# Information Technology and Innovation Practice of College Students' Entrepreneurial Organizations

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*Abstract:*

Innovation is a powerful driving force for national development and social progress. This paper studies the promotion of information technology to the innovative practice of College Students' entrepreneurial organizations. College students are an important national talent pool. It is of great practical significance to strengthen the cultivation of College Students' innovative ability. This paper mainly expounds the definition and elements of innovation ability, and analyzes the significance of developing college students' innovation ability. At the same time, this paper discusses the advantages of information technology in innovation activities, and puts forward the strategies of using information technology to cultivate college students' innovation ability. The experimental results show that the method proposed in this paper can promote the innovative practice of College Students' entrepreneurial organizations. The results have certain reference value for the innovation practice research of College Students' entrepreneurial organizations.

*Keywords*: *Information Technology, College Students' Entrepreneurship, Innovative Practice, Innovative Ability.*

## I. INTRODUCTION

The 21st century is the century of the great rejuvenation of the Chinese nation. The outline of the national medium and long-term education reform and development plan points out that "the key to the great rejuvenation of the Chinese nation depends on talents and education." College students are energetic and quick thinking [1-2]. They are not only the new force of national development, but also an important talent pool for the great rejuvenation of the Chinese nation [3]. It is of great practical significance to cultivate and improve college students' innovative ability.

At present, science and technology are developing very rapidly. Modern information technology based on multimedia and network has been widely used in various fields of social production, penetrated into all aspects of our life, and profoundly changed people's thinking and behavior activities [4-5]. The increasingly extensive and profound application of information technology in the field of education has created a good

development environment and platform for colleges and universities to cultivate innovative talents [6]. Therefore, this paper intends to explore the use of information technology to cultivate college students' innovative ability. The author will put forward practical methods and ways of cultivating innovative ability combined with his own work practice [7].

## II. OVERVIEW OF INNOVATION CAPABILITY

(1) Definition of innovation capability.

Innovation ability, also known as innovation ability, refers to the ability of individuals to use existing knowledge and experience to produce a unique, novel and socially or personally valuable product. Including information retrieval ability, processing ability, the ability to master and use innovative techniques and the ability to express innovative results [8].

Innovation ability is a comprehensive ability with rich connotation. The author believes that the connotation of innovation ability includes innovation consciousness and innovation skills. Innovation consciousness refers to the ideological power in innovation ability, which is mainly reflected in the ideological desire for innovation and difference, and the innovative spirit of hard research, perseverance, perseverance and willing dedication for invention and creation; Innovation skills refer to the knowledge, experience and practical ability required for innovation activities. Generally speaking, innovation skills are the skills to transform ideas and aspirations into practical innovative products.

(2) Elements of innovation ability. The elements of innovation ability mainly include three aspects: innovative knowledge, intellectual factors and non intellectual factors. (see Figure 1)
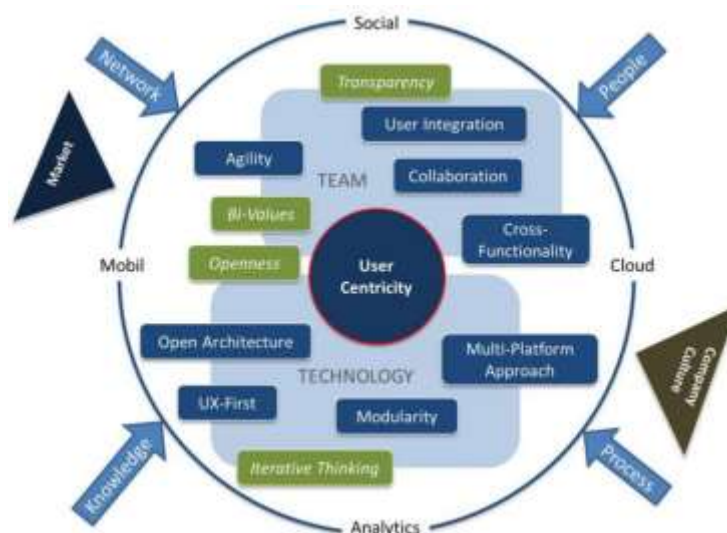


Fig 1: Elements of innovation ability

## III. THE SIGNIFICANCE OF DEVELOPING COLLEGE STUDENTS' INNOVATIVE ABILITY

(1) It is conducive to enhancing international competitiveness. Nowadays, the international competition is fierce. The most fundamental thing is the competition of talents and the competition of people's overall

quality. Its essence is the competition of innovation ability. Innovation ability is an important indicator of national competitiveness, and enhancing innovation ability is the key factor to enhance international competitiveness. With the continuous strengthening of China's international influence, the position of developing innovation ability in improving international competitiveness is becoming more and more prominent. If China wants to maintain its international competitiveness and influence steadily, it must constantly emerge new innovative talents. College students are an important source of innovative talents and an important national talent reserve. Cultivating and improving their innovative ability is a strategic project and an important guarantee for China to obtain long-term competitive advantage in international competition.

(2) It is conducive to building an innovative country. "Independent innovation, key leaps, supporting development and leading the future" is our guiding principle for building an innovative country. Innovation is the soul of national progress. Therefore, the cultivation and education of innovative talents is of great significance to China's future development. Experience shows that enhancing innovation capability plays a vital role in a country's stability and prosperity. To build an innovative country, we must have a large number of innovative talents to undertake the important task of construction. College students in the 21st century usually have a strong sense of innovation. They are bold in thinking and doing and quick in thinking. Therefore, colleges and universities should create a good development platform and cultivate their innovation ability through various educational methods and ways, so as to continuously transport practical innovative talents for the country and meet the needs of building an innovative country.

(3) It is conducive to improving the employability of college students. The Third Plenary Session of the 18th CPC Central Committee proposed to improve the system and mechanism to promote employment and entrepreneurship and encourage college graduates to start their own businesses. Employment is a livelihood issue related to thousands of families. At present, with the development of market economy and the introduction of industry competition, the difficulty of College Students' employment has become a social focus. Although there are many reasons for the difficulty of employment, the low employability of college students is the root of the problem. Developing college students' innovative ability is one of the effective ways to improve college students' employability. College age is the summer of life and the golden age of life. Through innovative activities, it can effectively stimulate the potential of college students, expand professional knowledge, exercise practical ability, develop good team spirit, comprehensively improve their own comprehensive quality, and lay a solid foundation for future employment innovation.

## IV. ADVANTAGES OF INFORMATION TECHNOLOGY IN INNOVATION ACTIVITIES

With the rapid development of science and technology, information technology is the representative of advanced productive forces, an indispensable tool for scientific research and technological development, and plays an important role in innovation activities. Information technology has unique advantages and provides a favorable tool and platform for cultivating college students' innovation ability.

(1) massive and rich information and fast update speed. Information technology provides us with a large amount of rich information. All countries in the world have huge information resource databases. The network connects these resource databases to form a vast ocean of information, providing people with rich

and diverse shared information. Through Baidu, Google and other search engines, we can easily and quickly retrieve the required information, conduct data collection and research, and provide convenient conditions for the development of innovation activities.

With the rapid development of knowledge and the explosion of information, new knowledge and skills are emerging, and the amount of information is expanding and updating. To carry out innovation activities, we must timely understand the new trends in the development of professional fields and grasp the frontier and hot spots of scientific and technological development. Information technology can update information and data in time, release various news trends to people efficiently and quickly, help researchers timely understand the frontier achievements of professional development, grasp the development direction, carry out innovative activities for them, and provide valuable scientific research information.

(2) break through the space-time limit and have strong interactivity. Information technology effectively breaks through the space-time limit and makes people's communication and contact more convenient and close. The popularization and application of the Internet provides people with a new link to strengthen communication. Wechat, e-mail, QQ and other communication tools and software have effectively broken through the time and space constraints, so that we can communicate with others at any time and anywhere. In the information technology environment, we can communicate with others in real time or non real time. By discussing with others, we can broaden research ideas, enrich and improve our own views, which is of great help to carry out innovation activities.

(3) save scientific research funds and low cost. With the continuous development of communication technology and the rapid popularization of network, the network communication speed is greatly improved, but the communication cost is significantly reduced. Therefore, in innovation activities, we often exchange information and transfer files through network tools, such as e-mail and QQ. Many tools and software used in innovation research can be used online for free or downloaded from the Internet for free. For example, Chinese English bilingual translation software "Kingsoft Ciba"; "Xunlei" software to help users quickly download files, etc. Academic resources in the information technology environment are rich in content and various, mainly including database resources, academic website resources, electronic publication resources, organization resources, professional forums and expert personal home pages. Many of these resources can be browsed and downloaded for free, and the cost of some resources that need to be paid is relatively low. Therefore, the application of information technology for innovative research can save funds, help researchers apply limited funds to the key links of R &amp; D, and improve the research level and quality.

## V. STRATEGIES OF USING INFORMATION TECHNOLOGY TO CULTIVATE COLLEGE STUDENTS' INNOVATIVE ABILITY

(1) Enhance innovation awareness and stimulate college students' innovation enthusiasm.

Mr. Tao Xingzhi, a famous educator in China, once said: "human society is a place for innovation everywhere, every day is a time for innovation, and everyone is an innovative person." this shows that innovation is not limited by time and place, and everyone has the potential of invention and innovation. However, a large number of studies have proved that although Chinese college students have high IQ and knowledge practice foundation, their innovation ability is relatively low. Many college students feel that innovation is an unattainable activity and a very distant thing from themselves. They have a weak sense of

innovation and lack enthusiasm for innovation. In this regard, we should take corresponding measures to enhance college students' innovative consciousness and give full play to college students' innovative potential effectively.

First of all, we can guide students to browse innovative websites and strengthen their awareness of innovation. Common innovation websites include "China Innovation Network", "China Science and technology innovation network" and "chuangxiang network". These websites generally include innovation highlights at home and abroad, the latest scientific and technological trends and innovative product introduction. By browsing the content of the website, we will find that innovation comes from production and life and is contained in all aspects of social needs.

Secondly, strengthen the communication between college students and innovators of the same age through wechat platform, so as to stimulate their enthusiasm for innovation. Wechat platform has the advantages of omni-directional, super time and space and strong interaction, which provides a convenient and fast way of communication for college students' social activities. Through wechat, college students can communicate with successful innovators of the same age. The experience of peers is very persuasive, which can effectively break the fear of innovation and uncover the mystery of innovation. It can be seen from table 1 that from 2010 to 2014, the total number of projects approved by college students and the number of participants have been on the rise, which is inseparable from the full use of information technology to stimulate college students' innovation enthusiasm.

**TABLE I. Table of "College Students' extracurricular academic science and technology innovation project" of our university from 2010 to 2014**

| YEAR | TOTAL NUMBER OF PROJECTS APPROVED | NATURAL SCIENCE PAPERS | INVESTIGATION REPORTS AND ACADEMIC PAPERS ON PHILOSOPHY AND SOCIAL SCIENCES | SCIENTIFIC AND TECHNOLOGICAL INVENTION | ENTREPRENEURSHIP COMPETITION | NUMBER OF STUDENTS PARTICIPATING IN THE PROJECT | PROPORTION IN THE TOTAL NUMBER OF STUDENTS IN THE SCHOOL |
|------|------|------|------|------|------|------|------|
| 2010 | 211 | 52 | 136 | 23 | 0 | 496 | 2.3% |
| 2011 | 241 | 39 | 159 | 31 | 11 | 550 | 2.5% |
| 2012 | 265 | 48 | 139 | 40 | 38 | 842 | 3.2% |
| 2013 | 269 | 45 | 164 | 36 | 24 | 904 | 4.1% |
| 2014 | 296 | 59 | 185 | 30 | 22 | 977 | 4.5% |

（2）Expand professional vision and depth, and strengthen college students' innovative knowledge reserve.

Firstly, when teaching professional knowledge, college teachers should make full use of the network teaching platform to build network courses, so as to provide conditions for students to broaden the field of professional knowledge and deeply study professional knowledge. Network teaching platform is generally composed of three systems: online course development system, online teaching support system and online teaching management system.

Secondly, guide college students to obtain cutting-edge research results and development trends of professional development through the information technology environment, so as to accumulate theoretical knowledge for innovation. At present, colleges and universities have established libraries with rich resources. Libraries generally have electronic reading rooms to facilitate students to browse electronic books and periodicals. "Founder Digital Library", "superstar library" and "Meixing foreign language digital full-text library" contain thousands of e-books, which can provide college students with all aspects of knowledge needs.

（3）Broaden knowledge, draw on the strengths of others, and strengthen the accumulation of College Students' innovative experience.

Experience is the knowledge or skill acquired by people through many times of practice. For innovation activities, experience is very important and valuable. Having certain innovation experience can make us more handy and confident in innovation. For strengthening the accumulation of innovative experience, the information technology environment also provides superior conditions for college students.

First, learn through the Mu class in the online learning website to accumulate innovative experience. These courses will show innovative methods and innovative experience in the explanation of innovative cases, which is very useful for college students to accumulate innovative experience. In the Mu class of "innovation is the soul of science", academicians Youwei said that good methods should be recorded in time, and then analyzed, designed, produced and experimented. This is the innovation experience and the basic innovation quality that a college student should have.

Secondly, universities should make full use of campus network to strengthen the reserve of College Students' innovative knowledge and experience. Under the environment of information technology, information exchange and sharing are more convenient and fast. Campus network can broadcast news and videos about innovation experience exchange in time.

## VI. CONCLUSION

Innovation is the soul of a country, an inexhaustible driving force to promote social development and cause progress, and an important guarantee for the great rejuvenation of the Chinese nation. College students are the future of the country, a valuable talent resource and an important force in building an innovative country. Colleges and universities are the cradle of cultivating all kinds of talents and shoulder the important task of cultivating innovative talents. With the rapid development of science and technology, colleges and universities should make full use of information equipment and resources, give full play to the

advantages of information technology, and create an innovation space for college students to develop freely. It is a strategic project of far-reaching significance to mobilize college students' innovation enthusiasm, stimulate their innovation potential, improve their innovation ability, and cultivate top-notch innovative talents for the country.

## REFERENCES

[1] Yang, D., & Mak, C. M., (2017). An assessment model of classroom acoustical environment based on fuzzy comprehensive evaluation method. Applied Acoustics, 127(dec.), 292-296.

[2] Xu, Bihua, Li, Jian, & Yang, Changxue. (2006). Research of multi-level fuzzy comprehensive evaluation model for quality of cementing. Journal of Medical Systems, 30(5), 381-7.

[3] Zhou, S., & Sun, W., (2012). Evaluation of information systems complex new talents. IEEE, 357-359.

[4] Zhu, Y., Wang, X., Deng, S., Zhao, M., & Ao, X., (2019). Evaluation of curtain grouting efficiency by cloud model‐based fuzzy comprehensive evaluation method. KSCE Journal of Civil Engineering, 23(7), 2852-2866.

[5] Wang, Y., Wang, D., & Wu, J., (2012). A fuzzy evaluation model for habitat suitability of four major chinese carps. Journal of multiple-valued logic and soft computing, 18(5), 561-575.

[6] Wu, Z. J., Xie, X. J., Shi, P., & Xia, Y. Q., (2009). Brief paper: backstepping controller design for a class of stochastic nonlinear systems with markovian switching. Automatica, 45(4), 997-1004.

[7] Li, X., & Du, J., (2013). Adaptive and attribute-based trust model for service-level agreement guarantee in cloud computing. IET Information Security, 7(1), 39-50.

[8] Yves Lévy. (2011). Perpetuation of vaccine memory t cell responses against siv/hiv. EMBO Molecular Medicine, 3(9), 507-509.