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Analysis on the Training of Compound and Applied Talents of "Electronic Information Plus" Based on "Three All-Round Education"

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Abstract: "Three All-Round Education" is a set of scientific educational concepts and methods that organically integrate the three dimensions of education subject, education time and education space in the new period. In order to cultivate socialist builders and successors who are well-developed in morality, intelligence, body, beauty and labor to meet the needs of the new era, the idea of educating people in full, in the whole process and in all directions has been explored and implemented on the basis of electronic information specialty in applied undergraduate colleges. And on the basis of "Three All-Round Education", this paper puts forward the construction idea of cultivating compound and applied talents of "Electronic Information Plus", which improves the connotation of talent training and improves the quality of applied skilled talents.

Keywords: Three All-Round Education; "Electronic Information Plus"; Compound Talents; Applied Talents.

1. Introduction

General Secretary Xi Jinping pointed out in the party's Report to the 20th CPC National Congress that "education, science and technology and talents are the basic and strategic support for building a socialist modern country in an all-round way". The trinity arrangement of education, science and technology and talents highlights the close relationship among them.

The Opinions of the Ministry of Education on Accelerating the Construction of High-level Undergraduate Education and Comprehensively Improving the Ability to Cultivate Talents (Jiaogao [2018] No.2) pointed out that "around the core point of comprehensively improving the ability to cultivate talent, we should accelerate the formation of a high-level talent training system and cultivate socialist builders and successors with all-round development of morality, intelligence, body, art and labor." This has clearly put "building a new cooperative education mechanism with all-round and deep integration in the whole process" into the work plan of talent training and education in colleges and universities.

The "Implementation Outline of the Project for Improving the Quality of Ideological and Political Work in Colleges and Universities" plans in detail the "Ten Education System", that is, training talents through curriculum, scientific research, practice, culture, network, psychology, management, service, funds and organizational construction. At the same time, Donggang Zhang, Director of the Department of Ideological and Political Work of the Ministry of Education, pointed out that efforts should be made to build an integrated education system. Thus, it can be seen that the "Three All-Round Education" system with all employees, the whole process and all directions plays an important role in cultivating socialist builders and successors with all-round development in morality, intelligence, physique, beauty and labor.

2. The Construction of Training System of Compound and Applied Talents of "Electronic Information Plus" Based on "Three All-Round Education"

Engineering colleges, especially information technology colleges, of application-oriented undergraduate colleges are different from liberal arts colleges. They are colleges and universities that train applied skilled talents, and cultivate high-quality talents with practical ability, innovative ability and sustainable development ability for the industry, emphasizing application and practicality. With the rapid development of the information age, the compound and applied talents of "Electronic Information Plus" have become the darling of the times and the hot spot of educational reform. Gao Yang et al. [4] put forward the training methods and measures of electronic informatics compound talents with interactive design of electronic products as the training goal, and achieved certain results. Jianhua Song and others [5] put forward the concept of cross-integrated lent training in five disciplines: information and communication engineering, electronic science and technology, optical engineering, computer science and technology and humanities and society, and constructed a multi-disciplinary cross-integrated talent training program. Based on the interdisciplinary talent training of digital agriculture, Tang You and others [6] put forward the teaching mode of "integration of enterprise and learning". Lingtao Wang et al. [7] put forward the idea of professional curriculum system construction under the background of new engineering specialty based on electronic information specialty. Wenzhao Zhang et al. [8] have built a training system for applied talents of electronic information oriented to the improvement of innovation ability.

In order to fully implement the educational policy of the Party and the country and fulfill the mission of educating people for the Party and the country, on the basis of summarizing and analyzing the existing literature, taking the

training of compound and applied talents of "Electronic Information Plus" in local applied undergraduate colleges as an example. this paper puts forward the educational idea of bringing "Three All-Round Education" into the construction of talent training system and explores the training mode of compound and applied talents of "Electronic Information Plus" based on "Three All-Round Education" in high-level application-oriented universities with local characteristics. The construction diagram of the training system of compound and applied talents of "electronic information plus" based on "three all-round education" is shown in Figure 1.

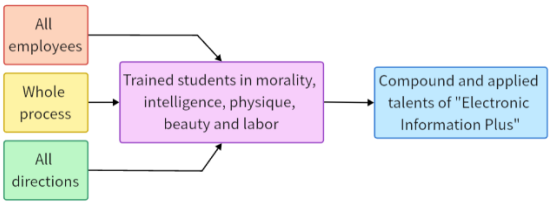


Figure 1. The Construction Diagram of Training System of Compound and Applied Talents of "Electronic Information Plus" Based on "Three All-Round Education"

2.1. The Whole Staff Will Jointly Cultivate Compound and Applied Talents of "Electronic Information Plus"

All-round education means mobilizing human resources including family, school, society and other aspects, forming a multi-joint force of education with all-round participation, all-round responsibility and all-round supervision centered on students' development [9,10], and building a closed-loop training model of family, school and society, so that all the staff can work together, perform their duties and do their best.

In the past educational philosophy, it is believed that the cultivation of students is a matter of school. The misunderstanding of parents is 'I gave my children to school', and even think that it is good to cultivate students' theoretical knowledge and practical ability. However, what the party and the country need are socialist builders and successors with all-round development of morality, intelligence, physique, beauty and labor, not just the talents with only theoretical knowledge and practical ability. Therefore, in the process of talent training, especially scientific and technological talents related to the long-term development of the country, such as the compound and applied talents of “Electronic Information Plus”, it is necessary for family education, school education and social education to go in the same direction, with the same frequency, to think in one place, to work hard in one place, to perform their respective duties and do their best, so as to truly realize the cultivation of socialist builders and successors who meet the needs of the party and the country in an all-round way. The framework of cultivating compound and applied talents of "Electronic Information Plus" by all staff is shown in Figure 2.

It is said in three-character primer that "the father should be blamed if the child is better fed than taught ". In the Han Dynasty, Ban Gu wrote, "the children and younger brothers will not strictly follow the instruction unless the father and elder brother set an example first." which shows the position of family education in children's education. Parents must set an example for their children and lead them to establish a correct world outlook, values and outlook on life in order to train compound and applied scientific and technological talents of "electronic information plus" that meet the needs of the party and the country. Just as Shakespeare said, "Life is short, and only virtue can spread it to distant generations."

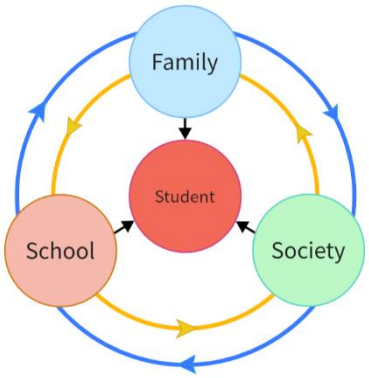


Figure 2. The Framework of Cultivating Compound and Applied Talents of "Electronic Information Plus" By All Staff

As far as the school is concerned, the school shoulders the mission of cultivating talents for the party and the country and is the cradle of talent training. Students are not only in contact with full-time teachers, but also with counselors and other administrative personnel. In order to cultivate high-level, high-quality electronic information and compound and applied scientific and technological talents that meet the needs of the party and the country, we must break the traditional thought that "talent training is the business of full-time teachers", and all school staff, including teachers (including interdisciplinary teachers), counselors, managers and enterprise personnel, must take action and actively join the talent training team to contribute to the delivery of high-quality talents with all-round development in morality, intelligence, physique and aesthetics.

First of all, full-time teachers should establish the idea of "taking student development as the center and cultivating people by virtue". In daily teaching, they should not only break the traditional education mode, pay attention to the combination of theory and practice, and advocate "learning by doing", but also set up interdisciplinary teachers to integrate electronic information into the applications of all walks of life, such as "electronic information +" smart agriculture, "electronic information +" education, "electronic information +" medicine, etc., so as to cultivate compound and applied scientific and technological talents with innovative ability. At the same time, full-time teachers should also pay attention to the ideological and political elements of professional courses, integrate ideological and political education into the classroom, and create a professional teaching classroom with ideological and political elements, so as to achieve the goal of cultivating compound talents with both ability and political integrity.

Secondly, a perfect management system should be established. Counselors and other managers should set an example in their daily study and life, strengthen students' ideological education and practical innovation ability, establish the idea that ideological education and practical ability should not be separated, encourage students to participate in social practice and innovative entrepreneurial activities, and form a multi-dimensional situation of cultivating students' practical ability, practical ability and innovative ability.

Society is the source of improving students' ability, which mainly includes several major elements such as party committees, governments, industries and enterprises. The

party committees and the government are decision-makers and the spiritual leaders. They support the growth of students and lead the students ' three views, which plays a decisive role in the cultivation of talents. Industry is the maker of standards, guiding students to climb the peak of science, which plays a guiding role in the cultivation of talents. Enterprises are practitioners of the use of talents, which reversely act on the formulation of teaching reform, curriculum construction and talent training direction in colleges and universities. In the whole training process of compound and applied talents of "Electronic Information Plus", universities, party committees, governments, industries and enterprises should form a four-way collaborative education system. Colleges and universities timely convey the spirit of the party and the country and the policies of the party Committee and the government; Industry and enterprise experts directly participate in the revision and formulation of training scheme of the compound and applied talents of "Electronic Information Plus", and guide students' practice.

As the main body of educating people, family, school and society are indispensable. Only by forming a strong closed-loop training force with the same direction, peers and the same frequency can we truly cultivate compound and applied talents of "Electronic Information Plus" that meet the needs of the party and the country.

2.2. Cultivating "Electronic Information Plus" Compound and Applied Talents in the Whole Process

All-process education emphasizes this period of university education. The overall awareness and overall plan should be established. Every day and every detail should be integrated into the idea and work of educating people, and the whole process of educating people should be carried out through various stages such as teaching, scientific research, competition, life, training and internship.

2.2.1. Establish a Teaching Mode Oriented By "Electronic Information +" Project

Under the "double-qualified" management system in the school, by perfecting the curriculum system of "project-oriented, working process as the main line and working standard as the requirement", students can understand why, how and what is the use of learning, thus stimulating their interest in learning. Students acquire knowledge, improve their abilities and cultivate their professional qualities through the study of the "Electronic Information Plus" project, thus promoting students' professional abilities and improving their employment rate.

2.2.2. Strengthening the Practical Innovation Ability of Electronic Information Students with Scientific Research as the Platform.

The charm of scientific research in educating people should be brought into full play. By participating in teachers' scientific research, students can cultivate their ability to apply theoretical knowledge to practice, and then reshape their theoretical ability through practice, so as to realize the collaborative education of science and education and Industry-University-Research. Ultimately, a group of high-quality "electronic information +" compound and applied talents with scientific research spirit, sustainable development and Excellence will be cultivated.

2.2.3. Cultivate Students' Comprehensive Quality by Competition.

Educating people by competition, that is, "subject competition + "is constructed to cultivate "electronic information +" compound and applied talents. The competitions include not only academic competitions, but also other competitions, such as speech competitions, debate competitions, sports competitions, calligraphy competitions, college students' cultural quality competitions and so on. Teachers encourage students and guide them to participate in corresponding competitions according to their specialties, interests and hobbies. In various forms of competitions, competition promotes practice, learning and teaching, which not only cultivates students' interest and cultivates students' sentiment, but also cultivates students' teamwork spirit, communication ability, communication ability, practical ability and innovation spirit in the process of competition, so that students can become high-quality and all-round developed compound and applied talents of "electronic information+".

2.2.4. Integrate Education into Students' Daily Life and Give Full Play to the Role of Education in Daily Life.

Education comes from life and is applied to life. We should not only educate students ideologically and politically in daily life, but also help them to establish a correct world outlook, outlook on life and values. Meanwhile, we should guide students to apply what they have learned to life, analyze the phenomena in life, stimulate students' thinking, help students learn to use what they have learned to solve various problems in life, and cultivate students' ability to find, analyze and solve problems in life education, so as to promote students to form good thinking habits and ways.

2.2.5. Cultivate the Application Ability and Innovation Ability of Electronic Information Students by Practice and Training.

The practical training and practice of students majoring in electronic information is an important stage for students to apply theoretical knowledge to practice. It is necessary to give full play to the role of enterprises in practice and training. In the practice and training stage, the school should combine enterprises to enrich the practice content, innovate the practice forms and expand the practice platform. At the same time, the laboratory should be opened to provide practice places for students, and a team of teachers composed of universities and enterprises should be arranged to give guidance. Through practice and training, the application ability and innovation ability of electronic information students can be cultivated.

By strengthening the whole process of educating people, we can ensure the healthy growth of compound and applied talents of "Electronic Information Plus".

2.3. Cultivating Compound and Applied Talents of "Electronic Information Plus" in All Directions.

All-round education [11] emphasizes the educational space. Adhering to the principle of "people-oriented" and "moral, intellectual, physical and artistic development", we will cultivate "electronic information +" compound and applied talents. With the development of the times, compound applied talents have become a shortage of talents in society. It has become an urgent need for all staff to train the compound and

applied scientific and technological talents of "electronic information plus" with all-round development of morality, intelligence, physique and aesthetics.

2.3.1. Grasp The " Two Courses " and Integrate Ideological and Political Education into the Cultivation of Compound Talents.

There are two classes: in-class and out-of-class, and out-of-class is usually called the second class. The classroom teaching is the main place for students to master knowledge, but the educational function of the second classroom cannot be ignored. To cultivate "electronic information +" compound talents with all-round development in morality, intelligence, physique, beauty and labor, it is necessary to "Grass both in-class and out-of-class at the same time and attach sufficient importance to both". So, we should pay attention to the classroom teaching and at the same time strengthen the second classroom. Through classroom teaching, theoretical knowledge is imparted, and through extracurricular competitions, social practice and extracurricular activities, students can apply theory to guide practice, and constantly improve their cognition and ideological realm in practice.

2.3.2. Make Full Use of Various Educational Carriers for Multi-Dimensional Education

Students' comprehensive quality is cultivated through the students ' comprehensive evaluation, scholarship evaluation, poor students funding, work-study, student organization construction and management, campus culture construction, study style construction, honesty education, social practice and other activities. Simultaneously, according to the school-running characteristics of engineering colleges, unique educational carriers should be established, such as the establishment of electronic science and technology clubs. In the electronic science and technology club, under the guidance of the instructor, the activities of electronic products, compulsory maintenance of household appliances, three to the countryside, and so on are carried out in the way of teaching and helping, which consolidates the theoretical knowledge and enhances the students ' awareness of serving the society.

2.3.3. Fully Mobilize Family, School, Society and Other Resources to Carry Out All-Round Education.

Talents cultivation is the result of the interaction of family, school and society. Schools should establish a long-term communication system with parents through class teachers and counselors in the process of talent training, so that parents can participate in the training of children. Meanwhile, society is the way for students to return home. Schools should link social resources, let students participate in various social activities, such as going to the countryside, voluntary maintenance activities, public welfare activities, etc., so as to let students get in touch with and adapt to society, thus cultivating students' character of integration of knowledge and practice and their ability to adapt to society.

3. The Training Practice of Compound and Applied Talents of "Electronic Information Plus " Based on " Three All-Round Education "

In the past ten years, through the implementation of the " electronic information + " compound and applied talent training mode based on " Three All-Round Education", students ' moral, intellectual, physical, aesthetic and labor aspects have made obvious progress, especially students ' scientific research ability, practical ability, teamwork spirit and social service consciousness have been greatly improved, which highlights the effectiveness of "Three All-Round Education".

According to statistics, nearly 150 students participated in teachers' research projects. Nearly 90 students and teachers jointly applied for patents, and were granted 8 patents for inventions, 52 patents for utility model and 4 patents for software copyright; 25 papers were published by teachers and students. Students won 5 first prizes at the national level, 18 second prizes, 31 third prizes, 35 first prizes at the autonomous region level, 87 second prizes, 132 third prizes at the university level and many prizes at the university level. More than 1,500 students participated in the discipline competition. More than 800 students participated in the declaration of various innovation and entrepreneurship projects at all levels, and 58 projects were approved, including 17 at the national level and 41 at the autonomous region level; The voluntary maintenance activities of household appliances and the activities of "going to the countryside" participated by students have won unanimous praise from the society. Scientific research projects, patent applications, academic competitions, and innovation and entrepreneurship projects have fully integrated the fields of intelligent agriculture, Internet of Things, intelligent fishery, intelligent firefighting, humanities, etc., laying a good foundation for conveying compound and applied talents of 'electronic information plus's to the society.

4. Conclusion

The cultivation of "electronic information +" compound and applied talents is a full-staff, whole-process and all-round educational process. The "Three All-Round Education" is not carried out step by step, but is promoted integrally and synchronously. All-round education runs through the whole process of educating people in full action, and all-round education runs through the whole process of educating people in full action. They are inseparable and interact with each other. Without all-rounder and all-round education in the whole education process, good training results will not be achieved. The cultivation of "electronic information plus" compound and applied talents should adhere to the principle of integrating theory with practice, and build a collaborative education system among universities, party committees, governments, industries and enterprises. Only through the scientific education ideas and methods of educating students all over, all the way and all directions can we really cultivate high-quality "electronic information+" compound and applied talents that meet the needs of the party and the country.

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