

Exploration on the Vertical Subdivision Teaching Mode of "Promoting Learning by Competition" under the Background of The China Postgraduate Electronic Design Competition

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Abstract. Through the understanding of the current Chinese postgraduate electronic design competition and the general situation of "Promoting Learning by Competition", the main problems and causes of "Promoting Learning by Competition" in researching electronic competitions are found. The teaching mode of vertical subdivision in the background, and the main point of action of this mode.

1 Introduction

With the continuous development of science and technology and the increasingly fierce international competition, talents have gradually become an important force for promoting national progress and a strategic resource for promoting social reform. Because of the development of the new era and the continuous expansion of higher education enrolment, the society has paid more and more attention to the ability of students, which is no longer limited to the requirements of theoretical knowledge. Colleges and universities, as the main front of talent training in my country, play a very important role in cultivating reserve talents. Nowadays, the rapid development of information technology has brought more new opportunities and challenges to our country and our country's higher education management.

In the context of the COVID-19, students' study and life have been seriously disturbed. This requires the school to organize students' life and study well. At present, there are many researches on the mode of "Promoting Learning by Competition", which can indeed improve students' practical ability in research theory, and equip students with corresponding professional practical ability and various comprehensive practical ability in practical operation. However, there is still relatively little research on the integration of "Promoting Learning by Competition". At present, only researches in this area have been carried out in computer, English, accounting and other majors. Of course, there is even less research on the teaching model of "Promoting Learning by Competition" with the background of The China Postgraduate Electronic Design Competition. This paper will conduct an in-depth discussion on the background of The China Postgraduate Electronic Design Competition.

It plays a very important role in promoting teaching by The China Postgraduate Electronic Design Competition as a carrier. The comprehensive reform of postgraduate education with the main line of "serving

demand and improving quality" has been fully launched, and improving the innovative practice ability of postgraduates is the primary task of the reform. The main purpose of The China Postgraduate Electronic Design Competition is to serve the work of graduate education centre and promote the connotative development of graduate education. In the competition, students can experience success at different levels and enhance their ability to combine theoretical knowledge with practice.

The basic academic power and part of the internal management authority of university organizations have become the content actively explored by universities, but they are restricted by the external environment. After some of the autonomy of universities is released to universities, the implementation effect is uneven, showing "fragmentation". Figure 1 shows the impact index of government power, market power and academic power on China's higher education in the past decade.

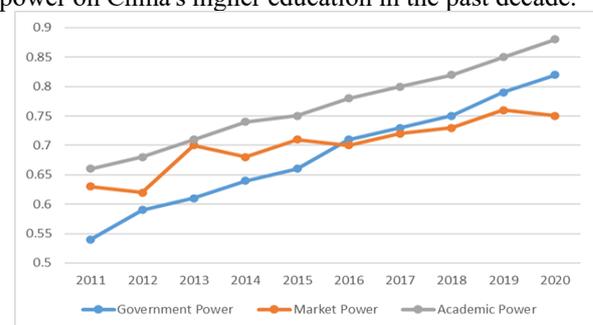


Figure 1. the influence index of the three forces

2 The Current Situation of the China Postgraduate Electronic Design Competition and a Review Competition

With the increasing demand for engineering and technology professionals in the current society, there is

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an obvious gap in the supply of talents in colleges and universities. In order to achieve an effective match between domestic manufacturing industry and the teaching of related majors, teaching has gradually been focused on practical teaching in most colleges and universities. In the process of cultivating engineering and technology talents, practical teaching has gradually become one of the important links.

As we can see, China's higher education has become more and more comprehensive, so the promotion of learning through competition has also demonstrated its particularly attractive importance. The China Postgraduate Electronic Design Competition is a competition that most engineering students pay more attention to. The China Postgraduate Electronic Design Competition is one of the theme events of the "China Postgraduate Innovation Practice Series Competition". It is a group electronic design innovation and creative practice for postgraduate students nationwide. The event is a mainstream event that universities and research institutes across the country actively participate in.

"Promoting Learning by Competition" refers to combining competition and teaching, using knowledge competitions to motivate students to learn better. It not only improves students' professional knowledge, practical ability and innovation ability, but also improves tutors' teaching ability of combining practice with theory and their own professional ability. In this process, the tutor is required to integrate the knowledge of the competition into the teaching process, train students according to the standard of the competition, and break away from the previous requirements for theoretical knowledge.

"Promoting Learning by Competition" is of great significance to the current domestic social and economic environment. It can not only significantly improve the knowledge level of participating students, but also cultivate students' teamwork ability. In the competition, students will encounter practical problems of enterprises and solve them. In this process, students' understanding of professional knowledge will be more thorough and integrated. Not only that, the team competition cultivates students' independent innovation ability, openness and integration awareness and teamwork spirit.

In the current teaching environment, "Promoting Learning by Competition" is a very practical teaching mode in colleges and universities. For example, Yuxin Miao compared the teaching mode of "Promoting Learning by Competition" with the traditional teaching mode in Colleges and universities, and analysed the shortcomings and contradictions of the latter[1]; Huilan Hou, etc., constantly explored the teaching mode of "Promoting Learning by Competition", groping for Many applications in practical teaching[2]; Lixiang Liu, exploring the teaching mode of "Promoting Learning by Competition" in teaching, explored a long-term operation mechanism to establish and improve its teaching mode in construction engineering surveying[6].

The teaching mode of "Promoting Learning by Competition" is a very effective practice path for colleges and universities to combine theory and practice with training talents, and teach students more practical

skills. Of course, although the teaching mode of "Promoting Learning by Competition" has many advantages and has achieved certain results, it also faces many problems.

The basic academic power and part of the internal management authority of university organizations have become the content actively explored by universities, but they are restricted by the external environment. After some of the autonomy of universities is released to universities, the implementation effect is uneven, showing "fragmentation". The figure below shows the impact of government power, market power and academic power on China's education in the past decade.

3 The Problems and Factors of Promoting Learning through Competition with the Background of Researching Electronic Design Competition

3.1 Current educational problems of promoting learning through competition

At present, although the teaching mode of "Promoting Learning by Competition" has achieved certain results, this paper still pays attention to two main problems of "Promoting Learning by Competition".

First, many schools lack awareness of the significance of "promoting learning through competition" and do not pay enough attention to it. Many students don't know much about The China Postgraduate Electronic Design Competition, and they are not very interested in the competition. Secondly, for teachers, there may be a small number of teachers who are not very concerned about the competition because this competition has not much interest to themselves. Students are the core of the school, but the school cannot encourage the enthusiasm of the students to participate in the research competition.

Students are the main body of education, and schools are the cornerstone of education. Therefore, schools cannot make mistakes in the education model, let alone ignore the innovation of the education model, and treat new things with an open attitude. Things are always evolving and evolving. The same is true for educational models. New educational models are often based on old educational models, absorb the advantages of the old educational models, discard their shortcomings, and add new educational models that cannot be accommodated by the old educational models.

Second, although the teaching model of "Promoting Learning by Competition" is the link between teachers and students, the commercial interests of many competitions are now too permeated into it, and schools also place too much emphasis on the students' competition results. On the one hand, some competitions are mostly led by enterprises and held in conjunction with colleges and universities. In the competitions led by enterprises, interests are often the first priority, and their products are promoted through the banner of the

competition. On the other hand, schools play a very important role in the competition, but many schools often treat the achievement of the competition as a dramatically important thing, paying too much emphasis on the ranking of students and ignoring other aspects of the training of students. Some colleges and universities spend most of their funds on promising projects, and do not give enough support to other participating projects, which will greatly weaken the enthusiasm of participating tutors and students to compete.

3.2 The cause of the problem of " promoting learning by competition "

The teaching mode of "Promoting Learning by Competition" in this paper is based on the China Postgraduate Electronic Design Competition. Some events of the competition should be set up in the teaching of many related majors, which can create a positive learning atmosphere and stimulate the initiative of tutors and students. But we still cannot ignore the problems, which may make it difficult to implement the model of "Promoting Learning by Competition".

This paper believes that the reason for the above problems is that the competition and the course are not well connected. Mainly the following points:

First, the tutors do not know the students well enough, and they are not very clear about the strengths and weaknesses of the participating students. The postgraduate study method is to make full use of the strengths of the participating students, and match the strengths of the students with the main points of the competition. Secondly, because of the tutor's teaching age and the previous teaching mode, it is difficult for the tutor to accept the new teaching mode to a certain extent.

Second, students are not very clear about their own strengths. They always think that they can do everything, and they cannot complete tasks according to their own strengths. Besides, the participating students did not treat the competition with the correct attitude, and most of them participated in the competition with a utilitarian attitude. The so-called rankings and awards of the competition are only a way to promote the enthusiasm of students, but it is not the most important part in the competition.

Third, schools do not pay enough attention to all games. The school has not been able to establish a long-term operation mechanism for the teaching model of "Promoting Learning by Competition ". On the one hand, it has not been able to establish a standardized practical training base to meet the equipment needs of students for daily practical training. On the other hand, it has not been able to establish and improve the competition mechanism, including the intra-school competition mechanism and the out-of-school competition mechanism. The school does not know how to refer to the competition content to make some changes to the teaching content.

4 Construction of a Vertical Subdivision Teaching Model of "Promoting Learning by Competition" under the Background of Researching Electronic Design Competition

"Promoting Learning by Competition" is a very good teaching model in theory, but there will be many deviations caused by human factors in the process of implementation. Therefore, in order to enable "Promoting Learning by Competition" to achieve better development in the China Postgraduate Electronic Design Competition, this paper believes that in the process of implementation, we must pay attention to the development of students and reduce human factors such as tutors and schools. Therefore, this paper believes that in order to better implement "Promoting Learning by Competition", it is necessary to construct a teaching model of vertical segmentation.

4.1 Vertical subdivision teaching mode

The so-called "vertical subdivision teaching mode" refers to the people-oriented teaching concept, that is, students-oriented, Talent training not only caters to the needs of social and technological progress and development, but also should find ways to mobilize the potential abilities of participating students. Schools and tutors must always adhere to the people-oriented concept, and carefully cultivate highly skilled and high-quality talents.

First, in the long-term teaching activities, the tutor should be good at discovering the strengths of the participating students, make deployment plans for different students, and tap the potential of the students. It is necessary to guide students to the path that suits them, focus on the students' outstanding points, and make the students' outstanding points become their areas of excellence.

Second, engineering is very practical, so it requires that students possess strong operational ability. Schools should clarify education management work for contemporary students. The school's educational management goal is to cultivate students' independent problem-solving ability, and this independent problem-solving ability is to promote students' active, serious and efficient study and work. Therefore, according to the needs of students, the school needs to change teaching management measures in different majors, and actively integrates with the people-oriented concept, appropriately empowers students, guides students to manage themselves, and guides students to actively face setbacks during competitions. At the same time, for the fairness of competitions, schools should strengthen control and supervise more to prevent too many commercial factors from infiltrating and affecting students' values.

Third, the participating students must pay attention to themselves, take what they have done seriously, constantly tap their potential in the competition, cultivate

the ability of communication and cooperation, and give full play to their outstanding points in teamwork.

The people-oriented concept is the main content of the realization of the strategic goal of strengthening the country with talents, and it has strong feasibility. Colleges and universities can combine the actual situation of students to formulate specific education management plans which can strengthen students' abilities, and actively adapt to the needs of the development of the new era. It is can satisfies society's requirements for talents.

For each participating team, a full-time and part-time team is responsible for pre competition preparation, training, assessment, simulation competition and other work. Teachers play a guiding role, and students are the main objects of training activities. In order to meet this demand, various vocational colleges need to be equipped with corresponding backbone teachers, professional teachers, part-time teachers, professional leaders and other talents. For front-line positions, it is more necessary to be equipped with corresponding high skilled experts to realize the construction of education and teaching teams. In the work of teachers, with the help of theoretical learning, the basic teaching objectives can be achieved. However, in the teaching of e-commerce major, it has strong practical operability, and it is difficult to effectively master the requirements and skills of practical operation without personally engaging in practical operation. Professional teachers are responsible for leading the team in the competition process, which can significantly improve teachers' future education and teaching ability. In the fierce project competition process and competition results, it also fully reflects the talent training quality of various colleges and universities. The teaching thoughts of every professional teacher will be positively affected by the proficiency of professional core skills, the psychological quality of players, and the mastery of post ability knowledge. Therefore, the development of skills competition can effectively promote the construction of full-time and part-time teaching teams, double qualified teachers and other aspects, and effectively meet the actual professional ability training needs.

4.2 The key to the construction of vertical subdivision mode

From the above analysis, in order to promote the teaching measures of "Promoting Learning by Competition", this paper finds that the following key points must be paid attention to. These key points are how to allocate their respective roles in the competition. Students should have clear tasks, mentors should have their own responsibilities, and schools should know how to make their own strategic deployments for The China Postgraduate Electronic Design Competitions.

From the student side, students should identify their strengths, clearly understand the content of the project of their participating team, find their own positioning, give full play to their advantages, and constantly explore their potential in the competition.

As a teacher, the tutor should explore the teaching mode of "Promoting Learning by Competition" from two aspects: inside and outside. The first, and most important, layer is to explore on your own. As the disseminator of knowledge, the tutor has a huge influence on the students. Therefore, the instructors should strengthen the quality training of their own related events (the China Postgraduate Electronic Design Competition), update the teaching points in time according to the situation of the China Postgraduate Electronic Design Competition, and appropriately improve the teaching content. Externally, tutors need to know how to teach students according to their aptitude. For example, tutors must observe the luminous points of each participating student from their learning, help students take their own strengths seriously, and magnify their own advantages.

As a school with an overall view, we must not only do our job well, but also have the strength and courage to break through and innovate. According to different majors, different grades, and different competitions, different assessment contents and indicators are made. The school should conduct sufficient research on students and related majors, establish a professional steering committee for the relevant competition, and formulate the competition content and training related to the competition. Combined with relevant professional knowledge, the school should carry out more professional training and teaching courses and build a competition platform for all staff to participate. Combined with the characteristics of the school and the actual situation of the project, targeted competition projects are set up, so as to improve students' comprehensive ability and create a good learning and competition atmosphere.

This article takes the electric competition as an example. The school should set up a better environment for the competition, provide corresponding facilities and equipment, so that these students can improve their practice abilities in a good environment. According to the characteristics of the school and the actual situation of the project, the participating projects are set up in a targeted manner, so as to achieve the purpose of improving the comprehensive ability of students and creating a good atmosphere for learning and competition. Not only that, the school must be vigilant about various commercial interests, check the sponsors of the competition at all levels, and negotiate with the sponsors to avoid the competition being too profitable.

In the process of applying the teaching mode of "promoting learning through competition", it is not only applied to the traditional teaching links, but also needs to focus on heuristic teaching, gradually get rid of blindly explaining and teaching, gradually carry out hands-on training teaching, and introduce practical operation into classroom teaching. To achieve these goals, teachers need to have a knowledge structure based on ability, so as to effectively adapt to professional teaching and traditional general teaching, and also put forward higher requirements in Teachers' professional practical knowledge and ability. In order to meet this requirement, we need to pay attention to the training of professional teachers in colleges and universities, organize teachers to

visit and study in enterprises with high level of e-commerce operation development, master the latest information in the industry, and realize the update of teachers' practical knowledge. At the same time, in the work of scientific research departments in colleges and universities, it is necessary to encourage the research work on relevant topics carried out by the majority of e-commerce teachers, enterprise technicians and industry majors. In the context of the teaching mode of "promoting learning through competition", the teaching departments of colleges and universities can take the compilation of new textbooks and new teaching plans by teachers as a new assessment standard in the annual teacher assessment, so as to promote the effective improvement of professional teachers' own quality.

In "promoting learning through competition" "In the process of establishing the teaching incentive mechanism, schools should pay attention to dealing with the possible negative effects of discipline competitions. First, in the process of competition, students may have a tendency of shortsightedness and utilitarianism. They may participate in the competition for the result, but do not pay attention to the process of training, and even get too tangled in the score of the competition. Second, students' participation in many competitions may lead to their learning excellence The power is dispersed, which affects the expansion and deepening of English learning. In this regard, in the process of implementing the teaching incentive mechanism of "promoting learning through competition", we must first give correct guidance to students, give a reasonable design and arrangement for the whole course, and return to the origin of ability training in practice, and never put the cart before the horse. Secondly, in the whole process of practical teaching, teachers should strengthen humanistic care, integrate teaching in the whole process of competition, and avoid the phenomena of "learning for competition" and "learning by competition". These are what we have been thinking and trying to do during the formation of this mechanism.

5 Conclusions

To sum up, "Promoting Learning by Competition" is a teaching mode that is very beneficial to students, especially in the China Postgraduate Electronic Design Competition. It plays a very important role. And "Promoting Learning by Competition" is not a novel concept, it has been used in early vocational education. Today, "Promoting Learning by Competition" has been recognized by more educational scholars and schools, and is being extended to higher education at the undergraduate level.

The China Postgraduate Electronic Design Competition, as an event that most engineering students actively participate in, this paper believes that more attention should be paid to the teaching model of "Promoting Learning by Competition". There may be many obstacles in the process of implementation, mainly from three aspects: students, tutors, and schools. All in all, for students to participate in The China Postgraduate

Electronic Design Competition, the instructors should take the cultivation of professional talents with solid theory and outstanding ability as the guidance, take the competition as the bridge, carry out practical teaching activities with the teaching mode of "Promoting Learning by Competition", and realize their teaching purposes. In the end, no matter what kind of teaching mode, the most important thing is the students themselves. Students should make good use of their own advantages, so as to effectively deal with the relationship between themselves and the teaching mode of "Promoting Learning by Competition". The vertical subdivision mode solves possible problems very well, and effectively avoids its side effects while giving play to the advantages of "Promoting Learning by Competition".

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