

Research and Exploration On Cultivation of College Students' Innovation By Academic Competition

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Abstract

To carry out the cultural and science and technology competition activities is an effective way to cultivate of college students' practical ability, innovative ability and employment ability in Colleges and universities. In recent years, universities have formed a long-term mechanism in academic competition and cultural activities for college students, which is achieved by improving the training mode of innovative talents, building scientific and technological innovation practical platform, perfecting management system of academic competition and other mearsures to ensure a sustainable development of cultivation of technological and scientifical talents.

Keywords

Academic competition, Scientific and technological innovation, Innovative ability.

1. Introduction

Cultivating innovative talents is the demand of social development, and is the primary task of the current college education. How to make the students understand the latest progress of science and technology, and to improve the ability and awareness of innovation in the practice of science and technology is an important issue that needs to be further studied. It is an effective way to develop students' innovative ability through academic competition to enhance and develop students' innovative ability, practical ability, learning ability, cooperation and adaptability. In recent years, by improving the training mode of innovative talents, building scientific and technological innovation practical platform, perfecting management system of academic competition and other mearsures , universities have achieved a lot, forming a long-term mechanism in academic competition and cultural activities for college students, greatly improving students' engineering application ability and innovative ability as well as comprehensive quality, ensuring a sustainable development of cultivation of technological and scientifical talents.

Academic competition develops from college students' extracurricular scientific and technological activities. It is a new carrier for their innovative ability. It supplements professional knowledge effectively and extends their horizon from theoretical study. The competition provides a way of dealing with realistic problems employing comprehensive professional knowledge for students. It pays more attention to the cultivation of students' innovative and practical ability, emphasizing practical ability. Some science and technology competitions require college students to participate in group, and require a better collaboration and communication between team members. Academic competition cultivates students' innovative consciousness and improves the students' practical innovative ability.

2. Combine academic competition and teaching to promote the cultivation of students' scientific and technological innovative ability

The purpose of holding the contest is to improve students' comprehensive quality, cultivate students' creative ability, and to construct the thinking consciousness of solving practical problems. Because of the rapid updation of information and knowledge, the enterprises' higher requirement for practical and innovative ability, strengthening students' professional knowledge and engineering practical

ability is an important goal in the training of information professionals. To build a perfect academic competition system can not only improve university and professional reputation as well as teaching capability, but also can effectively improve the quality of students, enhancing their social competitiveness. Therefore, academic competition and professional teaching should be made full use of, taking academic competition as another platform for class and absorbing students to take part in scientific research projects to foster innovative spirit, boost interest in professional knowledge and gradually improve their practical ability. Teachers can intergrate some contest questions with some abstract algorithm analysis and design, elusive data structure and other courses to promote understanding. Aslo, teaching method of case study and question-driven could inspire students to think and learn from the keys report of questions to analyze and teach through asking practical questions, which will effectively improve students' interests and innovative ability.

3. Promote students' scientific and technological innovative ability by the combination of subject competition and curriculum teaching

3.1 Strengthen system construction of students' scientific and technological innovation , improve management system of organizational operation.

Highlight of universities creates a good external conditions for the smooth undertaking of academic competition. At present, the school has formed a campus science and technology cultural activity competition system including the "Challenge Cup", "Electronic design contest", "Freescale smart car contest" andt he intelligent car racing" and "Optoelectronics design contest". The relative activities are in the charge of Academic Affairs Office and coordinated by colleges. Dean's office is responsible for management measures and related policies of college students' learning and technology competition, rating all kinds of learning and scientific and technological competition projects, determining the organizational and implementary units of learning and scientific and technological competition at university-level and above, as well as the evaluation work and assessment of reward level of supervisors. All colleges are supposed to do the organization, promotion and coordination work of all academic competition and in charge of the implementation of discipline project and the allocation of participants and funds.

3.2 Actively expand the academic competition ways mainly in the way of academic competition.

Various academic competitions tend to limit the number of entries, restricting the cultivation of innovative talents to a certain number, having a narrow coverage. In order to solve this problem, corresponding university competitions of various academic competitions have been set, and this has two benefits.

(1)The competitions have expanded the coverage of innovative training, so that the majority of students have developed innovative ability. Through the competition in science and technology, the limit on the number of competitors in science and technology is broke. At the same time, through the elective courses of science and technology competition training , more students can participate in the competitions and obtain the credits, having lessened the burden on students.

(2)The academic competition has selected talents for competitions at higher level and stimulates students' enthusiasm through demonstration. Selecting outstanding teams for higher level competitions can both complete the selection work and stimulates students' awareness of competition and learning at the same time, expanding the influence of the competiotion as a platform for cultivating innovative ability.

3.3 Construct the multiplication, the multi - level competition instructive teams.

We also establish a competition guidance team, including the school teachers, senior students, outstanding players that have already graduated, and so on. In the school, the constitution of teachers is relatively stable, while that of others are occasionally replaced and updated according to the situation.

4. Results

After years of construction work, we have successfully organized Changchun University of Science and Technology Electronic Design Competition, Freescale Smart Car Competition and Photoelectricity Design Competition and etc.

Through the training and selection, we have got many national or provincial awards in science and technology competitions. For the recent three years, more than 3000 students in our school have benefited from the innovative practical activities of academic competitions, having created a active atmosphere of students' participation in various contests. Students have taken part in more than 300 competitions of innovation and entrepreneurship, among which National Undergraduate Training Programs for Innovation and Entrepreneurship amounts to 120. Undergraduates Electronic Design Competition, National Undergraduates Freescale Smart Car Competition, Photoelectricity Design Competition, Challenge Cup and other contests up to 128 competitions have obtained awards at university level and above, among which 19 at national level, 109 at provincial level.

5. Conclusion

Academic competition is a practical activity developing from college students' extracurricular scientific and technological activities. It has become a new platform for cultivating innovative ability. The essay takes Electronic and Information Engineering College of our university as an example to introduce some explorative activities in fostering innovative ability through academic competitions. Although we have obtained some achievement via these activities, how to combine academic competition and teaching better, bring it into the cultivation plan for undergraduates and foster students' innovative and practical ability are important issues in the course of further reforming.

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