



On the Cultivation of Innovative Talents in Colleges and Universities

Changli Yu

Pingdingshan University

Pingdingshan 467002, China

Tel: 86-375-802-0190 E-mail: clyu01@yahoo.com.cn

Hongchun Jia

Pingdingshan University

Pingdingshan 467002, China

Tel: 86-375-802-0190 E-mail: anyetk@sina.com

Abstract

It is the sure pursuit for the Colleges and Universities to cultivate the innovative talents for the society. The cultivation of innovative talents in Colleges and Universities plays a crucial role not only in economic and social development, but also in schools' and personal development. The internal quality of innovative talents includes the spirit of innovation, creativity and innovative personality. What constrains the cultivation of innovative talents includes the quality of students, the policy level, the educational practice and etc. It needs the policy, school leaders and teachers to make more practical efforts to promote the cultivation of innovative talents.

Keywords: Innovative talents, Connotation, Higher education, Cultivation

1. Introduction

Higher Education plays a vital role for national economic and social development. It is through the cultivation of innovative talents that the value of higher education can be showed. There is no doubt of taking human-cultivating as the essence of education, but what kind of talent should be trained has been a contentious issue. With the realization of the popularization of higher education, more and more people began to pay attention to the issue that what kind of talent should be trained. Whether one hold a clear concept of it or not has a significant impact in practice. We believe that it is the sure pursuit for the Colleges and Universities to cultivate the innovative talents for the society.

Different people have different ideas about the cultivation of innovative talents. Recently, there are more and more scholars begin to pay attention to it. Initially, Tanjing, Li Chunmei did their research on the cultivation of the innovative talents in the field of English and sports, trying to find the effective way of training the innovative talents. Chen Xiaocan, Hu Jiao'e expressed in their essay "On the Environment to Cultivate the Innovative Talents" that the proper environment guarantee the innovative talents doing their best, which provides a valuable reference for the colleges and universities to create the environment. Yang Chunqiao focused on the basic quality that the innovative talents should have. He believes that creative talent should be able to perform some intelligent quality, cultural quality and health quality and discussed these aspects in detail. Mr. Zheng Wenli discussed how to cultivate the college students' creative quality from the knowledge, management and several dimensions of innovation. Liu Keli, Xie Zaigen, believed that to cultivate the innovative talents, the colleges and universities must correctly handle the relationship between knowledge, ability and quality; the school must reform the teaching content and methods, in particular, the school must reduce the total amount of teaching content, increase the forefront knowledge and relatively academic knowledge, strengthen the cultivation of the spirit of science and academic education methodology; the school must strengthen the cultivation of practical abilities, give full play to the role of non-intelligence factors, create an environment of innovation and so on. Wang Peng thinks what the first thing in the way to cultivate the innovative talents is: to liberate the mind, to update the concepts and to reform the teaching methods. These arguments all have their own unique, but not comprehensive enough. When talked about the cultivation of innovative talents, the above scholars either focus on a professional area or to talk about the cultivation of innovative talents only from the teachers' side or the students' side. Indeed, the cultivation of innovative talents is a complex system, it involves all the aspects of education which is difficult to cover them all. What is innovation in this paper shows in the following aspects: the author gives the significance of the cultivation of innovative talents; shows the connotation of innovation; explains the current constraints in higher education that affect the cultivation of innovative talents; and offers the training strategy for the innovative talents. There are a systematic elaboration on the cultivation of innovative talents in this paper, may it be of help for the later research.

2. The significance of the cultivation of innovative talents.

Being an educational concept, the cultivation of innovative talents has the leading value for the training practice which can be showed in the aspects of social development, school development and personal development.

2.1 *The cultivation of innovative talents plays a supporting role for the economic and social development.*

Comrade Jiang Zemin once said: "Innovation is the soul of a nation, is an inexhaustible motive force for national prosperity", "Without the creativity, it is difficult for any nation to survive in the world's advanced nations." Since World War II, the world's economic and social development can be summed up in three categories: Resource-dependent, Import-dependent and Scientific and technological innovation. China is a country with a large population, the population factor in economic and social development is both a positive factor and a negative factor. From the negative factors, due to its large population and the relatively less per capita resources, the development that totally depends on the resources will lead to inadequate capacity for sustained development. On the positive side, it will offer a solid foundation for sustainable development of our country if the large population can be transferred into human resources. It is the higher education that takes the duty of training human resources. Hence, the cultivation of innovative talent can enhance our country's scientific and technological innovation capacity, make a better use of the limited resources, and gain the country an invincible position in the international competition so that China can stand tall in the world.

2.2 *The cultivation of innovative talents plays a positive role for the development of colleges and universities.*

In the era of popularization of higher education, the survival and development of colleges and universities is a serious issue of concern. The school quality and characteristics have a decisive impact on the school's survival and development in this increasingly competitive era. It is the quality of personnel training that value the school's quality and characteristics. And it is whether the school can cultivate the innovative talents that value the school's quality of personnel training. If a school can take training innovative talents as its basic philosophy, it would try to embody the innovation training in all the school practice. The innovation in the teaching model, the innovation in the personnel training program will create an innovative atmosphere of the campus culture, play a direct and indirect impact on the development of students and make the school full of vigor and vitality. From the talents' view, which is the production of education, graduates of the school is the brand of the school, the more achievements can the graduates make, and the more successful the school will be. It can be said that the cultivation of innovative talents has a decisive impact on the survival and development of higher education. On the opposite side, the school-trained people who has less innovation means the school which has no characteristics that its survival and development is a problem worth considering in this increasingly competitive era.

2.3 *The cultivation of innovative talents is in the line with the development of human-beings.*

From the individual part, a person's development is an inevitable trend, which has differences in the direction, speed, and the net result. Everyone has the needs for self-actualization, and everyone desires to maximize his potential development to make an ideal self. The quality of the potential innovation means much for the development and realization of his potential. We can find in the real life that the innovative talents can always choose the different lifestyles and get extraordinary development. Higher education is the education to help people get ready for going into the society and giving full play to his own value. That how to make higher education are better adapted to the community and contribute to the society are the questions that the colleges and universities face.

3. The meaning of innovation.

Colleges and universities should take the cultivation of innovative talents as its educational mission, which is also the key points for the Colleges and universities to concise its characteristics. However, in the cultivation of innovative talents, what should be made clearly is that what kind of talent is creative talent, what characteristics creative talents should have.

Innovative talents, based on the views of Mr. Guo Wenan, should refer to the talents who have the spirit of innovation, the ability to innovating and the innovative personality. What is innovation? It refers to make new development, new breakthroughs on the original basis". The innovative talents are always good at break the routine and are good at discovering the problems, analyzing the problems and solving the problems. The quality of innovation is the base of innovative achievements. The quality of innovation can be seen from two aspects: One is dominant quality, which is the external quality that can be showed by new concepts, new ideas and new achievements; the other is hidden quality, which can be showed as the psychological characteristics that being the basis for innovation and restricts the activities of innovative activities.

In the practice of personnel training in higher education activities, the school always takes cultivating people's inner qualities as the goal, therefore, this article describes the quality of innovation mainly from the perspective of internal quality. The inherent quality of creative talents includes three aspects: the spirit of innovation, innovative ability and innovative personality.

3.1 *The spirit of innovation.*

According to "Modern Chinese Dictionary", the "spirit" is the human consciousness, thinking and the general state of mind. "Innovative spirit" means the integrated use of existing know ledges, in formations, skills and methods to give new solutions and the awareness, confidence, courage and wisdom to invent and reform. As a subjective power, the spirit of innovation has stability and plays a leading role in one's mental activities and practical activities. In particular, the spirit of innovation includes the following:

3.1.1 Unwilling to be mediocre, the spirit of pursuing the excellence. As a spiritual force, Unwilling to be mediocre, having the spirit to pursuit the excellence is a driving force for innovative activities. It is difficult for anyone who always seeks to preserve the status quo to be creative.

3.1.2 The spirit of abandoning the old novelty. In real life, we are always surrounded by the things we had already had. Keeping the old can also be a way of life as a choice, but to choose such a lifestyle, a person will lose the basis for the creation of a new life. Innovative people, will tread the surroundings and the traditional culture with a critical attitude, they know what they should give up, what they should pursue, such as the pursuit of new knowledge, new-born things.

3.1.3 The spirit of independent thinking. The people with the creative spirit will not be parroting, they will maintain their own independent thinking and their own independent charging.

3.2 *Innovative ability.*

Innovative ability means the ability to innovate. It is the core elements of the innovative talents' quality. It mainly includes "The creator's re-processing capacity, general working capacity, practical ability and the ability to operate innovative techniques as well as show innovation capacity"^[1] Innovative thinking is the basis of the innovation capability's formation, development and performance. It is the key point to realize the creative action and to show the exceptional achievements of the creative action. The concern about the training of the students' ability to innovate takes a positive effect to the growth of students and helping the students to engage in social professional activities. It can make the work of creative, solve problems, and give direct impact on the outcome of the show. Therefore, among the various activities in colleges and universities, the important part to improve the quality of university education is taking the training of innovation capability as the core.

3.3 *Innovative personality.*

Innovative personality is the personality of the creative talents, and it is an important psychological foundation for the creative action. The main elements of innovative character include self-confidence, courage, determination, the sense of responsibility and cooperation, strong interest, ration and so on. The formation of innovative features is closely related to the environment and the education that one received. The cultivation of creative personality is an important content in the higher education. The healthy personality is an important evaluation criterion of the school quality. And to develop the positive character itself is one of the goals in higher education. the development of the positive character has an important role in promoting the formation of spirit and all-round development of one's quality. Therefore, as one of the connotations, the development of the innovative personality has great significance to the overall development of the creative quality.

4. **The current constraints in higher education that affect the cultivation of innovative talents.**

There ought to be no doubt of taking the cultivation of innovative talents as the sure pursuit of higher education, but in China's current higher education activities, emphasizing the cultivation of innovative talents are of great significance. Because there are some constraints in higher education that hinder the practice of cultivating the innovative talents. If we can not change these factors, the cultivation of creative talents will be an empty promise. Constraining factors includes:

4.1 *Factors of students.*

Factors of students themselves are internal factors that constrain the cultivation of innovative talents. Factors of students themselves mainly exist in the relative lack of the creative personality and the creative thinking. The lack of creativity has much to do with the primary and secondary education. The exam-oriented education still plays an important role in China's current course of primary and secondary education. In the eighties, the exam-oriented education mainly exists in senior high school; to the nineties, the exam-oriented education has been extended to junior education, primary education, early childhood education and family education after birth. Early childhood education, primary and secondary education becomes the preparation for entrance exams for colleges and universities, which leads to the increasingly heavy burden on students. Although the party and the state has developed a number of measures, including vigorous curriculum reforms, to reduce the students' burden, yet the burden of students did not come down, they become heavier and heavier. Examination-oriented education has become an important measure to value the quality of education by thousands of households and even the local government. Against this background, the students are repeatedly deprived of time and space to develop their creative quality so that they could achieve excellent results in the

entrance exams for colleges and universities. In the learning content, the students are required to do much repeated training in order to deal with college entrance examination, which greatly suppressed the creative thinking of students. Therefore, the students lost the opportunity to develop their creative personality. That is why the students in universities always treat the study with the way that already formed and show a relatively low quality of innovation.

4.2 The concept, system and practice of the cultivation of innovative talents in higher education.

The concept of the modern university emphasizes on this three functions: education, scientific research and social services. These three function embodied in the quality of personnel training. But in the current educational practice of the Universities, there is a shortage of university philosophy. University philosophy is the understanding of the nature of university education. It is the understanding of university personnel training, values, functions, attributes and so on, which plays the guiding role in university educational practice. However, in China's current development of higher education, popularization of higher education goes too rapidly that the rational understanding of higher education does not kept pace with its development and many universities lost their direction in the process. The concept of pluralism, the relative chaos of education had a negative impact on practice. For example, some famous universities lost their university philosophy that has already formed which leads to the decline in the quality of personnel training; the major universities have forgotten their social responsibility of giving elite education and so on. In particular, when we talked of what kind of talents should universities and colleges train, many colleges and universities do not take cultivation of innovative talents as its basic philosophy to guide the educational practice. In the process of popularization, higher education gradually loses its pursuit and is confused by the noisy world. The university begins to pay attention to how to make money by turning itself into a vocational training institution instead of paying attention to how to cultivate the innovative talents and how to develop the school's characteristics. It is the teacher who gives the most influential affect to the students in their cultivation of innovation during the educational practice. However, in the management of university activities, there are a number of measures that is detrimental for teachers to develop their innovative quality. For example, scientific research is the most important indicator in evaluating one's professional title, there are too much emphasis on high academic qualifications and so on. It is difficult for the teacher who lacks of creativity to cultivate creative students.

4.3 The factors of policy restrict the cultivation of innovative talents as well.

In China, the administration of colleges and universities tend to be more powerful, which means the university looks like administration more and more. It will surely lead to the neglecting of the spirit of innovation. Administrative intervention, especially the impact of higher policy shows more and more clearly. The most criticized aspects are: 1) English education. During this year's Congresses, many representatives pay much attention to college English teaching and learning and give the harshest criticism. English education in universities and colleges influenced higher education and the training qualification much. Students spend too much time to learn English that they neglect the professional learning and ignore the study of broad cultural knowledge which hinders the cultivation of innovation. Being a kind of communicating tool, English being paid so much attention shows the deficiency of policy. Many students learn English from the point of Utilitarian, and many students lost the passion for learning because of their failure in English learning, this perhaps is not what the policy-makers expect to. 2) Undergraduate teaching assessment. The starting point of should be impeccable. It expects the undergraduate teaching assessment could promote the quality of higher education and to ensure that the popularization of higher education will satisfy the people. However, in the assessment, its meticulous and too mechanical requirements seriously hampered the activity of higher education. It even talked about the teacher's lesson plans, papers correcting and other technical aspects. These practices increase the burden not only on colleges and universities, but also on the teachers. Teaching creativity turns into a stereotype, which is no good for the students to develop their creativity. 3) Employment policy. The basic mission of higher education is to cultivate the creative talents, to train high-quality talents for the community. However, educational administrative departments pay special attention to the employment rate of colleges and universities. The employment rate of university is taken as one of the basic indicators of quality. Under the impact of employment policy, the school pays close attention to employment problems and has no time to think about the cultivation of students' creativity. Because the number of students who can go on post-graduate study is calculated as the employment indicators, together with a number of local colleges and universities' misunderstanding toward post-graduate study, many local colleges and universities become the training camp for post-graduate entrance exam. Teaching plan making, teaching materials selection and teaching arrangements are all made post-graduate study as the center, as a result, students has relatively narrow field of vision and relatively lack of innovation capability.

5. The training strategy for the innovative talents.

Innovative talents training is a systematic project, it need external conditions and internal factors to work together to create an atmosphere of innovation. It can be explained from the following aspects:

5.1 Drawing up the policy that is helpful for innovative talents cultivation.

Higher education in China are influenced much by Chinese relatively centralized political system, so drawing up the policy that is helpful for innovative talents cultivation will be very important. In the formulation of policies, we should minimize the negative effects of policy, try to foster an atmosphere that encourage the cultivation of innovative talents in higher educational practice.

5.2 Universities and colleges should have a clear idea of the cultivation of innovative talents.

As managers of institutions of higher learning, whether they have clear ideas of teaching management has a direct impact on the development of schools. Take Mr. Cai Yuanpei, Mr. Mei Yiqi as examples, their concept for the University did much to the development of Peking University and Tsinghua University. Therefore, the school managers should have clear plan about how to cultivate innovative talents and institutionalize the way of cultivating innovative talents.

5.3 The key to strengthen the cultivation of innovative talents is to strengthen the building of the ranks of teachers.

High-qualified teachers are the guaranty to the school quality and the cultivation of innovative talents. At present, school managers all realized the importance of owning a high-qualified teaching staff. Through internal and external training, basically the various colleges and universities have formed a teaching staff of reasonable qualifications, professional title and age. The school administrator should realize the creativity of the teaching staff is as important as well. Only the creative teacher can cultivate the creative students. Teachers are not only set examples for students, but have much influence on the students' creativity through a variety of activities, methods and means. Therefore, school administrators should pay attention to develop the teachers' innovation and encourage the teachers to give more teaching reforms and create a more free environment for the teachers to do their teaching and research.

5.4 The system to develop the students' creativity should be established and be improved.

The principle of creativity is "Everyone has the creativity, the level of creativity can be enhanced by training" Every student has a huge potential of creativity. The university should help the students to release their potential and further improve their creativity. The university should not only make an atmosphere to encourage the students' creativity, so that every student believe in himself and has the ambition for success; but also hold a wide range of activities to mobilize the enthusiasm of students, so that their dream can be a reality. For example, the school can organize innovative competition and setup a research fund to promote innovation and so on.

6. Conclusion

At present, economic globalization and the knowledge-based economy is coming, the countries around the world are faced with fierce competition. Competition between countries, in terms of economy, or technology, fundamentally speaking, is the competition of talents. To foster the cultivation of innovative talents has become the primary task of universities and colleges. The paper talked about the significance of the cultivation of innovative talents; showed the connotation of innovation; explained the current constraints in higher education that affect the cultivation of innovative talents; and offered the training strategy for the innovative talents. The connotation of innovation is a complex social engineering. The universities and colleges should take the cultivation of innovative talents as the highest goals, strengthen the theoretical study and practice, speed up the educational innovation and make their contributions to promoting our country's scientific and technological progress and the development of a knowledge-based economy in the 21st century.

References

- Ju, Jing. (2008). Innovative Capacity-building of the English Majored Students. *Journal of Qiqihar University*.4.
- Li, Chummier. (2009). the Role of Physical Education in the Development of Innovative Talents in Colleges and Universities. *China Adult Education*.3.
- Chen, Xiaocan and Hu Jiao'e. (2000). On the Environment for the Cultivation of Innovative Talent. *Journal of Wuhan training institution. Agricultural Bank of China*.6.
- Yang, Chunqiao. (2005). the Basic Quality Needed by Innovative Talents. *Search*.2.
- Zheng, Wenli. (2009). the Development of the Innovative Talents' quality. *Journal of Aeronautical Industry Management*.1.
- Liu, Keli and Xie, Zaigen. (2002).Thoughts on the Cultivation of the Innovative Talents. *Jiangsu Higher Education*.1.
- Wang, Peng. (2002). on the cultivation of innovative talents in colleges and universities. *Hunan Social Sciences*. 3.
- Wu, Tiechuan. (2009). Of innovative training mode. *Henan education*.2.7-8.
- Xiong, Chunlin and Dong, Zhengyuan. (2007). On the cultivation of innovative talents and the characteristics of local colleges and universities. *Higher Agricultural Education*.8.3-6.

Guo, Wen'an. (2000). On innovative education and the characteristics of it. *China Education Journal*. 1.9-12.

Hong, tao, Li, Weifang and Zhang, fang. (2003). the research on the basic quality of innovative talent and its way of training. *Cultural and Educational Forum*. 5.19-22.

Que, Xiaodong and Gong, fang. (1999). The quality of innovative talents and its training. *Educational Research*. 10.