Research on Psychological Model of Innovation Entrepreneurship of College Students Based on TRIZ Theory

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Abstract

No matter under the current requirement of changing the cultivation direction of students in the new curriculum reform or with the policy support for industry innovation from the government, the entrepreneurship of college students seems to have become an important component of innovation in current society. However, in terms of practical concept, the entrepreneurship of college students is not only in the face of college students who just enter the society, but also involves two difficulties, namely innovation and entrepreneurship. Therefore, how to use modern analytical techniques to help college students to achieve a scientific and effective process of innovation entrepreneurship is inevitably the most important research project in the entrepreneurship courses and cultivation of entrepreneurial talents in various colleges and universities. The study found that contemporary college students were extremely active in pursuing the characteristics of innovation, freedom and the times compared with the student groups at the previous level. Therefore, from the theoretical point of view, after being effectively guided, contemporary college students will inevitably become an important promoter of innovating domestic development and upgrading the competitiveness of national innovation. The realization of innovation entrepreneurship and the process of quality building need some of the established factors. The relevant studies show that when students are looking at innovation, entrepreneurship and industrial development, their ideas often follow the fixed direction of self-thinking, thus forming some novel thinking content. Therefore, if universities and students can expand their self-concept through the use of guiding technical content, they can make more adaptive and effective entrepreneurial cooperation ahead of time on the premise of “knowing the future”. Therefore, this paper will be based on the innovation and extension-oriented TRIZ theory to conduct a simple analytical study on the psychological model of the innovation entrepreneurship of college students.

Keywords: TRIZ Theory, Innovation Entrepreneurship of College Students, Psychological Model Research.

1. RESEARCH BACKGROUND

1.1 Literature Review

If a country can maintain its long-term and efficient innovation, the future comprehensive national strength will stay in a relatively stable state for a long time. However, innovation not only requires inspirational flash but also a large number of participants with innovative and entrepreneurial spirit (Du, 2014). The physiological model is a direct view of the relationship between things constituted by the direct attitude towards things in daily life and the habitual content of one’s own personality built on thinking basis. For the innovation entrepreneurship of college students, this type of psychological mode based on complete self-thinking is undoubtedly an important reference point to stimulate the entrepreneurial ideas of college students (Wang, 2014). However, at the same time, the main idea of a psychological model cannot be generalized, which can be divided into good and bad. A good psychological model will undoubtedly play an active role in the process of innovation entrepreneurship of college students. However, a bad psychological model can also forecast the predictability of things ahead of time through delaying methods. Therefore, the TRIZ theory based on scientific projections has an absolutely dynamic effect on the innovation entrepreneurship of college students. Therefore, it is of practical research value to apply TRIZ theory in testing and construct the psychological model of the innovation entrepreneurship of college students.

1.2 Research Purposes

The employment situation in China is grim. The employment difficulty for the next generation of college students seem to have become the long-term trend of national employment development. But fortunately, in this situation, in addition to enhancing their own professional skills and personal qualities, the employment can be achieved
through the entrepreneurship of college students. However, at present, the innovation entrepreneurial education of college students in China is in a state of full development and promotion. Whether it is an ordinary research or an authoritative exploration forum in academia, there are numerous articles about the research on the innovation entrepreneurial education and innovation entrepreneurial thinking behavior whether in ordinary researches or authoritative discussion forum in academic circle. Therefore, this article specifically chose to study from the side-issue in the definition of topics to reduce the interference of conventional thinking on the content of this article. However, although this topic of this paper is less popular, from the perspective of research content, the psychological quality and behavioral habit of college students definitely have an absolute shadow effect on the thought and behavior of innovation entrepreneurship. That is, daily behaviors will intervene in the entrepreneurial process with the same behavioral characteristics. Therefore, based on the basic principles of the studying relevance points of the practical effect of innovation entrepreneurship from the perspective of behavior, the paper takes the lead in elaborating the concept of innovation entrepreneurship, and then explores the architecture of TRIZ theory. Combined with the understanding of the psychological architecture of innovation entrepreneurship of contemporary college students, this paper presents a comprehensive psychological model facing the direction of innovation entrepreneurship of college students.

2. CONCEPT AND RELATIONSHIP ANALYSIS OF INNOVATION ENTREPRENEURSHIP OF COLLEGE STUDENTS

2.1 Partition Definition of Innovation Education

The practical significance of innovation is based on an opposite or comparative level. Innovation can refer to the innovation in an industry or a re-creation of a given item. (Han, 2011) However, in the innovation phase of business, it is the updating of existing production function in the industry. In the current domestic industrial structure, most entrepreneurs are actually the innovators of the industry. Innovation can refer to innovation of forms of products, integration of modes of production, introduction of new technologies in industry content, etc. (Wang, 2012) However, no matter from what perspective, the actual meaning of innovation is to upgrade the status quo of products and industries to make it more adapted to the needs of consumers and the national development direction. However, some scholars think that innovation is to fill the passive links in the market and re-energize the market activities. Therefore, innovation can also be understood as the inevitable method used in the human beings development in order to improve themselves and promote the overall development.

Innovation education, means innovation and improvement in educational methods. At present, the system of resource assessment for college students is mainly examination-oriented education. The talents in colleges and universities developed under this system have the behavioral and psychological characteristics of high executive ability and weak ideological activity. (Luo, 2013) Therefore, in order to promote and establish entrepreneurial thinking among students, the school can set up a spiritual improvement course focusing on the awareness, spirit, personality and imagination to enrich students' practical understanding of the world, society, production or non-production sectors. (Xu, 2013) Although there are some differences in the concept of innovation education during historical times, the cultivation of innovative ability always includes three aspects: thinking innovation, communication innovation and creation innovation and in these three points, thinking is the core element in the psychological model. Therefore, in the theory of inventive problem solving, thinking is also the primary reference point for constructing the psychological model of innovation entrepreneurship of college students.

2.2 Partition Definition of Entrepreneurial Education

From a superficial perspective, the definition of entrepreneurship is that individuals or small groups carry out new industry situation that has been developed or not has been developed related to industries. However, from the extensible level of entrepreneurship, entrepreneurship is a development process of the construction of new regions of innovation for selected industries that focuses on the controllable resources in the hands of entrepreneurs. In other words, entrepreneurial is not actually a noun of a fixed period of time, which is closer to a philosophical process from ascending to descending or from descending to extinction. But no matter from which perspective, entrepreneurship is a comprehensive presentation of social values and personal values. For the social elites, the first step towards success is whether they have controllable resources to support entrepreneurship. (Shen, 2016) But for college students, resources can be externally provided under the condition of professional competence. Therefore, for members within colleges and universities, the independent ability such as professional competence, risk-taking ability, management ability and macro-coordination ability is the important factor of entrepreneurship. In the process of entrepreneurship, the basic structure of the psychological model can be divided into a variety of states, but the most important one is the entrepreneurial motivation. Entrepreneurial motivation, as an important
part of the psychological role, plays an absolute promoting role in the entire entrepreneurial process. And the stronger the entrepreneurs' demand for the success of entrepreneurial motivation, the higher the probability of entrepreneurial success and the higher the entrepreneurial initiative.

Entrepreneurship education is an important teaching content for cultivating students' entrepreneurial motivation, strengthening students' entrepreneurial belief, and assisting the formation of students' entrepreneurial motivation and entrepreneurial territory. However, although students' entrepreneurial motivation can play the promoting role, it is very easy for entrepreneurial motivation to be overturned in the early days. (Shi, 2017) Therefore, the entrepreneurial education in colleges and universities is actually a process of safeguarding and strengthening students' entrepreneurial motivation. The provision of basic entrepreneurship education, entrepreneurial simulation and practical entrepreneurship support in colleges and universities is to provide students with a sound and safe place for entrepreneurship and thus the entrepreneurship education in colleges and universities not only contains the knowledge cultivation of professional competence and entrepreneurial direction, but the assistance of peripheral knowledge such as financial analysis, legal overview, business foundation.

2.3 Relationship Between Innovation and Entrepreneurial Education

From the basic definition of innovation entrepreneurship mentioned above and its manifestation in the process of college education, it is not difficult to find that innovation is actually the overall strength that supports the entrepreneurial spirit. Entrepreneurship is also an embodiment of innovation spirit and consciousness. From the process of formation, it can be found that innovation and entrepreneurship can be achieved only under completely active conditions. (Xu, 2016) However, entrepreneurship is more inclined to actualization and substantive direction, while innovation pays more attention to the updating on the conceptual level. Therefore, the actual display of innovative thinking is actually more biased toward people's understanding of the activities, which is the psychological model discussed in the paper.

3. THEORY OVERVIEW OF TRIZ

3.1 Definition of TRIZ

Within the category of science of methodology, TRIZ is actually widely used methodology with relatively deep theoretical foundation. It can be found after the decomposition of the theoretical contents that TRIZ first represents the extension method based on special scientific knowledge, and the detailed theoretical basis of extension method is entirely based on the research content of the forming science content. (Ding, 2015) Meanwhile, the theoretical content contained in this method is not limited to the scope of scientific knowledge, but contains a large amount of content in environmental sciences, natural knowledge sciences, engineering sciences and building sciences. (Ma, 2013) Secondly, TRIZ also represents the idea of a fully human approach, and computers serve the role of auxiliary computation throughout the whole using process. Thirdly, TRIZ is a standardized process specification and all methodological calculation is based on the process, but the existing sources of knowledge in the industry can also assist in the process.

3.2 Brief Analysis of TRIZ Architecture

In the architecture of this methodology system, the points in the method will be divided into multiple levels under normal circumstances. First, basic theoretical level. This level contains content like basic technical system. Secondly, problem analysis level. This level contains the analysis of the main elements such as conflict, function and tool. (Lu, 2013) Thirdly, knowledge tool. This level contains a large amount of knowledge content, that is, the actual content of the inventive principle that forms the law of scientific deduction. In these three levels, the knowledge tool is the academic authority to support problem analysis, and is also the main tool project content applied in the problem analysis process.

4. CONSTRUCTION OF CONCEPTUAL MODEL AND PSYCHOLOGICAL MODEL

4.1 Substance Field Analysis

The main inventor of the TRIZ theory points out that in a series of content of the invention structure, the attributes of their internal material relationship can be basically defined as substance and field. In the model discussion level, we generally define the substance as B1, B2, and the field as P. The actual composition of the substance-field
analytical method is the above three factors. P can represent a closed but inherently free environment with B1 and B2 as the internal active bodies. (Zeng, 2015) In the realization process of system functions, the mutual compositional effect of these three elements can produce certain expected forming functions for the entire structure. Meanwhile, B2 is considered by many people as the symbol of tool content, which has the absolute characteristics of active components; B1 represents the initial state of all substance and survives under passive conditions. From this, we can take substance-field as the basis of substance-field structure, and P can make use of its own characteristics of intervention on B2, thus using B2 to complete the interference of B1. Eventually, the final point needed in the completion of system purpose can be achieved through constant changing. Figure 1 is the four functional models of substance and field.

4.2 Conflict Analysis

In the process of constructing the physiological model, in order to reach the optimal realization path based on the entrepreneurs' mentality, it is inevitable for entrepreneurs to conduct conflict analysis on the ideas and contents in the process of entrepreneurship. Thus, conflict analysis is also referred to as the summary of negative state experience. In the application process of TRIZ theory, the implementation process and result of the conflict analysis should be based on computer-aided calculation. Firstly, fixed general parameters should be set to write the overall thinking mode and entrepreneurial thinking mode of entrepreneurs. Then, integrate the highlighting content in this process to write, and these two are transformed into the problem schema bearing TRIZ interpretation. (Yuan, 2015) Secondly, the matrix mode particular to TRIZ conflict analysis can be used to search the internal database and conduct the associated search on the comprehensive features of existing problems until the similarity solutions to similar problems are found. However, the similarity solutions are restrained by some conditions, which requires the further content description of the conflict analysis by participants, and then the rule content obtained from the index can be transformed into the method content available in the entrepreneurial psychological model.

4.3 Composition of Entrepreneurial Psychology

From the perspective of pedagogy, entrepreneurial psychology can be acquired through education, but it is obvious that the effect of acquired education cannot be compared with the process results acquired in the psychological model. (Wang, 2015) The key elements constituting the psychological model are basically based on the positive characteristics of the entrepreneurs' thinking and behavior patterns, such as self-confidence, people with natural leader talent, people who are outgoing and easy to communicate. These are the characteristics that constitute the basis positioning of the psychological model. The difficult path that the entrepreneur must go through also force him to have certain high-profile and professional characteristics in other traits, such as strong psychological enduring capacity, high ability to master the language arts and unique professional vision. And these are all the character traits that we can see or come into direct contact with in real life. Therefore, there is no much difference in the actual construction and quality deviation of psychological model of innovation entrepreneurship.

4.4 Generation Process of Entrepreneurial Psychology

On the one hand, external environmental factors exert impact on the generation of entrepreneurial psychology through the direct impact on the identification of entrepreneurial opportunities; on the other hand, these factors also influence the identification of entrepreneurial opportunities and the generation of entrepreneurial psychology by adjusting the entrepreneurial arousal factors and cognitive factors. The generation of successful experience of entrepreneurial psychology mainly relies on the organic integration of self-efficacy, personal expectations,
abilities, interests through the group psychological training activities. Thus, entrepreneurial personality traits and cognitive factors can be acquired and different degree of successful experience can be acquired in types of activities to arouse entrepreneurial psychology.

4.5 Construction of Psychological Model

According to the above description about the concept of innovation entrepreneurship as well as the development law of TRIZ theory, the model of entrepreneurial psychology can be obtained. Figure 2 is the model of entrepreneurial psychology.

![Figure 2. The model of Entrepreneurial Psychology](image)

5. CONCLUSION

In the current scope of training in China, college students, as the main alternative resource for the reserve talents of the country and society, bear a great deal of responsibility when realizing the goal of national innovation entrepreneurship. At the same time, colleges and universities, as the key education place to cultivate all-round college students, must give full play to arouse their potential in innovation entrepreneurship through giving students positive guidance and thinking aid in innovation entrepreneurship courses in colleges and universities. In this way, the innovation entrepreneurship can be effectively expanded using various means of learning in this relatively safe and secure campus. I hope the psychological model of innovation entrepreneurship of college students in this paper can play a supplementary role in the innovation entrepreneurship courses in colleges and universities.

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