

# Research on Professional Skills Association Helping to Cultivate Applied Talents in local Colleges and Universities

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**Abstract:** Taking the training of applied talents as the starting point, this paper points out that the target orientation of applied talents training in local colleges and universities should be constructed from the aspects of knowledge, ability and quality. Taking the school of mathematics and statistics of Zhaoqing University as an example, this paper discusses the training mode of applied talents relying on the platform of professional associations, expounds the specific implementation schemes and measures, summarizes the work results, and provides ideas and reference for the training of Applied Talents in local colleges and universities.

**Keywords:** Professional Associations; Second Class; Local Universities; Training of Applied Talents

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Local colleges and universities should actively meet the needs of local economic and social development and technological innovation requirements of enterprises, grasp the direction of talent demand in the industry, make full use of local resources, give full play to their own advantages, refine school running characteristics, deepen the integration of industry and education, school enterprise cooperation and collaborative education,<sup>[1]</sup> enhance students' employment and entrepreneurship ability, and cultivate a large number of students with strong industry background knowledge, engineering practice ability and competent for industry development needs applied and technical talents<sup>[1]</sup>. The second classroom, as an effective extension and supplement of the first classroom, is an effective way to implement innovative education and an important support and powerful guarantee for cultivating students' innovative quality<sup>[2]</sup>. Through the second classroom, colleges and universities can help students absorb a wider range of extracurricular knowledge and broaden their horizons, so that students can gain more in addition to learning<sup>[3]</sup>.

## 1. Introduction

Taking Zhaoqing University as an example, the university practices the school running philosophy of "student-oriented, quality-oriented, academic development and academic excellence", strives to achieve the goal of "building a high-level applied comprehensive university with distinctive characteristics", constantly deepens the reform of education and teaching, and practically constructs a high-level applied talent training system. From the perspective of secondary colleges, the fundamental task of secondary colleges is to cultivate available talents for local economic and social development, especially to cultivate front-line applied technical talents required by industrial transformation and upgrading and public service development, and promote technology application and innovation. In order to better complete this task and enhance the core competitiveness of students towards society, the talent training system based on talent training program must be "grounded", which should be based on serving the needs of local economic and social development and the requirements of enterprise technological innovation<sup>[4]</sup>, and should be seamlessly connected with the needs of local economic and social development and industrial transformation and upgrading.

How to cultivate marketable applied talents? In this regard, the school of mathematics and statistics of Zhaoqing University closely focuses on the school orientation of building a high-level applied comprehensive university with distinctive characteristics. Starting from the reality of specialty setting, the school has established five professional associations outside the classroom to carry out the second classroom teaching activities, which are mathematical modeling association, mathematics competition association, mathematics education association, program and design association, association for financial mathematics and statistics. The main contents include that skill training, discipline competition, innovation and entrepreneurship projects, academic lectures, academic seminars, scientific and technological innovation, professional services, etc. Each association is equipped with professional instructors with high academic qualifications and professional titles. Their professional level is high and their professional skills are strong. They can provide guidance for the professional development of the association and give accurate guidance to the daily training and activities of the professional association. Professional associations provide students with extracurricular learning and practice platforms. Through professional skill training, discipline competition and educational practice, they greatly stimulate students' innovative spirit and cultivate students' comprehensive application ability. They are the innovation and supplement of the education mechanism of

colleges and universities.

## **2. Implementation plan and measures**

Relying on the platform of professional associations to help cultivate applied talents, the school of mathematics and statistics of Zhaoqing University mainly carries out the following work.

### **2.1 Rely on the activities of professional associations and integrate the ideological and political elements of the curriculum**

Focusing on the requirements of the construction of “Curriculum Ideology and politics”, to transform the “teaching” focusing on imparting knowledge into the “education” to realize the all-round development of students, we need to fully mobilize and organize the active participation of teachers and students, form the “great ideology and politics” pattern of curriculum teaching, strengthen the moral education function of the second classroom while integrating ideology and politics into the main position of the first classroom, and actively promote the deep integration of “two classrooms” The professional association is the platform to carry out the second classroom. Through the integration of professional association activities and curriculum thought and politics, it can realize the integration after class, so as to realize the whole process, all-round and three-dimensional education.

### **2.2 Use the platform of professional associations to increase professional skills training**

Students use the knowledge gained from skill training to participate in various competitions, including those organized by student associations, schools, provincial and national competitions The main contents are: (a) college students’ mathematical modeling competition at all levels; (b) mathematics knowledge competition, postgraduate entrance examination exchange and other activities; (c) various teaching skill competitions, tutor pre job training and tutoring services, as well as the establishment of volunteer education and assistance activities in local primary and secondary schools; (d) organize students to participate in “Blue Bridge Cup” programming competition and “Teddy Cup” national data mining challenge; (e) organize and participate in modeling competitions such as finance and securities investment, and improve the passing rate of students’ financial qualification certificate examination.

### **2.3 Give full play to the characteristics of professional associations and cultivate innovation ability**

Relying on the platform of professional associations, do a good job in innovation and entrepreneurship characteristic education There are mainly: (a) various certification qualification examinations Professional associations help students pass various certification and qualification examinations conducive to employment by organizing pre examination training and mock examinations; (b) scientific research and publication of papers Encourage students to participate in scientific research, write academic papers and investigation reports, and form creative and unique academic views; (c) innovative experimental plan for college students Encourage and guide students to actively participate in “Challenge Cup”, “climbing plan”, college students’ innovative experimental plan and other innovative and entrepreneurial projects.

## **3. The significance of professional associations in promoting the cultivation of applied Talents**

### **3.1 Integrate ideological and political education into the curriculum and improve the effectiveness of education**

Through the linkage of professional association practice and curriculum thought and politics, we can realize the combination of in class and out of class, specialty and practice, continuously enhance the timeliness of Ideological and political education and improve the effectiveness of all-round education.

### **3.2 Realize the collaborative training mode of “project research + skill contests”**

Take subject research as the carrier, combine professional subject competition and professional skill competition, improve students’ ability of “scientific inquiry”, and guide students to “promote learning by competition, lead learning by competition, experience learning by competition, and help and learn from each other”.

### **3.3 Improve the performance of professional discipline competition and improve professional influence and identity**

Promote learning through competition and practice through competition, publicize the award-winning students through websites, “E-class”, “Wechat”, class meetings and other ways, stimulate students’ enthusiasm to participate in professional associations and discipline competitions through the exchange of excellent deeds and experience and model drive, and “lead from point to area”, so as to promote the continuous improvement of students’ professional quality and comprehensive quality.

### **3.4 Improve the cultivation of innovation and entrepreneurship ability and help the cultivation of innovative talents**

Relying on the platform of professional associations, cultivate students to actively participate in innovation and entrepreneurship research, and organize the application of research topics at all levels With the promotion of professional associations, graduates can start businesses in educational institutions, software development, new retail system research and development, financial information services and other aspects through training in school.

## **4. Work results achieved**

### **4.1 Contests Awards**

The student professional association of the school of mathematics and statistics has achieved outstanding results with a systematic and effective training and training system In recent years, fruitful achievements have been made in the skill competition for normal students, financial modeling competition, mathematical modeling competition, “Blue Bridge Cup” program design competition, mathematical knowledge competition, “climbing plan”, “Challenge Cup” market research competition and other discipline

competitions, with a total of 39 national awards and 212 provincial awards. After each award, the college publicizes through website, E-class, Wechat, class meeting and other means, and stimulates students' enthusiasm for professional learning and participation in associations and competitions through excellent deeds and experience exchange and model driving. The "point to area" effect is remarkable, and the professional quality and comprehensive quality of all students are continuously improved.

#### **4.2 College Students' innovation and entrepreneurship projects**

The subject works declared by professional associations have also won national, provincial and school level projects for many times. For example, in the application of College Students' innovation and entrepreneurship training program in 2018, a total of 13 projects of the school of mathematics and statistics of Zhaoqing University were approved, including 2 at the national level and 3 at the provincial level; In 2019, 10 projects were approved, including 1 at the national level and 4 at the provincial level; In 2020, 8 projects were approved, including 1 at the national level and 2 at the provincial level; In 2021, 9 projects were approved, including 1 at the national level and 3 at the provincial level.

#### **4.3 Application Innovation**

The training system and activities of professional associations not only make up for the lack of strong theoretical and monotonous classroom teaching, but also further cultivate and tap the potential of students' innovation and entrepreneurship, make students better adapt to the requirements of the general environment of "mass entrepreneurship and innovation" in the new era, and lay a good foundation for students' employment and entrepreneurship in the future. Driven by professional associations, the number of entrepreneurs in our college has also increased year by year. In recent years, many students have established companies in educational institutions, software development, new retail system research and development, financial information services and so on.

### **5. Conclusion**

The establishment of professional associations enables students to gradually improve their professional quality in the training system and activities of student professional associations. In the process of independent management, students' soft power such as organization and coordination, overall response and so on has been continuously improved. The establishment of five professional associations is precisely the reason why the school of mathematics and statistics of Zhaoqing University has established a new mechanism of application-oriented talent training, scientific and technological innovation and social service, so as to enhance its ability to serve regional economic and social development and technological progress of industrial enterprises. The college focuses on cultivating applied talents who can skillfully use knowledge, solve practical production problems and meet the diversified needs of society as its core mission, and continues to comprehensively deepen the comprehensive reform of education and teaching, so as to implement the cultivation of applied talents.

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