

Research Article

Research on Structuring a “Student-Centered” Training Model of Innovative and Entrepreneurial Graduates in Colleges and Universities

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“Student-centered” innovation and entrepreneurship education is a new perspective and new model of higher education concepts in the new century. At present, the talent training model of innovation and entrepreneurship education in Chinese universities has undesirable problems such as the lack of integration of content, the convergence of educational methods, the oversimplistic training method, and the quality of teachers to be improved, which directly affects the effect of innovation and entrepreneurship education. Constructing a student-centered innovation and entrepreneurship education model that effectively combines student development, student learning, and learning effects is a powerful manifestation to emphasize the dominant position of students in the school education system. Establishing a student-centered education concept, a teaching system, and a team of teachers with innovative and entrepreneurial qualities is an important guarantee for building a “student-centered” innovation and entrepreneurship education model. It is also the true embodiment of student-centered, student-based characteristics and the connotation of innovation and entrepreneurship education.

1. Questions Raised

In October 1998, the World Declaration of “Higher Education in the 21st Century: Prospects and Actions” published by the UNESCO World Higher Education Conference in Paris put forward the “student-centered” educational philosophy. And it is noted that “In today’s fast-changing world, higher education obviously needs a new student-centered perspective and new model.” It is required that “decision makers in the state and higher education institutions should focus on students and their needs and should regard them as the main and responsible participants in the reform of higher education [1]. With the development of new technology, modern technology has brought a huge impact on the education field. Subversive changes have taken place in student learning methods, education and teaching methods, and school education forms. It is not only an inevitable choice of the times to establish a student-centered innovation and entrepreneurial talent training model in colleges

and universities, it is also an important way to accelerate the modernization of education. The government, education departments, and related scholars have attached great importance to the implementation of “double innovation” education. Innovation and entrepreneurship education has become an important part of the reform of education and teaching in Chinese universities.

After several years of development, innovation and entrepreneurship education in Chinese universities has achieved certain results in both practical exploration and theoretical research. However, the learning method of students is relatively single, and the traditional pedagogy has not led to a fundamental change. The writer has focused on innovation and entrepreneurship education in Chinese universities and consulting a lot of literature [2]. Although there are many references and successful cases involving innovation and entrepreneurship education in Chinese universities or student-centered, there are few “student-centered” innovation and entrepreneurship education

literature. Based on this, this article analyzes and deconstructs the “student-centered” university innovation model, attempts to explore the “student-centered” university innovation and entrepreneurship model, and builds a student-centered “double innovation” education model, with a view to providing new ideas and references for advancing “double innovation” education.

2. Concept Definition

2.1. Student-Centered. The “student-centered” educational concept was first proposed by American progressive philosopher and educator Dewey in the early 20th century. In the 1950s, psychologist Carl Rogers developed it into a learning theory. The theory emphasizes that students are the main body of learning, and all educational activities should be based on the development of students. In the second half of the 20th century, due to the development of information technology and the rise of constructivist theories, “student-centered” was once again emphasized, becoming the trend of international higher education development and the direction of reform. In 1998, the World Higher Education Conference pointed out that higher education in the 21st century requires “a new student-centered perspective and a new model,” requiring decision makers in various countries and institutions of higher learning to focus on students and their needs.

“Student-centered” is both educational theory and educational practice mode. It includes comprehensive teaching goals, active student roles, generative teaching process, scientific management, and evaluation [3]. It emphasizes that students are the main body of learning, and each student is the discoverer and constructor of knowledge. Students should actively participate in the teaching process, control their own learning, and develop their own learning path. This student-centered subjectivity is reflected not only in the diversities of student identities, but also in the differences between individuals, and at the same time it has its autonomy, independence, creativity, and comprehensiveness. Under the prevalence of educational democratic thoughts such as obvious differentiation of social strata, equality of all, and seeking common ground while reserving differences, the concept of “student-centered” has been put forward in accordance with the requirements of the times from theoretical development to social practice.

2.2. Innovation and Entrepreneurship Education. Innovation and entrepreneurship education belong to two different concepts. The root cause of the concept of innovative education is the dispute between “cognitive learning theory” and “behavioral learning theory.” The “behavior learning theory” believes that “innovative education” is to use the positive influence of the external environment and its own genetics; it plays the leading role of education, fully mobilizes the subjective initiative of students’ understanding and practice, and forms innovative personality and innovative ability [4]. “Cognitive learning theory” believes that, through the cultivation of students’ innovative spirit and

ability, they can be self-motivating and have a high degree of frustration tolerance [5]. Although the two have different understandings of students’ cognition, innovative approaches, and methods, the goals and value orientations of innovative education are the same. The fundamental goal is to cultivate innovative talents with innovative spirit and innovative ability. A series of training processes such as awareness, innovative spirit, innovative thinking, and innovative ability are realized [6].

Compared with innovation education, the concept of entrepreneurship education has a higher degree of consensus. Entrepreneurship education in a broad sense refers to education that focuses on stimulating students’ entrepreneurial awareness, cultivating and developing students’ entrepreneurial qualities and abilities, and cultivating possible future entrepreneurs as the highest goal. Entrepreneurship education in a narrow sense refers to entrepreneurship training, with the sole goal of cultivating self-employed freelancers. Entrepreneurship education is to cultivate future business managers and entrepreneurs with innovative spirit and entrepreneurial ability.

At the same time, innovation and entrepreneurship education are mutually independent and interdependent. The innovation and entrepreneurship education are simply merged either from the subject of the concept or from the scope of influence, so there is a suspicion of concept replacement, which will give people some misunderstandings in understanding and practice. To clarify the concepts and relationships between the two will help promote the specific implementation of entrepreneurship and innovation education. On the one hand, innovation education has a certain degree of creativity. Creativity and entrepreneurship education is to create wealth for society and individuals in social production and practice activities of talents with these two innovative characteristics. At the same time, entrepreneurship education will also provide innovative results in the course of practice, so as to evaluate and modify innovative education. Innovation and entrepreneurship can be simply understood as the relationship between “theory” and “practice.” Innovation is for the whole, and entrepreneurship is for the individual. On the other hand, compared with innovation education, entrepreneurship education is a deeper and higher-level education, a deep-level and fundamental education, rather than a branch and superficial basic education. Innovation education is the foundation of entrepreneurship education, entrepreneurship education is the “pushing hand” of innovation education, and entrepreneurship is the practice and test of innovation effects. Therefore, both innovation and entrepreneurship education are essentially interdependent systems, which cannot be dismembered or reversed.

2.3. The Structure of Student-Centered Innovation and Entrepreneurial Talent Training Model. “Student-centered” innovation and entrepreneurship education emphasizes that students are the main body of learning. All innovation and entrepreneurship education activities are centered on the learning and development of students, fostering innovative

awareness, entrepreneurial thinking, and perseverance and entrepreneurial spirit. Specifically, it includes the internal needs of three aspects: student development, student learning, and learning effect.

First of all, increase students' innovation and entrepreneurship capabilities. The purpose of education is to make people develop in all-around way. Education promotes human development through the guidance of human growth. In the "student-centered" innovation and entrepreneurial talent training system, on the one hand, it is necessary to clarify the service orientation centered on the development of students' innovative ability. All-round and multichannel education concepts centered on serving the development of students' innovative ability will be penetrated into departments, management departments, and innovation and entrepreneurship education. The education of innovation and entrepreneurship runs through the entire process of talent training. Specialized institutions or innovation and entrepreneurship service centers should be established to serve the development of students' innovative capabilities. The evaluation channels of innovation and entrepreneurship education should be broadened. The evaluation feedback and demand information of innovation and entrepreneurship education, talent innovation ability, and teaching service should be grasped timely. An analytical report on the quality of innovation and entrepreneurship education should be formed to provide an important reference for school decision-making. On the other hand, it must not violate the laws of human development. Human development is continuous, phased, and irreversible. As a university education, we must first understand the content of people's development at the university stage, as well as the current state of development of college students. It is necessary not only to focus on the development of students' professional knowledge, but also to cultivate students' creative ability and sense of innovation. They can demonstrate their individuality and improve their abilities so as to promote the sustainable and healthy development of college students.

Secondly, meet the needs of students' innovation and entrepreneurship learning.

"Student-centered mode" requires teachers to help students to "learn," and it is clear that students "learning" is the purpose of college education. At present, innovation and entrepreneurship education generally attaches great importance to "general education" and neglects professional education based on the individual needs of students. Taking student learning as the goal is based on the different characteristics of students in different periods and their different needs for innovation and entrepreneurship education. It is embodied in three aspects: management, curriculum, and teaching. First, strengthen the awareness of management and service. From the point of view that managers should establish a mindset based on the interests of students, it will provide convenience for students' innovation and entrepreneurship learning and practice in an all-round way, for example, the introduction of innovative and entrepreneurial teachers and the creation of an innovative and entrepreneurial atmosphere,

innovative and entrepreneurial resource development, etc., to create opportunities and conditions for students' innovation and entrepreneurship as much as possible. Secondly, build a curriculum service system that integrates innovation and entrepreneurship and professional courses based on students' individual development. On the one hand, in addition to completing the compulsory courses based on general public basis, students should supplement them by taking corresponding innovation and entrepreneurship courses based on their own personalities and career development needs. On the other hand, it is necessary to make a reasonable allocation of innovation and entrepreneurship courses and professional courses, theory and practice, and compulsory and elective courses. Third, we must strengthen teachers' sense of service to students. Teachers should establish the core idea that all teaching activities are to promote the development of students' innovative ability and provide students with diversified services and support. At the same time, teachers should fully understand students, actively interact with students, create a democratic innovation atmosphere, and find teaching entry points that stimulate students' enthusiasm for innovation and entrepreneurship. For teachers themselves, it is necessary to actively improve their own innovative theoretical literacy and innovative practical ability, and only with excellent quality can they provide students with more professional and comprehensive guidance.

Finally, promote student innovation and entrepreneurship evaluation.

"Learning effect as the center" can not only provide two-way feedback for learning and teaching, but also help students and teachers make synchronous adjustments to improve learning efficiency and effectiveness [7]. The focus of teaching evaluation should be the ultimate "learning effect" of students, which in turn directly reflects the effect of teachers' "teaching." It is necessary to establish a comprehensive, multiform, and multievaluation strategy. Change the previous single evaluation status that the industry enterprise evaluation lacked or became a mere formality. For the teaching module of innovation and entrepreneurship theory, we can evaluate the impact of students on students' specific performance and different developments in the learning process and can also conduct formative evaluations on students' innovative consciousness and innovative thinking during the entire teaching process. It can also conduct a summative evaluation of students' performance in exams or innovative project design at the end of the course. Help students find their own strengths and weaknesses in innovation and entrepreneurship learning, combine the teacher's evaluation of students with students' self-evaluation, and let students find their own direction in the evaluation. At the same time, teachers should adjust teaching content and change teaching strategies in a timely manner based on student evaluations. Regarding the innovation and entrepreneurship practice sector, industry enterprises must make a comprehensive evaluation of the curriculum construction of the education system, the degree of integration between professional education and innovation and

entrepreneurship education, and the provision of innovation and entrepreneurship teachers. School leaders or administrators adjust teaching strategies for innovation and entrepreneurship education in a timely manner based on the evaluation results. Based on the evaluation results, “learning effect as the center” not only provides effective teaching and learning results basis for students and teachers, but also provides decision-making reference for managers. It allows students, teachers, and administrators to understand the teaching dynamics in an all-round and multichannel way, helps each to understand their own strengths and existing problems, and guides them to continuously improve teaching and improve teaching effects. Figure 1 shows the structure of the “student-centered” innovation and entrepreneurship education talent training model.

3. Influencing Factors of the Student-Centered University Innovation and Entrepreneurship Talent Training Model

With today’s highly developed information technology, the channels, methods, and means for students to acquire knowledge are diversified, and the knowledge structure is diversified. The traditional teacher centered teaching model can no longer meet the inherent needs of students in pursuit of knowledge. Especially for innovation and entrepreneurship education, it is necessary to arouse students’ desire for knowledge, innovation consciousness, and entrepreneurial passion. We clearly see that although the “student-centered” talent training model has developed and achieved certain results in colleges and universities, there are still some restrictive factors.

3.1. The Impact of Information Technology. The rapid development of grid information technology has accelerated the historical process of higher education modernization. Networked multimedia teaching allows students to study without being restricted by time, space, and conditions and provides students with the possibility of free choice. Using the network platform, students can choose independently in terms of learning content, learning progress, learning methods, and teaching teachers. Students can participate in the teaching process and communicate with teachers without being restricted by time and place, discuss important issues with teachers, and enjoy rich teaching resources. Therefore, the mission of educational informatization is not to arm traditional teaching with information technology and strengthen and consolidate traditional teaching models, but to transcend the traditional classroom teaching model characterized by teachers’ teaching and indoctrination, promote fundamental changes in learning methods, and realize the transition from traditional classrooms to efficient schools. Student-centered innovation and entrepreneurship education not only means that students have equal rights to receive education, but also implies that students can equally control various learning resources. This kind of learning right is embodied in “learning” rather than “teaching.” The purpose of teachers’ teaching is mainly to give students

necessary and active guidance, rather than simply repetitive knowledge instillation in the past.

3.2. The Influence of the Class Teaching System. The Industrial Revolution not only brought profound changes to the organization, ideology, lifestyle, and social structure of today’s society. Moreover, it has a far-reaching impact on educational concepts and teaching methods, especially in the way of talent training, which has opened up industrialized mass production methods, which has accelerated the formation of the class teaching system. Since entering the 21st century, with the expansion of Chinese colleges and universities, the number of students has been increasing year by year. In addition to the consideration of economic costs, the innovation and entrepreneurship courses in universities are all taught in large classes. The teaching class ranges from dozens of students to hundreds of students. In this way, only the traditional teacher centered “Yiyantang” teaching model can be developed in the classroom teaching process. Open teaching scenarios such as student-centered free discussions and personal presentations are simply difficult to achieve, which is not conducive to the cultivation of students’ innovative thinking and entrepreneurial passion.

3.3. The Influence of Teaching Methods. The influence of teaching methods is mainly reflected in the following four aspects: First of all, the classroom teaching method is single. At present, the innovation and entrepreneurship education in colleges and universities is mainly a single classroom teaching method with large class teaching and teacher “teaching” as the mainstay. Although most schools integrate into classroom teaching in different ways such as group discussion, inquiry sharing, and project-based teaching in the process of innovation and entrepreneurship teaching, they are also mechanically passively copied under the guidance of teachers. It does not highlight the subjectivity of students and does not determine the teaching method based on the characteristics of the students. Secondly, the teaching mode is single. At present, the curriculum of innovation and entrepreneurship education in colleges and universities lacks integration among many disciplines and is too repetitive. There is an obvious issue of pursuing “big and complete” or conforming to the crowd. Although some colleges and universities have carried out some targeted curriculum development attempts based on their own characteristics, there have been some phenomena such as fewer hours of social practice courses, insufficient value of the curriculum as a whole, and low academic research levels. These are still in the exploration or initial stage, with lack of effective guidance, and the results are not obvious. Thirdly, the evaluation method is single. The current teaching effect evaluation mainly adopts traditional methods such as questionnaires and examinations, lacks comprehensive, full-process, and individualized evaluation, and lacks teaching process monitoring and later social follow-up. Finally, the learning method is traditional (teachers, classrooms, and textbooks are the center). The current higher education in innovation and entrepreneurship is only a superficial

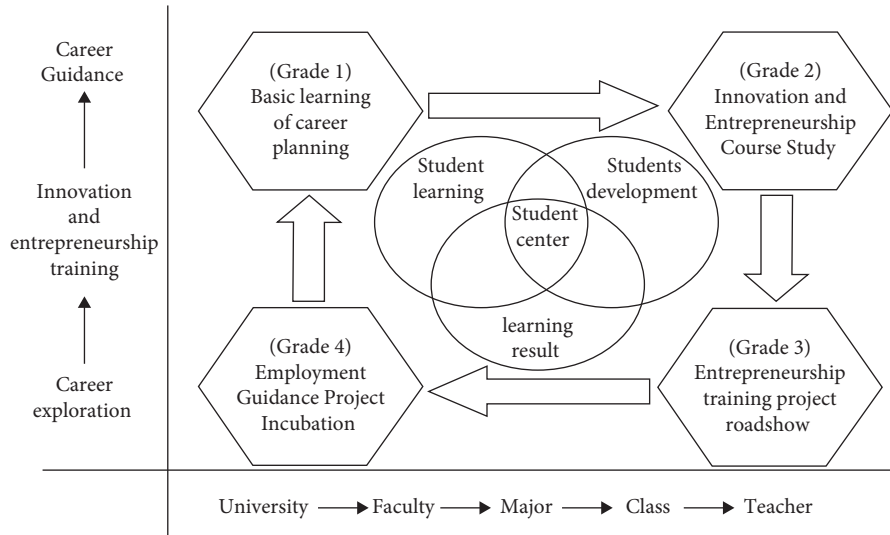


FIGURE 1: Student-centered innovation and entrepreneurship education framework.

theoretical explanation, and a lot of energy and time are spent on solving the level of students’ understanding of the theoretical knowledge of innovation and entrepreneurship. It fails to guide students to have a deep learning.

4. The Construction of the Student-Centered Innovation and Entrepreneurship Education Talent Training Model

4.1. *Constructing a Student-Centered Concept of Innovation, Entrepreneurship, and Education.* “Student-centered” does not refer to the difference between the roles, identities, and status of teachers and students, but refers to the transformation of teaching concepts, management concepts, service concepts, teaching methods, and evaluation methods. The purpose and task of teaching are not “teaching” but “learning” [8].

First, the student-centered concept of innovation and entrepreneurship education should be changed. Nowadays, the administrators or teachers at colleges and universities have been cultivated under the mode of “teaching” as the center in the past. Regardless of ideology and teaching behavior habits, the concept of “teaching” is the dominant position. As an activity, school education is to provide students with learning services. Students receive learning services through their own understanding and digestion and condense on themselves, so as to realize the needs of students, their families, and society. Therefore, both managers and teachers have changed the deep-rooted traditional thinking of teaching as the mainstay and turned to the modern education concept with learning as the mainstay. School leaders and grassroots administrators must go deep into the students, go deep into the classroom, understand the students’ learning situation, solve the problems that exist in the students’ learning, create an environment and cultural atmosphere conducive to students’ learning, and create a broad space for students’

growth. It is necessary to explore organizational and management forms that are conducive to student learning, such as the college system and tutorial system. Therefore, the systems, methods, and work attitudes of other aspects of schoolwork must be based on the benefit and service of students’ learning.

Second, the student-centered innovation and entrepreneurship education system should be improved. Policy has a guiding function. The national policy and the school system should start from “student-centered.” On the one hand, it is necessary to review and adjust at the national level and further weaken the evaluation of a school with academicians, doctoral degrees, scientific research funding, awards, and excellent papers as the main indicators. The proportion of evaluation indicators can reflect the learning status and learning effect of students. On the other hand, the school level should also be reviewed. For example, the reward system, examination system, school status management, degree system, etc. should be adjusted based on the student-centered approach to better promote student learning and growth.

Third, implement a paradigm shift in education and teaching. Under the “student-centered” education paradigm, teachers need to design a student-based classroom teaching model based on the actual situation of students and set learning goals and design activities that students actively participate in. In the classroom teaching process, the organic unity of teaching and learning is realized, and the goal of “teaching” is determined by “learning,” and the goal of “learning” in “teaching” is implemented, and effective teaching is implemented. At the same time, teachers need to clarify the principle of effective learning: Teachers are the coordinators of teaching activities. In the teaching process, students not only learn from teachers, but also learn from each other. This educational model is flat, circular, and at the same level [9]. In the learning process, only when students feel interested or motivated, they will actively participate in learning and will concentrate their energy and efficiency into

it and can actively manage their own learning in the learning process, instead of relying more passively on teachers.

4.2. Constructing a Student-Centered Innovation and Entrepreneurship Faculty Team. Since China's innovation and entrepreneurship education started late, there has not been a professional team of innovation and entrepreneurship teachers. Most of the innovation and entrepreneurship teachers in universities are from school administrators and teachers engaged in employment guidance. Neither do these teachers have excellent theoretical teaching literacy, nor do they have entrepreneurial experience, professional teaching ability, and the ability to observe and evaluate. It is difficult for them to improve their professionalism through short-term innovation and entrepreneurship training, and it is even more difficult for them to effectively guide students' innovative practice.

In the process of direct contact with students, in the "student-centered" school training model, teachers, as an important part of teaching activities, need to change their roles and recognize themselves as "learners" who are in the same position as students. Practice has proved that teachers can play a leading role in at least three aspects: One is to choose educational materials. In the information age, there is a vast ocean of educational materials. Teachers choose educational materials by compiling teaching materials, lectures, asking questions, and discussing, so as to guide students in learning. The second is to activate knowledge. Knowledge is dead, but teachers activate knowledge through teaching and arouse students' interest in learning. Interest is the best teacher. Once students experience the joy of learning, they will have the endogenous motivation to continue learning. The third is to promote thinking. Through a variety of methods, mobilize students' initiative and enthusiasm in learning, and carry out in-depth thinking, so as to internalize external knowledge into their own knowledge structure, enhance ability, and improve quality.

4.3. Constructing an Innovation and Entrepreneurship Experience Center Integrating Industry, Academia, and Research. Colleges and universities should strive to create an experience center (maker center, incubator, practice base) integrating "production, study, and research" as a practical carrier of innovative education. It is necessary to fully realize the importance of the active participation of teachers and business partners to student education. "Innovation" is not only the task of research institutions. In order to enable students receiving entrepreneurship education to fully experience the social environment and atmosphere of entrepreneurship, the innovation center can also be an R&D center for social services directly or an internal R&D center of an enterprise. It is best not to set up the center in the school. The innovative practical activities of the third and fourth grade students are mainly completed in the center. This requires colleges and universities to have a strategic vision, actively seek strategic cooperation with enterprises, and strengthen the organic combination of scientific research and teaching. An innovation center centered on the

three themes of education, R&D, and the innovation environment (market) connects internal and external participants. At this time, the center resembles a constantly changing innovative education agent.

5. Conclusion

"Student-centered" is an inevitable requirement for the connotative development of higher education in the new era and a revolution in teaching paradigm. With the rapid development of modern information technology and the urgent need for innovative talents in the country, we should make full use of "Internet + education" and "smart + education" to master the dominance and discourse power of university teaching and deepen the integration of online and offline teaching. Make full use of virtual reality and artificial intelligence technology, innovate educational forms, enrich teaching resources, guide students with more cutting-edge knowledge, and stimulate students' innovative spirit and entrepreneurial enthusiasm [10]. Constructing a "student-centered" university innovation and entrepreneurship education talent training model is a transformation of the teaching paradigm of innovation and entrepreneurship education and a shift of focus in the process of university teaching. Student-centered and student-oriented innovation and entrepreneurship education is the connotation of innovation and entrepreneurship, and it is the source of power for China's innovation and entrepreneurship education to radiate infinite vitality and vitality in an increasingly broad prospect.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

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