

Research on the Construction of Undergraduate Innovation And Entrepreneurship Education System

-Take the Guangdong University of Science and Technology as an Example

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Abstract—Guangdong University of Science and Technology attaches great importance to college students' innovation and entrepreneurship education. The spirit of innovation, entrepreneurial awareness, innovation and entrepreneurship are combined with personnel training and discipline development. Innovation and entrepreneurship education should be integrated with personnel training system. The definition of education idea is that: cultivating students' innovative and entrepreneurial ability is the fundamental goal. With the support of entrepreneurship education and entrepreneurial training, we should rely on the incubator base of university, take the university students' innovation and entrepreneurship training project and innovation and entrepreneurship competition as a tractions, integrate all kinds of innovative and entrepreneurial resources inside and outside the school, construct chain innovation and entrepreneurship education system of three platforms including innovation and entrepreneurship education, innovation and entrepreneurship training and entrepreneurship incubation, so that every student who participates in innovation and entrepreneurship education could be improved.

Keywords—Application-oriented universities; Innovation and entrepreneurship; Education system

I. INTRODUCTION

The construction of innovation and entrepreneurship education platform is mainly based on personnel cultivation, on the basis of classroom teaching, taking the training of innovation and entrepreneurship as the tongs, supplemented by the second class, take the participation of innovation and

entrepreneurship competition and incubation project as platform for inspection and evaluation.

The university takes the innovation and entrepreneurship education as the embodiment and the foothold of quality education. In order to cultivate "engineering, technical, productive, applied high-quality innovative personnel", it leads the innovation and entrepreneurship education, and has made clear the innovative and entrepreneurial education ideas of promoting employment by starting a business and cultivating the spirit of creation, innovation and entrepreneurship to improve the employment competitiveness.

The university fully recognizes that innovation and entrepreneurship education must run through the process of professional education and quality education and employment education. Innovation and entrepreneurship education can play an effective role only in the top level design of talent training mode.

The university has made a comprehensive revision of the original personnel training program, especially strengthening the construction of practice links, increasing the summer period for practical training teaching, bringing the second class development activities into the Personnel Training Program and stipulate 6 required credits; student participation in innovation and entrepreneurship competition and entrepreneurship practice can certify quality credit, and gradually make innovation and entrepreneurship education run through the whole process of undergraduate training.

TABLE I INNOVATION AND ENTREPRENEURSHIP WORK MODEL OF GUANGDONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Three Major Platforms	Ten Major Carriers
innovation and entrepreneurship education	first class teaching
	second classroom activities
	entrepreneurship training (SYB)
	innovation entrepreneurship culture festival
	12 innovative experimental classes
	internships base of inside and outside school
innovation and entrepreneurship training	innovation and entrepreneurship competition
	university students' training base for innovation and entrepreneurship practice
	innovation and entrepreneurship training program for university students
entrepreneurship incubation	College Students' Pioneer Park (innovation and entrepreneurship College)

II. ESTABLISH A TRAINING SYSTEM FOR UNIVERSITY STUDENTS' PARTICIPATION IN INNOVATION AND ENTREPRENEURSHIP EDUCATION.

In order to set up a training course system for innovative entrepreneurial skills, the required courses for Innovative and Entrepreneurial Education of University Students, SYB Entrepreneurship Education, Business Model Innovation, Creative Thinking Development and other innovative entrepreneurial skills courses are set up. In the past two years, more than 30 elective courses have been set up and more than 20,000 students have been trained, and more than 90% of the total number of students in the whole school are selected. Freshmen students mainly take curriculum teaching, Sophomore students takes part in lectures, participate in Entrepreneurship simulation, participate in college students' innovative and entrepreneurial training projects, Junior students to participate in various innovative entrepreneurship competitions, practice training, Senior students to participate in entrepreneurial practice. It forms a good atmosphere for everyone to accept innovation and entrepreneurship education and training, and everyone understands innovation and entrepreneurship.

The university carries out the "three way" training of entrepreneurship and implements the hierarchical teaching mode. That is, casting net training to the Freshmen students, emphasizes training to the Sophomore students and the elitism training to Junior and Senior students. The university combines innovation education with entrepreneurship education, encourage entrepreneurship on the basis of innovation and to entrepreneur combining with major. Constantly strengthening the construction of the faculty, some well-known entrepreneurship education and training institution is invited to take part in the training, trained 78 key innovation and entrepreneurship teachers. Hired 31 SYB teachers, 1 outstanding creative and entrepreneurial tutors from the Ministry of education, more than 20 famous entrepreneurs, investors, technical experts and excellent alumni are invited as mentors. Carrying out the entrepreneurial training activities for university students like entrepreneurial consciousness training, entrepreneurship training, professional skills training, business etiquette training, entrepreneurial quality development training, entrepreneurial team management training, entrepreneurship laws and regulations training, entrepreneurship financial training, and many other forms.

TABLE II GUANGDONG UNIVERSITY OF SCIENCE AND TECHNOLOGY INNOVATION AND ENTREPRENEURSHIP EDUCATION SYSTEM

Forms	Contents
first class	compulsory courses optional courses
second classroom activities	entrepreneurship lectures entrepreneurial star remittance entrepreneurship salon
	successful alumni forum entrepreneurship workshop
	excellent entrepreneurial student reports famous entrepreneurs reports
	innovation and entrepreneurship competition entrepreneurial presentation
mentor guidance	entrepreneurship consultation entrepreneurship seminar.
	Business case analysis innovation and entrepreneurship policy consultation other services.
innovation and entrepreneurship culture month	Science and technology innovation week and entrepreneurship contest
	Nanbo cup innovation and entrepreneurship competition occupation planning competition
entrepreneurship training	SYB entrepreneurship training class entrepreneurial elite class
	Business Entrepreneurship class of agricultural products Business Entrepreneurship class of cross-border e-commerce
	Entrepreneurship training, Business etiquette training
	Entrepreneurial quality development training Entrepreneurial team management training
	and Entrepreneurship Education for University Students. In 2017, second textbooks were published; Foundation of Entrepreneurship. The Compilation of Management System of Innovation and Entrepreneurship University is compiled. The Development Plan of Innovation and Entrepreneurship Education in Guangdong University Science and Technology (2016 - 2020) has been compiled. The innovation and entrepreneurship network of college students has been set up, built WeChat public account of Guangke Entrepreneurship which has more than 50,000 follows

III. ESTABLISH A SUSTAINABLE DEVELOPMENT SYSTEM OF INNOVATION AND ENTREPRENEURSHIP EDUCATION COMBINED WITH THEORETICAL RESEARCH OF INNOVATION AND ENTREPRENEURSHIP EDUCATION

In 2015, the Innovation and Entrepreneurship School was set up. A team of more than 10 full-time creative and entrepreneurial education management teams composed of professors, doctor and master graduate students was formed. A series of research achievements in innovation and entrepreneurship education have been achieved since 2016. Successfully applied for the national level new engineering construction project Exploration and Practice of Cross-Border E-Commerce Personnel Training, becoming the only private university in Guangdong province that has gained national level new engineering construction projects. The innovation and entrepreneurship course Business Mode Innovation was awarded the Teaching Quality and Reform Project of Guangdong province. Have achieved phased results. Two research topics on soft science have been completed, which are Research On The Construction of Scientific and Technological Innovation Personnel in Dongguan and Analysis of The Impact of Technological Innovation on Dongguan's Industrial Upgrading and Countermeasures. Two parts of publishing innovative and entrepreneurial monographs. Publish 3 papers. In 2016, published the first textbook of innovation and entrepreneurship in our school: Win the Future - Innovation

IV. BUILD A PRACTICE PLATFORM FOR INNOVATION AND ENTREPRENEURSHIP OF COLLEGE STUDENTS, AND CREATE CONDITIONS FOR STUDENTS TO START BUSINESSES.

Strengthen the construction of innovative and entrepreneurial practice bases. Invested about 20,000,000 Chinese Yuan, and built a total area of 10,000 square meters of entrepreneurial building, innovative customer centers, e-commerce centers, incubators, accelerators, transformation centers of science and technology achievements, and innovation and entrepreneurship service centers. Cooperate with enterprises to build off campus agricultural product business base and cross-border e-commerce business base, and form the resultant force of College Students' entrepreneurial practice. Set up an Internet Plus entrepreneurial elite class of agricultural products, entrepreneurship experiment, robot innovation experimental class 12 innovation experimental class,

to carry out the practice of scientific research, invention, science and technology competition, business practice and other activities. More than 30 entrepreneurial teams and more than 400 people have been enrolled in the incubation base of innovation and entrepreneurship college since 2016. Students founded 12 enterprises, including 7 entrepreneurial teams which annual sales revenue is over 1 million Yuan. A 2014 computer student Internet Plus Hip-Hop venture, won the

August 2016 seed round of investment of 2 million Yuan, 20 million Yuan valuation project. In early 2018, the project started second rounds of financing, with a valuation of 100 million Yuan. The operation team of "Middle East cross-border electricity supplier", founded by three college students in 2015 international trade specialties, has been established for less than a year, and the average daily sales volume of the platform reaches 5000 Yuan.

TABLE III GUARANTEE MECHANISM OF COLLEGE STUDENTS' INNOVATION AND ENTREPRENEURSHIP IN GUANGDONG SCIENCE AND TECHNOLOGY COLLEGE

Security system	Contents
financial security	Invest about 20000000 Yuan to build innovation and entrepreneurship college, about 1000000 Yuan per year, special funds to help students create and start businesses.
institutional guarantee	set up an innovation and entrepreneurship college, set up an office, a customer center, an incubator center, an e-commerce center, a center for transformation of scientific and technological achievements, set up a two level innovation and entrepreneurial organization, and improve the innovation and entrepreneurship organizations of the college, department and class students
system guarantee	there are more than 20 innovative and entrepreneurial management systems of college students, such as innovation and entrepreneurship credit transfer method
service guarantee	establish management service center for students, provide business registration, taxation, management consulting and other services
hardware guarantee	built incubators, accelerators, entrepreneurship training rooms, and venture coffee bars, purchased monitors, projectors, provided more than 400 workstations

V. INTEGRATE INNOVATION AND ENTREPRENEURSHIP EDUCATION AND EDUCATION PROJECT, AND CARRY OUT VARIOUS FORMS OF INNOVATION AND ENTREPRENEURSHIP PRACTICE.

Encourage students to take an active part in scientific research and innovation and entrepreneurship competition. We should set up transformation platform for science and technology achievements, encourage teachers to guide students to combine their majors and start business with scientific research projects. Around the theme of "creativity, innovation, creation and entrepreneurship", since 2017, 100 college students' innovative and entrepreneurial training programs have been set up each year to grant 5000-20000 yuan to each project. In the past three years, 170 projects have been funded by students in scientific research and innovation, which has promoted the normalization of College Students' scientific and technological innovation and entrepreneurship, and has formed a Four Ones model of "one teacher, one subsidy, one team and one competition". By the end of 2017, 105 national and provincial innovation and entrepreneurship training projects, 10 national and provincial and municipal innovation and entrepreneurial competition awards, and more than 1000 students participated in the Three Ones results. Hold innovative events since 2016, held the "ASEAN cup innovation and entrepreneurship competition every year, carry out the" Internet plus "contest of innovation and entrepreneurship, College of science and technology innovation, the" Challenge Cup "business plan competition, extracurricular work competition campus qualifier series of activities undertaken in Guangdong province the first private university innovation and entrepreneurship competition, has been formed to A long driving effect. Excellent events such as "innovation and

entrepreneurship contest" and "successful alumni forum" have promoted innovation and entrepreneurship education at different levels. The college persistently carried out the "youth entrepreneurship", held a seminar on College Students' entrepreneurship, the summit forum, the start-up star meeting, the exchange of entrepreneurial experience and so on. It supported the "entrepreneurial successful alumni forum", "entrepreneurship lecture hall", "entrepreneurship Salon" and "famous entrepreneurs into the campus", and established a "College entrepreneurship practice base" with 12 enterprises. Students provide opportunities for practice in business practice. Invited Hong Kong, Macao and Taiwan entrepreneurs, innovation and entrepreneurship education experts to College Lectures, and the 10 universities in Guangdong, Hong Kong, Macao and the Great Bay area jointly launched the establishment of "cross straits four college students innovation and entrepreneurship competition online platform."

VI. SUMMARY

There are many achievements in the innovation and entrepreneurship competition. At present, the innovation and entrepreneurship education in Guangdong science and Technology College has achieved some results and highlights the demonstration effect. The school in the "Internet Plus" innovation and entrepreneurship competition, "Challenge Cup" national undergraduate business plan competition, cross-border business innovation and entrepreneurship competition and other major events in innovation and entrepreneurship to achieve better results. In 2017, we won the Second National University Student Cross-Border E-Commerce Competition 1 first prize, 4 third prizes, and the Sixth China Innovation and Entrepreneurship Competition - 2017 Win in Dongguan

University Science and technology Innovation and Entrepreneurship Competition 1 first prize, 2 second prizes and 2 third prizes, total bonus 260,000 Yuan. Won 23 national awards and more than 200 provincial-level awards in the national and Guangdong mathematical modeling, electronic design, robotics, programming, mechanical design and other disciplines competition in the past three years. Rich achievements in teaching innovation and Entrepreneurship.

The Guangdong Institute of science and technology is an applied undergraduate college. There is a gap between the comprehensive strength of the subject and the level of scientific and technological innovation in the "two first-class" universities. The students' ability of scientific and technological innovation is relatively weak, but the professional knowledge is solid and the application ability is strong. Therefore, Guangdong science and Technology College combined with the training objectives of applied talents, giving full play to professional advantages, and advocating learning for practical purposes. When encouraging and guiding students to start their own businesses, they are not copying the research universities relying on high-tech innovation to start their own businesses, but we must advocate their professional advantages to start businesses. From the practice of innovative and entrepreneurial education in the past three years, the use of professional advantages for students to start a business has not only solved the problem of the impact of entrepreneurship, entrepreneurship and academic disengagement, but also a very effective choice of entrepreneurial approach.

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