteristics and advantages formed the first university student science and technology innovation team - college students' science and technology innovation center. Since its establishment, looking back over the past 15 years, Innovation Center has been able to do from a few simple procedures to self-developed products. The Zhengzhou University of Light Industry has developed the "provincial quality courses" and other projects of more than 30 items, "Henan Sunshine College Entrance Examination" and other enterprises and institutions portal nearly 200, and professional training of students more than 200 times, benefiting nearly 50,000 passengers. The Zhengzhou University of Light Industry relies on innovation and entrepreneurship base of Henan Province and college students to provide students with thousands of practice positions and innovative business sites to help students broaden their horizons in practice. Finally, the passion for innovation and entrepreneurship was ignited.

Conclusion

Nowadays, with the coming of knowledge economy, innovation has become an important factor in international competition. The level of innovation directly determines the extent of the development and progress of the country and is an important measure of the country's strength. In this era, it is urgent to strengthen the cultivation of college students' innovative ability. However, the cultivation of university students' innovative awareness and innovative ability is not accomplished in a single step and must be continuously explored and accumulated over a long period. To strengthen and improve the training of university students' innovative ability needs the joint efforts of the whole society. As the cradle of cultivating innovative talents, colleges and universities need to continuously improve their education mode and teaching philosophy, devote themselves to cultivating innovative talents and improve the innovative capability of college students.

References


