

# Research on student training mode under the background of "double first-class" construction

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**Abstract:** *In recent years, under the background of "double first-class" construction, with the rapid social development and economic growth, the demand for talents is also increasing. For schools, how to improve the comprehensive quality of students and cultivate talents in line with the needs of society has become an urgent problem to be solved. This paper will start from three kinds of student training modes under the background of "double first-class" construction, discuss the effect of this training mode on the improvement of students' comprehensive quality, and provide reference for the construction of "double first-class" universities.*

**Keywords:** *"double first-class"; knowledge competition; school-experimental base joint cultivation; school-enterprise joint cultivation*

## 1. Introduction

In August 2015, the Central leading Group for comprehensively deepening Reform examined and approved the "overall Plan for promoting the Construction of World-class Universities and first-class disciplines", making new arrangements for the key construction of higher education in the new period. Key construction projects such as "211 Project", "985 Project", "Innovation platform for advantageous disciplines" and "key discipline projects with characteristics" will be integrated into the construction of world-class universities and first-class disciplines. With regard to world-class universities, some scholars have summarized their commonness as "first-class disciplines, first-class teachers, excellent scientific research achievements and social service ability" from the analysis of the output and input factors of university organizations. there are also scholars who summarize their characteristics of the times or national personality from the aspects of "university development strategy, national construction needs, self-development history" and so on. Building a "double first-class" university is an important measure in China's higher education reform, which can not only improve the international competitiveness and scientific and technological innovation ability of China's higher education, but also promote educational equity and the development of regional economy <sup>[1]</sup>.

This paper puts forward a new student training mode under the background of "double-first-class" construction from three aspects: in-class knowledge competition teaching mode, school-experimental base joint training mode and school-enterprise joint training mode. Under the background of "double-first-class" construction, how to meet the new opportunities and challenges and how to train innovative talents to meet the development of the times will be urgent problems to be considered and solved in engineering colleges and universities.

## 2. The teaching mode of knowledge competition in class

### 2.1. Problems existing in traditional teaching mode.

There are some problems in the traditional teaching mode in universities, which mainly include the following points:

- (1) Lack of interaction and participation

The traditional teaching mode pays attention to the teacher's teaching to the students, the teacher is usually the leader of the learning process, the students only need to passively accept the teacher's knowledge teaching, lack of interaction and participation. This will lead to the reduction of students'

interest and enthusiasm, limit students' ability of autonomous learning and independent thinking, and it is difficult to stimulate students' creativity and thinking ability.

(2) Insufficient reserve of teachers' professional knowledge

At present, most of the teachers in colleges and universities in our country are master's and doctoral graduates, and the higher education that teachers receive during their study for master's and doctor's degrees is often in-depth education in a certain direction in the professional field, while the undergraduate teaching level often highlights the extensiveness of professional knowledge. As a result, the expansion of teachers' professional knowledge at the horizontal level is not enough [2].

(3) Lack of practical links

The traditional teaching mode pays attention to the teaching of theoretical knowledge and rarely arranges practical links. This makes it difficult for students to combine theoretical knowledge with practical application and to master practical application skills.

(4) Uneven educational resources

Under the traditional teaching mode, the distribution of educational resources is uneven, and some students lack sufficient educational resources and support, which leads to their backwardness in learning.

To sum up, the problems existing in the traditional teaching mode are mainly related to teaching methods, the allocation of educational resources and student participation, which need to be paid attention to and gradually improved. We should explore new teaching methods, pay attention to students' subjectivity and participation, and actively carry out practical teaching in order to improve students' innovative ability and application ability.

## **2.2. Teaching effect of knowledge contest in class**

(1) Pay attention to the cultivation of students' innovative ability and team spirit

In the in-class knowledge contest, various forms of competition can be adopted, such as group cooperation, problem solving and so on. At the same time, the scoring criteria of the competition also need to take into account students' innovative ability and team spirit. For example, introduce innovative problems or problems that need to be solved by teamwork in the competition, and cultivate students' innovative ability and team spirit through students' discussion and cooperation [3].

(2) Strengthen the requirements for the depth and breadth of students' knowledge

In the competition, a variety of topic types and areas of knowledge can be adopted to test students' ability to understand and apply knowledge points. In addition, open questions or practical problems can be introduced to cultivate students' practical ability and problem-solving ability through practice and exploration, so as to broaden the breadth and depth of students' knowledge.

(3) Pay attention to the cultivation of students' collective sense of honor and responsibility

In the competition, group competition or class competition can be introduced to stimulate students' collective sense of honor and responsibility through the reward and punishment of collective performance. At the same time, we can organize class or school-level competitions to cultivate students' sense of collective identity and honor, and improve students' sense of responsibility and mission.

## **3. The joint training mode of school and experimental base**

### **3.1. Theoretical basis**

The theoretical basis of the school-experimental base joint training model is mainly based on the following aspects [4]:

(1) Education and teaching theory. The implementation of the joint training model of school and experimental base needs the support of education and teaching theory. Modern educational theory advocates the teaching method of "student-centered, practice-based and problem-oriented". The school-experimental base joint training model is based on this theory, emphasizing practical and problem-oriented teaching methods.

(2) Practical teaching concept. The implementation of the joint training model of school and experimental base needs the support of the concept of practical teaching. The concept of practical teaching emphasizes the close combination of theoretical knowledge and practice, so that students can master knowledge and skills through practice. In the joint training mode of school and experimental base, the combination of school and experimental base can provide more practical opportunities for students to continuously improve their ability in practice.

(3) Spirit of cooperation. The implementation of the school-experimental base joint training model needs the support of the spirit of cooperation. The combination of the school and the experimental base needs to cooperate with each other to form a joint force to provide students with better education and training opportunities. At the same time, students also need to have a good spirit of cooperation in order to better meet the needs of the future society.

### **3.2. Lack of research**

Although the school-experimental base joint training model has achieved a lot of results, there are still some problems and challenges:

(1) Lack of resources. The school-experimental base joint training model needs a lot of resources, including laboratories, teachers, equipment and so on. However, the resources of some schools and experimental bases are not enough, so that the joint training model can not play a full role.

(2) It is difficult to cooperate. The cooperation between the school and the experimental base requires the cooperation and cooperation of both sides, but because of the background and cultural differences between the two sides, the cooperation is difficult and requires continuous investment of time and energy.

(3) It is difficult to supervise the quality. In the joint training mode of school and experimental base, schools and experimental bases have different educational concepts and management systems, so it is difficult to ensure the unity and supervision of educational quality.

### **3.3. Improvement scheme**

In view of the above problems and challenges, improvements can be made from the following aspects:

(1) Strengthen the integration of resources. Schools and experimental bases can strengthen the integration of resources, make full use of the resource advantages of both sides, and jointly promote the implementation of the joint training model.

(2) Strengthen cooperation and communication. Schools and experimental bases can strengthen cooperation and communication, enhance mutual trust and understanding, and improve the efficiency of cooperation.

(3) Establish a joint management mechanism. Establish a joint management mechanism and formulate relevant management regulations and standards for joint training to ensure the unity of the quality of education and the effectiveness of supervision.

(4) Strengthen the training of teachers. In order to ensure the educational quality of joint training, it is necessary to strengthen the training of teachers, improve their educational level and practical ability, and provide more professional and high-quality educational services for joint training.

(5) Strengthen the cultivation of students' ability. The purpose of the school-experimental base joint training model is to cultivate talents with practical ability and innovative spirit, so it is necessary to strengthen the cultivation of students' ability, including skills, teamwork, innovative thinking and so on. improve students' comprehensive quality and employment competitiveness.

### **3.4. Practical effect**

The practical effect of the school-experimental base joint training model has also been widely recognized. The following are the concrete manifestations of some practical effects:

(1) Improve students' practical ability. Through the combination of the school and the experimental base, students can be exposed to more practical opportunities. These practical opportunities can help students improve their practical ability and better meet the needs of the future society.

(2) Enhance the comprehensive quality of students. The school-experimental base joint training model can provide more educational resources and training opportunities, so that students' knowledge is more extensive, their ability is more comprehensive, and their comprehensive quality is effectively improved.

(3) Enhance the employment competitiveness of students. Through the implementation of the school-experimental base joint training model, students can constantly improve their skills and abilities in practice, and increase the competitiveness of employment. At the same time, the enterprises in the experimental base will also explore potential talents in the practice of students, which provides convenience for enterprises to introduce high-quality talents..

(4) Promote cooperation between schools and enterprises. The implementation of the joint training model of school-experimental base can promote the cooperation between schools and enterprises and realize the organic combination of education and industry. This partnership can enable schools to better understand the needs of the industry and provide enterprises with better talent training services. At the same time, it can also enable enterprises to better understand the educational concept and training direction of the school. to provide enterprises with more sources of talents [5].

#### **4. School-enterprise joint training model**

##### ***4.1. Theoretical basis***

The theoretical basis of the school-experimental base joint training model is mainly based on the following aspects:

The school-enterprise joint training mode is a teaching mode to train high-quality talents through the cooperation between schools and enterprises. This model is mainly through the cooperation between schools and enterprises to jointly plan and implement education and teaching plans, and at the same time provide internship and practical opportunities to help students improve their practical ability and enhance their competitiveness in employment.

The school-enterprise joint training model mainly achieves the teaching goal through the following aspects:

Educational resources sharing: schools and enterprises can share educational resources, jointly plan and implement education and teaching plans, and provide high-quality teaching resources and practical opportunities.

Practical teaching: the joint training model of schools and enterprises can provide students with more practical opportunities and help them improve their practical ability and employment competitiveness.

Employment guidance: enterprises can provide students with more employment guidance and employment opportunities to help them better integrate into society and realize their self-worth.

##### ***4.2. Implementation method***

(1) The joint formulation of teaching plans. Schools and enterprises should jointly formulate education and teaching plans, define training objectives and training plans, and determine the evaluation criteria of teaching quality. At the same time, the teaching content and practice links should be arranged reasonably according to the professional characteristics of students and the needs of enterprises, so as to ensure the teaching quality and students' practical ability.

(2) Sharing of teaching resources. Schools and enterprises should share teaching resources, establish partnerships, and jointly carry out teaching research and practical activities. Schools should actively look for enterprise resources and introduce high-quality teaching resources. At the same time, they should also share their advantage resources with enterprises in order to achieve resource optimization and sharing.

(3) The development of practical teaching. The core of the school-enterprise joint training model is practical teaching. Schools and enterprises should jointly formulate practical teaching plans, arrange practical teaching activities and provide internship opportunities. Schools should pay attention to the close combination of the content of practical teaching with the needs of enterprises, cultivate students' practical ability and provide students with more practical opportunities.

(4) Enterprise employment guidance. The goal of the school-enterprise joint training model is to provide students with more employment opportunities and employment guidance. Enterprises can provide students with internship opportunities and job recruitment information, provide students with career guidance and career planning, and help them better integrate into society.

(5) Guarantee of the quality of education. The implementation of the school-enterprise joint training model needs to ensure the quality of education. Schools and enterprises should jointly formulate evaluation standards for education and teaching quality, establish supervision mechanism and responsibility system, and ensure the effective guarantee of education and teaching quality.

#### **4.3. Research advantage**

The advantages of the school-enterprise joint training model are mainly reflected in the following aspects:

(1) Optimization of educational resources. The school-enterprise joint training model can optimize the allocation of educational resources, jointly carry out teaching activities, and improve the quality and level of education and teaching.

(2) Practical teaching is closer to reality. School-enterprise joint training model can provide students with more practical opportunities and practical environment to help students better adapt to the needs of the workplace.

(3) Enhance the competitiveness of students in employment. The school-enterprise joint training model can provide students with more employment opportunities and guidance, and enhance students' employment competitiveness and career development ability.

(4) Promote cooperation between schools and enterprises. The school-enterprise joint training model can promote the cooperation between schools and enterprises, establish a long-term partnership, and improve the level of communication and cooperation between schools and enterprises.

#### **4.4. Practical effect**

School-enterprise joint training model has been widely used at home and abroad. In China, some colleges and universities have established practice bases for school-enterprise cooperation and carried out practical teaching activities. For example, East China normal University cooperates with many enterprises in Shanghai to carry out teaching activities; Shanghai Jiaotong University cooperates with many well-known enterprises in Shanghai to carry out practical education on innovation and entrepreneurship; and Nanjing University of Technology cooperates with many enterprises in Jiangsu Province. set up a joint training laboratory between universities and enterprises, carry out practical teaching and scientific research activities, and so on.

In foreign countries, the "dual system" education model in Germany is a school-enterprise joint training model, where students can practice and train in enterprises to learn practical skills and knowledge. Some colleges and universities in the United States have also carried out school-enterprise cooperation to provide students with internships and employment opportunities.

In short, the school-enterprise joint training model is an effective teaching reform model, which can provide students with more practical opportunities and employment guidance, and enhance students' employment competitiveness and career development ability. At the same time, it can also promote school-enterprise cooperation, optimize the allocation of educational resources, and improve the quality and level of education and teaching. Therefore, we should actively promote and apply the school-enterprise joint training model to lay a solid foundation for the future development of students.

### **5. Conclusion**

Under the background of "double-first-class" construction, compound talents with high comprehensive quality are the necessary driving force for today's social development. this paper analyzes the student training mode under the background of "double-first-class" construction from three aspects: in-class knowledge competition, school-experimental base joint training and school-enterprise joint training. it is necessary to change the teaching method, improve students' practical ability, deepen the integration of industry, university and research, and strengthen the reform of student education. We will continue to promote the construction of a student training system adapted to the

country's high-quality development.

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