

## Study on Mental Model of College Students' Innovation and Entrepreneurship Model

Pei Zhou

Southwest Petroleum University, Chengdu, Sichuan province 610500, China.

### Abstract

**A person's mental model is often the underlying cause of his behavior. College students' innovative entrepreneurial model method and habit of recognizing things make it in the practice of the innovative undertaking to generate accurate understanding and the analysis based on subjective and objective conditions, make appropriate choices and actions, on college students' innovative undertaking has important guiding significance and reference value, the content of the mental model is important to the development and integrated into the elements of education in personnel training and resources.**

### Keywords

**College students; Innovation and entrepreneurship model; Mental models.**

### 1. Introduction

On December 4, 2016, the central committee of the communist party of China, issued by the state council on strengthening and improving ideological and political work in colleges and universities under the new situation of the opinions, to "strengthen college students' innovative undertaking education, vigorously entrepreneurial organization innovation practice activity, advancing the practice education activities in colleges and universities." Effective cluster innovation factors of entrepreneurship education and resources, form the whole society concern and support innovative entrepreneurial education and a good ecological environment, students' innovative entrepreneurial innovation entrepreneurship education in colleges and universities and an important link in strengthening practical education. A person's mental model is often the underlying cause of his behavior. Mind of college students' innovative entrepreneurial model (a method of recognizing things and habits can make its innovation of entrepreneurial practice according to the subjective and objective conditions to produce accurate understanding and analysis, to make appropriate choices and actions, on college students' innovative undertaking has important guiding significance and reference value, is important to the development and integrated into the elements of education in personnel training and resources.

### 2. The Significance of the Study on the Mental Model of College Students' Innovation and Entrepreneurship Model

In contemporary China, it requires the joint efforts of the whole society to cultivate a sense of innovation, promote entrepreneurship and build an innovative country, and it also requires the efforts of higher education [1]. At present there are a lot of research on entrepreneurial psychological, but for university students' innovative entrepreneurial model mental model research is still in its infancy, the innovation of the past the pioneering psychological research mainly focus on the innovation of the enterprise personnel, and university students' innovative undertaking research focused on the entrepreneurial process. In recent years, the influence of the economic structure transformation and employment difficulties, research on the problem of college students' innovative undertaking gradually extended to the psychological content, but the study of the patterns of college students' innovative entrepreneurial model mind few and far between.

To and from the 2014 national "public entrepreneurship and innovation", the university has trained a batch of significant achievements of college students in innovative undertaking, they in entrepreneurial innovation theory research, innovation, entrepreneurship competition results and

innovative entrepreneurial project practices have harvest, each can be said to be the double gen in the field of "outstanding", the "best" is in the field of college students' innovative undertaking model. Strongly advocated innovation entrepreneurship in the country today, study the model of mental models, not only help to solve the problem of difficult employment, at the same time also can improve the ability of a group of college students' innovative entrepreneurial. The specific significance of the study mainly includes the following aspects: first, it can provide guidance and reference for college students' innovation and entrepreneurship, and to some extent alleviate the employment pressure of college students. Secondly, the 21st century is a century of innovation, and innovation is one of the important indicators to measure the national and national innovation ability. The research on the mental model of innovation and entrepreneurship model of college students can explore the innovation ability of college students and improve the innovation of the country and the nation. Third, innovation, entrepreneurship education is the important part of a series of strategic moves to build an innovation-oriented country, college students' innovative entrepreneurial model of mental model is put forward, and to provide guidance and help for innovation entrepreneurship education in colleges and universities.

### **3. Examples of Innovation and Entrepreneurship of College Students and Their Influence**

Role models are the product of social development and human self-transcendence. Basoc and Howe proposed that role models are people who can influence others in daily life and activities, and individuals prefer to look for similar role models, such as the same gender or race [2]. Thomas and Biddle proposed the role of role models in the role theory to provide a reference for others to learn role models in life [3]. Scott and Twomey think individual learning experience can be observed from an example, an example is a direct impact on individual encourage individual initiative to participate in the consultation, to discuss and share the learning experience, example behavior affects the desirability and feasibility of role perception [4]. Model refers to people with inspire, motivate, lead, to inspire and encourage people consciously pursue, learning, and follow the object, the general is a relatively good social groups, advanced, outstanding character [5]. Puts the connotation of the model in the field of college students' innovative undertaking, in this paper, the research object of college students' innovative entrepreneurial model refers to the outstanding achievements in the field of innovative undertaking and have good spirit of innovation, entrepreneurship and innovation entrepreneurship, for other college students has positive influence on college students' innovative undertaking. According to the connotation of the college students' innovative entrepreneurial model, in combination with the practical situation of the current innovation entrepreneurship education in colleges and universities, from the innovation theory of entrepreneurship research, innovation, entrepreneurship competition results, innovation, entrepreneurial project practice three dimensions locating college students' innovative undertaking model group category, specifically refers to the following three kinds of people: engaged in theoretical research and published papers of college students innovative undertaking, for the "+" Internet innovation entrepreneurship competition, "and" youth entrepreneurship competition and won awards at or above the provincial level of college students, the successful practical entrepreneurship of college students.

College students' innovative entrepreneurial model as an alternative experience can strengthen the consciousness of university students' innovative undertaking, this is because when the college students who saw similar to their success he believe he will succeed. The more similar the subjects were to the substitutes, the more convincing and imitative the successful experience of the substitutes was to the subjects. College students through understanding model can not only see the possibility of its future, can also learn how to carry out creative work, where I can get the resources, what are the factors lead to success or failure. As a result, the influence of the college students' innovative entrepreneurial model mainly embodied in the following aspects: first, college students' innovative entrepreneurial model can be "double gen" concept to the classmates around, stimulate the group of college students' innovative entrepreneurial drive and dream, arouse the enthusiasm for innovation,

the courage to encourage entrepreneurship and be innovative entrepreneurs. The success of my classmates will cause college students to examine their own conditions of innovation and entrepreneurship, enhance their confidence, enhance their awareness of innovation and entrepreneurship, and enhance their enthusiasm to participate in innovation and entrepreneurship. Second, the role model of innovation and entrepreneurship for college students can provide information and guidance to students around them, so as to reduce the obstacles on the path of innovation and entrepreneurship and avoid predictable risks. Innovation and entrepreneurship are complex and risky. Relevant information and necessary peer guidance can help college students who lack social experience and experience avoid risks and avoid detours.

#### **4. Analysis on Mental Model of College Students' Innovation and Entrepreneurship Model**

##### **4.1 Mental Models**

Scottish psychologist Kenneth euan Craik as early as in 1943 proposed the mental models (getting model) concept, he thought the mental model is the human brain after observing the real world, in the real world in the human brain, a refactoring, or "a map" [6]. In the face of repeated living environment, reconstruction can help people to respond more quickly and better adapt to the external environment. Humans understand and interpret the world through mental models and predict its future development.

Mental models have since been studied in a number of fields and have come a long way. Manual control scientific definition of mental models as a mechanism, through this mechanism, human can be used to describe the system goal and form, can explain the function of the system and run, and then predict the direction of system development. Human cognitive science defines mental models as a map of how people perceive the outside world through their daily life experiences. This kind of map is built into a fixed path, people consciously or unconsciously rely on this fixed path to know the world around them. In management science, Peter senge proposed in the fifth exercise that the mental model is a "map" to help people understand the world [6]. Past experiences have gradually formed in people's mind about stereotypes and views of the outside world, understanding the inherent and can affect people's cognitive potential, it controls people's understanding of the world, and dominates People's Daily behavior. In theoretical psychology, hayek clearly explained the relevant content of mental model from the perspective of psychology in order of perception. Mental models, he argues, are a classification system based on the structure of neural connections. Through this classification system, the human brain can classify the external information, predict the changes of the environment and make corresponding behaviors based on these classifications [7].

After studying the mental model theory, on the basis of combining special internal and external environment of college students' innovative undertaking, defines the connotation of college students' innovative undertaking example mental models, and mainly for college students' innovative entrepreneurial model about self understanding and the experience of entrepreneurship and innovation, and based on this to choose their own innovation entrepreneurship "explain" the incident, and make basic judgment, drive self innovation business choices and actual implementation.

##### **4.2 Content Analysis of Mental Model of College Students' Innovation and Entrepreneurship Model**

Based on college students' innovative entrepreneurial model connotation of mental models, analysis of college students' innovative entrepreneurial model for innovation entrepreneurship consciousness, cognition, interest, motivation and behavior modes of college students' innovative entrepreneurial model mind from innovative entrepreneurial cognitive system, innovative entrepreneurial drive system and entrepreneurship intention study on specific content three aspects. Innovation entrepreneurship cognitive system includes two dimensions: pioneering consciousness, college students' innovative entrepreneurial model of innovative entrepreneurial cognition and own must have the understanding of the subjective and objective conditions), innovation, entrepreneurial

environment cognition, college students' innovative entrepreneurial model of innovative entrepreneurial awareness of campus environment and social environment); Innovative entrepreneurial drive system includes three dimensions: innovative entrepreneurial interest (college students' innovative entrepreneurial model focused on innovation business information), entrepreneurial innovation efficiency (college students' innovative entrepreneurial model) for innovative entrepreneurial success self-confidence and innovative entrepreneurial motivation (why college students' innovative entrepreneurial model in creative, innovative entrepreneurial motivation); The intention of innovation and entrepreneurship includes two dimensions: the tendency and boldness of innovation and entrepreneurship.

#### 4.2.1 Content Analysis of Cognitive System of Mental Model of College Students' Innovative Entrepreneurial Model

Under the increasingly severe employment situation of college students, some college students are no longer satisfied with the traditional employment model, and they turn their attention to independent innovation and entrepreneurship. Mental model is a system of cognition, understanding and action. In essence, it is the method and habit of people to know things. College students' innovative entrepreneurial model before selecting innovation entrepreneurship will pay close attention to college students' innovative undertaking related information such as preferential policies of the college students' innovative undertaking and college students' innovative entrepreneurial environment, campus environment and social environment), and has very clear before the innovative entrepreneurial innovation entrepreneurship must face risks and difficulties. The specific analysis contents of the cognitive system of mental model of college students' innovation and entrepreneurship model are shown in table 1.

Table 1. content analysis of college students' mental model cognition system of innovative entrepreneurial role models

| The dimension  | Analysis of the content  |
|--|--|
| Innovation and entrepreneurship                          | The difficulties, risks, innovation and entrepreneurship team, interpersonal relationship, capital, project and passion of innovation and entrepreneurship   |
| Cognition of innovation and entrepreneurship environment | Preferential policies for innovation and entrepreneurship of college students, innovation and entrepreneurship fund, innovation and entrepreneurship guidance, innovation and entrepreneurship courses |

#### 4.2.2 Content Analysis of Motivation System of Mental Model of College Students' Innovation and Entrepreneurship Model

A lot of college students' innovative entrepreneurial model in the daily learning life will take the initiative to focus on innovative business information, such as study subjects that related to innovative entrepreneurship, often attend lectures, associated with innovative entrepreneurial innovation initiative startup information, reading biographies innovative entrepreneurial success, seize all can contact with innovative entrepreneurial elite, it shows the college students' innovative entrepreneurial model innovation entrepreneurship interest mental models of power system is an important research content. Part of college students in graduate employment without considering innovation entrepreneurship because they think business risk is too big, there is a fear, a lack of self-confidence, but college students' innovative entrepreneurial model innovation on business confidence, they think that their own ability to face the innovation all difficulties that may encounter in the process of entrepreneurship, teamwork, social skills, product sales, etc.), thus it is not hard to see innovative entrepreneurial self-efficacy is college students' innovative entrepreneurial model mental model power system is a very important research content. Why do college students go to innovation and entrepreneurship? College students' innovative entrepreneurial model thought innovation entrepreneurship can free oneself family, is a challenge of life and a way to realize the value of life, entrepreneurial innovation will improve their social status, can improve the family economic conditions, to stimulate their own potential, visible is the college students' innovative entrepreneurial model innovation of entrepreneurial motivation mental model power system is an important research

content. The mental model dynamic system of college students' innovation and entrepreneurship model consists of three parts: interest in innovation and entrepreneurship, efficiency of innovation and entrepreneurship, and motivation of innovation and entrepreneurship. See table 2 for detailed analysis.

Table 2. content analysis of college students' mental model dynamic system of innovation and entrepreneurship model

| The dimension                                 | Analysis of the content  |
|---|--|
| Interest in innovation and entrepreneurship   | Take courses on innovation and entrepreneurship, attend lectures on innovation and entrepreneurship, pay attention to information on innovation and entrepreneurship, and read biographies of celebrities of innovation and entrepreneurship |
| Innovation and entrepreneurship efficiency    | Ability to handle interpersonal relationship, product sales, innovation and start-up plans, reasonable risk avoidance, etc   |
| Motivation of innovation and entrepreneurship | Create wealth, challenge, social recognition, expand knowledge, stimulate potential, innovate and exert autonomy   |

#### 4.2.3 Content analysis of College Students' Innovative Entrepreneurial Model Mental Model Behavior System

The behavior system is the ultimate manifestation of the mental model. Only when the behavior system ACTS on the innovation and entrepreneurship process of college students, it means that the role of the mental model has been played. At present there are a considerable part of the college students entrepreneurship students innovation ability is generally low, but they have realized the importance of innovation ability, and try to improve their innovation ability, and college students' innovative consciousness and ability of innovative entrepreneurial model was obviously higher than that of other college students, embodied in college students' innovative entrepreneurial model will challenge for some people the idea of rut, will be keenly aware of others imperceptibly innovation entrepreneurial opportunities, entrepreneurial values advance, be good at to attend a class competition and innovation awards, like to try all sorts of methods to solve the problem, to discover the rule of innovative entrepreneurial success, etc., It can be seen that innovation is a very important aspect for college students to have entrepreneurial intention, so it is an important content of education to cultivate their innovation ability. Part of the ideological and conservative when college graduates to apply for a job, just want to find a stable job, did not dare to innovative entrepreneurship, the risk is too big and had some uncertain problem is always a wait-and-see attitude. And college students' innovative entrepreneurial model show, on the other hand, they are characterized by high task, like some challenging, risk facing uncertain situation always see opportunities and advantages, dare to dare to do, etc., risk is also visible college students' innovative undertaking behavior intention to a very important research content. Therefore, the content analysis of college students' intention of innovation and entrepreneurship includes the tendency and boldness of innovation and entrepreneurship, as shown in table 3.

Table 3. content analysis of college students' mental model behavior system of innovation and entrepreneurship model

| The dimension                            | Analysis content   |
|--|--|
| Innovation and entrepreneurship tendency | The value concept of innovation and entrepreneurship is advanced, various ways to solve problems are tried, new ideas and new things are pursued, and the rules of innovation and entrepreneurship of successful innovation entrepreneurs are discovered |
| Dare to sex                              | Find opportunities and advantages in uncertain situations, like to take on challenging and risky tasks, dare to think and dare to do   |

## 5. Conclusion

College students' innovative entrepreneurial model mental model is a multi-level multi-dimensional psychological structure, it includes innovative entrepreneurial cognitive system, innovative entrepreneurial drive system and entrepreneurial behavior system, three aspects by the creative consciousness, creative environment cognition, innovation business interests, business efficiency, innovation, entrepreneurial motivation entrepreneurial tendencies and dare to seven dimensions for sex. Analyzing the mental models of college students' innovative entrepreneurial model can reduce the risk and cost of college students' innovative undertaking, schools, government, media and other relevant institutions through an introduction to the propaganda of innovative entrepreneurial winners namely model to increase innovation business confidence, by introducing the experience and successful cases provide college students' innovative undertaking avenues to emulate, lessons learned, by way of example, thus achieve the goal of innovative entrepreneurs to strengthen innovative entrepreneurial intention.

## Acknowledgements

Fund items:Sichuan education department of education college counselor training and research base (Southwest Jiaotong University) ideological and political education research project (college counselor special project) (CJSFZ17-06) research results.

## References

- [1] Chu Zhendong, Liu Ye, Wang Weili, Chai Wang, Jiang Yumei. Analysis on the role of model education method in education[J]. Theory Research,2015(21):112-113.
- [2] Ling Xuehua. Study on the relationship between entrepreneurial model and entrepreneurial intention of college students[D]. Tianjin University of Technology and Education,2015.
- [3] OECD. Measuring Entrepreneurship, A Collection of Indicators 2009 Edition. [R]. OECD-Eurostat Entrepreneurship Indicators Programme.
- [4] European Commission. Rural Development in the European Union. European Communities. Available at <http://ec.europa.eu/agriculture/publi/fact/rurdev2003/en.pdf>.
- [5] Yuan Wenbin. Research on contemporary Chinese model education[D]. Hebei Normal University.2010.
- [6] Xiong Ze. Theory of mental model and its application [D]. Huazhong Agricultural University.2012.
- [7] Chen Qiliang. Preliminary preparation and measurement of entrepreneurial mental model questionnaire for college students[D]. Shanghai Normal University.2011.