

# Evaluation of the Effect of Challenge Cup Students' Competition in Promoting Practical Teaching: Take Zhuhai College of Jilin University as an Example

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**Abstract.** Through sorting out and investigating the students competitions of Zhuhai College of Jilin University in Guangdong Province in recent years, analyzing the practice teaching of the school based on the students' competitions such as the Challenge Cup, so as to improve the process management and effect evaluation of competition-driven learning, and put forward some suggestions on further improving the quality of participation works, optimizing the guidance of competition process and improving the effect of the competition-driven learning.

**Keywords:** The Challenge Cup; Practical Teaching; Zhuhai College of Jilin University.

## 1. Introduction

The Challenge Cup is a national competition for university students' extracurricular academic and technological entrepreneurship, co-sponsored by the Central Committee of the Communist Youth League of China, the Chinese Association of Science and Technology, the Ministry of Education, All-China Students' Federation and the local provincial people's government, which is the most popular national competition for college students in China. Since 1989, more than 2,000 Colleges and Universities have participated in the competition, with a total number of 2 million students.[1] Only in 2018, 128 Colleges and Universities and more than 3,000 teachers and students participated in the "Challenge Cup" college entrepreneurship competition in Guangdong Province. 1594 declarations and 442 final entries were received.[2] The Challenge Cup has led to the upsurge of teaching, scientific research and entrepreneurship learning of college students in China. In 2012, (Some Opinions of the Ministry of Education on Improving the Quality of Higher Education in an All-round Way) proposed to promote the interaction between scientific research and teaching, transform scientific research achievements into teaching contents, and support undergraduates to participate in scientific research activities.[3] The Challenge Cup has formed a three-level competition system of the state, province and university. The majorities of universities take the Challenge Cup competition as the lead and constantly enrich the content of activities, which has become an important activity for universities to enhance students' scientific research ability and innovate and transform their entrepreneurial ability.[1] Investigating the implementation process of the Challenge Cup and evaluating the effect of practice teaching in the process of teachers' and students' participation will help the school to manage the process of the Challenge Cup scientifically, and provide reference for the reform of university teaching, the optimization of future practice teaching system and the implementation of specific programs.

## 2. Literature Review

Challenge Cup competition has two parallel projects, one is the Challenge Cup National University Students Extracurricular Academic Science and Technology Works Competition, commonly known as "Big Challenge"; the other is the Challenge Cup Chinese University Students Entrepreneurship Plan Competition, commonly known as "Small Challenge". Guangdong province's Challenge Cup competition has been successfully held for 13 times since its beginning in 1991. The competition adheres to the idea of "promoting teaching, learning, research and construction by competition", and

creates a good atmosphere for college students to engage in scientific and technological innovation. After years of practice and exploration, a dual-create work system has been set up for Guangdong university students, from “practice training of innovation and entrepreneurship” to “quality development of innovation and entrepreneurship” and then to “incubation promotion of innovation and entrepreneurship”, to create better conditions for young people’s scientific and technological innovation, at the same time to create a good academic innovation atmosphere for Guangdong Province, leading young students to implement the “four perseverance, three supports and two leading” to make positive contributions.[4] Qin Rongting[5] conducted a precise guidance study on the organization of the Challenge Cup competition in Colleges and Universities, positively pondered the problems arising in the competition process, and put forward countermeasures from the aspects of topic selection, team formation, material writing and teacher team building. Yang Bingchuan[6], Lin Jia[7], Qu Yanfeng[8] respectively explored the value and ways of the Challenge Cup to cultivate students’ innovative ability from different specialties in different schools. They believed that the Challenge Cup was indeed conducive to promoting curriculum reform, deepening the theory of practical teaching and students’ innovative consciousness and practical ability, but put forward higher requirements for teachers, incentives and guarantee policies. “Big Challenge” attaches great importance to scientific and technological inventions and creation, and requires high practical ability of students. Yang Jian[9], Lu Yinfei[10] and others have studied the integration of experimental teaching of science major, practical teaching of economics and management major specialty and Challenge Cup and achieved certain results. It can be seen that universities have attached great importance to the significance of the Challenge Cup, and realized that only by synergizing and integrating the functions and resources advantages of the scientific research, education and production, can docking and coupling of the technological innovation upper, middle and lower reaches.[11]

Of course, in addition to ensuring that students participate in the Challenge Cup teaching effect and scientific and technological achievements, how to protect intellectual property rights of achievements has also attracted the attention of relevant experts. Based on the data from 2007 to 2015 of the Challenge Cup, Zhu Dan [12] et al. found that the proportion of university students applying for intellectual property protection of innovative achievements was low. In 2015, only 48 patents were applied for awarded works, and concentrated in 3.06% of the special prizes, accounting for only 9.4% of the total awards in this type of competition. How to construct the protection system of university students’ innovative achievements in favor of personnel training is still a problem that needs to be paid attention to after the Challenge Cup in the future.

### 3. Case Studies

Zhuhai College of Jilin University has been actively promoting college students to participate in the Challenge Cup competition in order to deepen the school education reform, cultivate students’ spirit, consciousness and ability of innovative and entrepreneurship, promote the cultivation of high-level innovative talents, promote innovation-driven development strategy, and further implement the guiding ideology of school management system reform. From the beginning of the competition, great importance has been attached to stimulating the enthusiasm of college students to participate in scientific and technological innovation. Every year, the declaration and selection of college inside of the Challenge Cup are jointly organized by the Admission and Employment Department, Innovation and Entrepreneurship school and the College Youth League Committee. In the college inside selection contest, experts from Zhuhai University Student Business Incubators, Human Resources and Employment Service Center were invited to train and guide the participating teams. The quality of the entries and the defense ability of the entrepreneurship team were greatly improved by repeatedly demonstrating the business proposal that enter into the finals and holding the simulated defense.

The number of universities and works participating in the Challenge Cup competition in Guangdong Province has increased year by year, and the number of “Big Challenge” has increased from 87 universities in 2013, 1050 works participating to 123 universities in 2017, 1429 works

participating, “Small Challenge” from 92 universities in 2014, 1065 works participating to 128 universities in 2018, 1594 works participating, and the attention has increased by nearly 50%. The number of “Small Challenge” winning gold prizes has also increased from 86 works in 2014 to 114 works. By 2018, the quality of works had increased by 40% (Table 1, 2). The “Big Challenge” competition focuses on training students’ ability of scientific and technological innovation, academic research and paper writing. Zhuhai College of Jilin University from the 12th “Big Challenge” in 2013 no work for the final, but to the 13th “Big Challenge” in 2015 years has won four third prizes for the first time under the condition participate school and work quantity are rising. Three of the prize-winning philosophical and social sciences research reports are: Let Han River flows and Chaozhou dialect exists forever--On the current situation of students’ use of dialects under the condition of promoting mandarin in Chaozhou, research on the intergenerational relationship of college students--Based on the comparison between single children and non-single children and analyze on the influence of the development of new media on College Students’ job-hunting and employment, which reflects the sensitivity and responsibility of college students in Guangdong to the changes in their study and life under the unique local culture and the background of the times. In 2017, Zhuhai College of Jilin University broke through in the 14th “Big Challenge” 1429 entries, with 5 entries in the finals and won prizes. (Table 3) But at the same time, it can also be seen that the college has not yet won prizes in the category of natural science papers, which reveals that the college’s research ability in natural science is weak or insufficient investment. In the future, we should attach importance to the innovation of experimental thinking in natural science, give full play to the leading role of teachers, and let students intervene in the training of teachers’ scientific research projects from the ordinary classroom teaching. Practical ability, paper writing ability and so on need long-term accumulation, which is not an easy work.

Table 1. “Challenge Cup” Competition of National College Students’ Extracurricular Academic Sciences and Technologies Works in Guangdong Province

Year	Participating universities	Entries	Shortlisted Entries	Science and Technology	Natural Science Papers	Research Reports or Papers on Philosophy and Social Sciences
2013	87	1050	476	-	-	-
2015	107	1254	600	236	122	242
2017	123	1429	669	270	126	273

Table 2. “Challenge Cup” Competition of Entrepreneurship Plan for Chinese College Students in Guangdong Province

Year	Participating universities	Entries	Shortlisted Entries	Entrepreneurial Practice Project	Entrepreneurship Plan Project	Public Welfare Entrepreneurship Projects
2014	92	1065	331	83(12G, 31S, 40B)	548(62G, 180S, 306B)	107(12G, 33S, 62B)
2016	102	1313	383	110	649	162
2018	128	1594	442	148(14G, 42S, 92B)	788(82G, 237S, 469B)	182(18G, 47S, 117B)
Total	322	3972	1156	341	1985	451

Table 3. Participation of Zhuhai College of Jilin University in Guangdong Province's "Big Challenge" Competition

Year	Declaration Works	Shortlisted Entries	Award Level	Research Reports or Papers on Philosophy and Social Sciences	Invention of Science and Technology
2013	8	-	-	-	-
2015	10	4	Third Prize	3	1
2017	9	5	Third Prize	3	2

The competition of "Small Challenge" focuses on cultivating students' abilities in entrepreneurship and innovation, team building and market operation. Zhuhai College of Jilin University participated in the latest three "Challenge Cup" entrepreneurship plan competitions, and the number and level of awards continued to break through. From only one work enter into final in 2014 to five works in 2018, from 1 Silver and 11 bronze in 2014 to 1 gold, 4 Silver and 7 bronze in 2018, and the (Zhuhai Small Mouth Catering Service Company) which won the gold medal in the entrepreneurship practice project also ranked as top of all 14 gold medals in entrepreneurship practice. Young students can display their own projects and connect with the market through the Challenge Cup competition, which stimulates students' enthusiasm for innovation and entrepreneurship, and the quality of their works is getting higher and higher. In 2016, 54 works were declared, and 10 works enter into finals and exhibition links, and the rate of entry is 18.5%. In 2018, 34 works were declared, 12 works enter into finals and exhibition links, and the rate of entry is 35.3%. It's nearly twice as high. (Table 4)

Table 4. Participation of Zhuhai College of Jilin University in Guangdong Province's "Small Challenge" Competition[13-15]

Year	Declaration Works	Shortlisted Entries	Exhibition works	Entrepreneurial Practice Project	Entrepreneurship Plan Project	Public Welfare Entrepreneurship Projects	liberal arts	Science
2014	-	1	11	3B	1S, 6B	2B	4	7
2016	54	5	5	0	1G, 2S, 4B	2S, 1B	3	7
2018	34	5	7	1G	4S, 7B	0	2	10

The School of Innovation and Entrepreneurship was established in Zhuhai College of Jilin University at the end of October 2017. Through top-level guidance and one-to-one tutoring by teachers and student groups, experts were invited to conduct in-depth reviews before, during and after the competition, which accumulated rich experience in such national student competitions. From teachers to students, from organizational declaration to final defense, from venues to funds and other aspects, the college have made sufficient preparations. In the strong mass entrepreneurship and innovation educational atmosphere, we adhere to the purpose of "advocating science, pursuing true knowledge, diligent learning, innovating and facing challenges", fully demonstrating the teaching achievements of the college, and also learning and exchanging with other Colleges and Universities. More experience has been accumulated. Through a series of competitions, students' awareness of innovation and entrepreneurship has been stimulated, students' ability of innovation and entrepreneurship has been enhanced, and the innovation and entrepreneurship education has been effectively promoted to a new level. In recent years, in addition to participating in the Challenge Cup, teachers and students of Zhuhai College of Jilin University have participated in a series of national student competitions and achieved good results. For example, the School of Arts and Design won two

first prizes and one second prize in the 2018 International Business Elite Challenge Competition of Colleges and Universities and the 12th National Conference and Exhibition Innovation and Entrepreneurship Competition of Colleges and Universities. Business Administration School participated in the 14th National University Students ERP Sand Table Simulation Competition and won the first prize in the National Finals. It is the only participating university in Guangdong province to win the first prize. Tourism School participated in the 2018 National Business Elite Challenge Competition and Business Award Touris Planning Competition and won 1 first prize, 2 second prize and 1 third prize.[16-18]

#### **4. “Promoting Teaching by Competition” to Improve the Effect of Practical Teaching**

Teachers leads students to participate in the Challenge Cup is a summary and breakthrough of classroom teaching, a centralized inspection of teaching effect, and can communicate with other Colleges and Universities, break through regional and information barriers, improve the practical teaching system of colleges and universities, create campus culture of the science and innovation, promote the growth of young innovative talents, deepen quality education in Colleges and Universities, and promote the transformation of scientific and technological achievements of Colleges and Universities into realistic productive forces. Taking comprehensive competition as teaching project and students as the main body, practicing with the way of “Diversified team formation and teamwork”, designing the integrated mode of “Based on the competition teaching project, the multi-subject three-dimensional evaluation” and carrying out practical teaching so as to truly achieve “promoting teaching by competition”. [19] In addition, the Challenge Cup has also greatly promoted the scientific research ability of College students, the most notable of which is the ability of students to think independently, collect data, oral presentation and communicate. [20] In interviews with teachers and students who participated in the Challenge Cup, most of them talked about the biggest gains in competition are: the expansion of knowledge, the subversion of the way of thinking, the attitude to scientific research and the attention to details. These awareness and abilities are often less exercised in classroom teaching. Therefore, high-standard student competitions such as Challenge Cup have played an important role in promoting practical teaching in Colleges and Universities.

In the future, all kinds of Colleges and Universities can play the tripartite cooperation of “College League Committee policy guarantee, innovation and entrepreneurship school system set up, and college students’ business incubation base funding”. From the Student’s Platform for Innovation and Entrepreneurship Training Program to the Challenge Cup and “Internet Plus” and other technological innovation and entrepreneurship competition projects, from the college training to the provincial and even national competitions, which bring the competitions like Challenge Cup to the most in the value of college education.

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