

On the Factors Affecting the Improvement of College Students' Innovation Ability under the Background of "Innovation and Entrepreneurship"

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Abstract. Analyzing the factors that influence college students' innovative ability is conducive to policies and measures formulation to improve students' innovative ability in a targeted manner. Based on the methods of literature research, questionnaire survey and interviews, this paper systematically analyzed the factors that affect the improvement of college students' innovation ability. It was found that subjective factors such as innovation consciousness, innovation motivation, innovation capability, personal expectation and individual comprehensive quality, and objective factors like the social and cultural environment, talent training mode, teaching methods and methods, teaching quality, evaluation mechanism and incentive mechanism all have an impact on the innovation ability of college students. Therefore, government, society, universities, enterprises, and students themselves should work hand in hand to improve college students' innovative ability.

1. Introduction

In recent years, against the backdrop of "business start ups and innovations by the general public" initiated by the state who attaches great importance to the cultivation of college students' innovative ability, colleges and universities have launched college students' innovation and entrepreneurship education which turned out to be ineffective. Analysis of factors affecting the innovation ability of college students has reference significance for formulating targeted, scientific policies and measures, so as to effectively improve students' innovation ability.

2. Subjective Factors Influencing College Students' Innovation Ability Development

2.1 Innovation consciousness

Innovative activities stem from innovation consciousness, a psychological potential for innovation. Only those with innovative consciousness will have a strong desire for understanding the world and acquiring new knowledge, and can effectively realize their potential for innovation. However, due to the long-term exam-oriented education, Chinese college students have been passively accepting knowledge. Generally, they are dependent, lack curiosity, critical thinking, and thirst for knowledge, and sense of innovation [1].

2.2 Innovation motivation

If there is no clear motivation and goal for innovation, the enthusiasm for innovation will diminish quickly as it rises, hard to maintain. By the investigation and interview, the author found that freshmen and sophomores generally have high enthusiasm for innovation, but are hard to hold on to their dreams due to the new environment inadaptability, the heavy workload of the curriculum, the lack of innovative skills and other elements. Students in junior and senior grade also lose their innovation enthusiasm because of lack of freshness in college life, the difficulty of learning in professional courses, the increasing pressure in postgraduate examinations and employment, or the previous setbacks or failures in this innovation journey. However, some students are actively engaged in innovative activities, but with the motivation to obtain credits and certificates, in order to increase the possibility to win the scholarship or fellowship. There are still a small number of students who are blind to innovation and just follow suit.

2.3 Innovation ability

With the advancement of "innovation and entrepreneurship" education, college students have gradually recognized innovation, realized that innovation is an important ability for them to increase

knowledge, expand thinking, improve practical skills, and desired for making innovations. However, students in colleges live a monotonous life and have few contacts with the outside world, thus lack of practical training, and extensive knowledge. Given this, when the innovation idea sparks, they cannot clam down to analyze scientifically with comprehensive ability. With weak courage, confidence and perseverance, they may not act in a right way, leading to the failure. This huge contrast between cognition and action, to a certain extent, shows that students' ability to innovate needs to be improved.

2.4 Personal expectation

Individual expectations often determine one's value orientation and behavior. In the present stage, the college students are all born after 1995 and even after 2000, and live in a peaceful comfortable environment. Most of the issues in growth are also planned in advance by parents or teachers. They only focus on study, with little or no frustration and struggle in life. Strong self-awareness and overconfidence generate high expectations for innovative activities [2]. In the face of setbacks or failures, many people will choose to give up and enthusiasm fades. Quite a few students, who are afraid of difficulties and are highly dependent, even dream that someone powerful can come to help them. These kinds of students are usually not able to withstand setbacks.

2.5 Comprehensive quality

Independence, confidence, perseverance, suspicion and criticism, courage to adventure, to challenge, broad horizon, strong enterprise and sense of responsibility, team spirit and good communication skills are all indispensable for innovation activities, and also necessary for innovative talents. The level of college students' comprehensive quality is positively related to the improvement of innovation ability. The high overall quality contributes to the improvement of innovation ability. Conversely, students with poor overall quality may lack confidence, which may impose a strong sense of urgency on students, forcing them to improve comprehensive quality with great perseverance and efforts in innovative practice.

3. Objective Factors Influencing College Students' Innovation Ability Development

3.1 Environment

3.1.1 Culture

In Chinese traditional culture, the ideas like "being content with one's lot" "satisfied with present achievement" and "take things as they come", emphasize herd behavior, legacy thinking, compliance with authority, and the conquest of humanity, which objectively obstacles the free development of individuality and the formation of people's innovative thinking. By contrast, modern culture puts more emphasis on the protection and development of individuality, encourages differences and new ideas. This promotes the improvement of college students' innovative ability. However, the modern culture overly publicizes self-awareness, and advocates competitiveness and individuality development, which may promote extreme individualism, lead to the decline of moral consciousness, and generate the social responsibility deficiency and blind confidence. All these have a certain negative impact on college students' innovative capability.

3.1.2 Social environment

Actually, many innovators carry heavy thought burdens and hesitate to move forward on the road of innovation due to the influence of group psychology, the low tolerance for failure, incidents like "the bird which appear in public is the first bird to be beaten". Given this, the social environment has also become an important factor influencing the improvement of college students' innovation ability. A society that pursues innovation, truth, mutual appreciation, understanding and support, tolerates failure will promote innovation as a fashion, a mainstream behavior, and promote the improvement of college students' innovation ability.

3.1.3 Innovation platform

As the saying goes, the cleverest housewife can't cook a meal without rice. The innovative activities also require certain external conditions. The innovation platform refers to venues, experimental

conditions, financial support, project support, staffing, and information exchange channels for the innovation activities of college students. In recent years, universities and relevant departments have set up school-level, municipal, provincial and national innovation and entrepreneurship training programs and competitions, and given certain financial support. However, the venues and experimental conditions and other hardware equipment are insufficient.

3.1.4 Relationship between students and teachers

The harmonious relationship between teachers and students will make the students feel the respect, understanding and care of the teachers, and draw the distance between the students and the teachers. The students are willing to show their own strengths, and communicate with teachers, no more afraid of making mistakes. This will promote college students' innovative ability in the long run. However, in reality, university teachers usually do not stay in office after class. Due to the pressure of professional title promotion and scientific research evaluation, many teachers are concentrated in scientific research, while giving little guidance for students' innovation. The teacher and student are neither intimate nor strange.

3.2 Management

3.2.1 Training mode

To improve innovative ability, students not only need professional knowledge, but also a profound scientific and cultural accomplishment in quantity and quality. Therefore, the cultivation of college students' innovative ability must be combined with professional education, organically integrated into the talent training objectives and all aspects of teaching. However, at present, the innovation and entrepreneurship education of some colleges and universities only conducted through activities, such as optional courses, extracurricular activities, lectures, competitions, etc., disjointed with the professional education of disciplines. So it is difficult to truly integrate the innovation and entrepreneurship education into the talent training system.

3.2.2 Management philosophy

College students have a certain degree of self-discipline, and active minds, but are impulsive. In this way, we need to use both rigid and flexible management to deal with them. Rigid management, on one hand, can improve students' sense of urgency and their learning efficiency; on the other hand, may suppress the individuality of students, so it is necessary to adopt appropriate flexible management as a supplement. Respect and understand students, create a relaxed management environment, give support and guidance to student innovation, and fully implement the management philosophy of "people-oriented" and "student-oriented". [2]

3.3 Teaching

3.3.1 Curriculum setting

The university curriculum should be comprehensive, and add the innovation and entrepreneurial knowledge, humanities knowledge, and thinking training to professional courses. Adjust the scale of compulsory courses within certain class hours and credits. Make compulsory courses less but better, while increasing the proportion of elective courses, allowing students to choose courses across schools, disciplines and majors, in order to fully mobilize students' interest in learning, and enhance their initiative in innovation. The elective courses should be comprehensive and systematic, so as to broaden students' horizons with a complete knowledge system, stimulate students' initiative and scientific research enthusiasm, arouse students' innovation autonomy and interest.

3.3.2 Teaching method

In the traditional teaching, teachers give lectures and students listen. And the absent of discussion and speculation makes it difficult for students to form innovative thinking and innovative consciousness. In the context of "innovation and entrepreneurship", teachers should actively implement heuristic and discussion-based teaching to stimulate students to think independently and make innovations. Transform the traditional knowledge transfer to a student-centered, teacher-led teaching model that stimulates students' interest in learning, mobilizes students' autonomy, and promotes active thinking [3].

3.3.3 Level of teachers

The level of teachers, especially the level of innovative teachers, has a major impact on the improvement of college students' innovative ability. University teachers should strengthen their comprehensive quality, actively participate in scientific research, and cultivate a strong sense of innovation, in order to produce innovative college students. However, the reality is that teachers are forced to carry out scientific research under the pressure of promotion of professional titles. Although they have strong scientific research ability, they paid little attention to students' innovative ability. What's worse, some teachers even devoted to scientific research at the cost of teaching. They don't expect many but to guarantee the normal teaching work without mistakes, and don't carry out teaching research, let alone the cultivation of students' innovative ability.

3.4 Mechanism

3.4.1 Evaluation mechanism

The evaluation mechanism has a guiding role in talent training, which means that what kind of evaluation criteria will produce what kind of talents. The traditional evaluation mechanism focuses on the assessment of students' knowledge mastery, not comprehensive quality or even innovative ability, so it is difficult to stimulate students' willingness to innovate independently. Therefore, we need to make changes on the traditional evaluation mechanism if we want to improve students' innovative capability. First the evaluation should be comprehensive, pay equal attention to theory and practice, knowledge and ability, and also include students' independent innovation ability and achievements appraise. For example, we can establish a sound innovative awareness and ability oriented teaching effectiveness evaluation and student promotion and evaluation systems, formulate quantitative standards for student learning attitude, basic theoretical knowledge, experimental (survey) design capabilities, research and innovation capabilities, teamwork capabilities and other indicators. Increase the proportion of these kinds of evaluations in the comprehensive assessment of students. Second, introduce social evaluation. We can visit internship or social practice organizations to obtain their evaluation on students [1].

3.4.2 Incentive mechanism

Incentives can be used on both college students and teachers. The lack or insufficiency of the incentive mechanism will greatly reduce their enthusiasm to participate in student innovation activities, thus affecting the improvement of students' innovative ability. We can launch more university students' innovation projects and provide financial support, award college students' innovations, honor students' innovation achievements, and associate the graduation credits and scholarships to the situation and achievements of students' innovation activities. In this way, we can enhance the enthusiasm of college students to participate in innovative activities. Similarly, to spur teachers in guiding students' innovative projects, we can give guidance funds or convert project into workload, give priority to the teachers in year-end assessment and promotion of professional titles.

4. Summary

We believe that in the context of "innovation and entrepreneurship", innovation ability over weighs entrepreneurship. However, college students' innovative ability can be affected by elements like their innovation consciousness, motivation, capability, personal expectation and comprehensive quality, as well as social and cultural environment, innovation platform, teacher-student relationship, talent training mode, student management philosophy, curriculum setting, teaching methods, teachers' levels, evaluations and incentives mechanisms. It can be seen that the improvement of college students' innovative ability is a long-term, systematic project that requires contributions from the government, society, universities, enterprises, and students.

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