An Analysis of the Way to Cultivate Outstanding Talents of Electronic Information and Communication Engineering Specialty in the Future

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Abstract. In the process of training excellent talents in electronic information and communication engineering, we must fully consider the key point of facing the future, oriented towards the future, and formulating advanced cultivation in talents training goals, programs, curriculum systems, teaching methods, etc. And combined with the actual development process and trend of electronic information and communication engineering, we truly train excellent talents in electronic information and communication engineering. This paper makes in-depth analysis and research on the future-oriented training approaches for outstanding talents in electronic information and communication engineering and puts forward scientific and reasonable suggestions in combination with the actual situation, which plays a positive role in strengthening the human resources in the field of electronic information and communication engineering in China and promoting social and economic development.

Introduction

In the process of social development, science and technology have always been the primary productive forces that promote social and economic development and progress, where the development and application of electronic information and communication engineering have played a vital role. And it has great potential for participating more deeply and playing a key role in the process of social and economic development in the future. And becoming one of the key factors affecting social and economic development. Facing the future, in the process of promoting the sustainable development of our country's social economy, it is bound to be inseparable from the support of the electronic information and communication engineering industry and even has an important strategic position in the process of future social and economic development and construction. Judging from the current development of electronic information and communication engineering, it plays a vital role in the fields of information globalization, distance education and medical treatment, modern industry and national defense, e-government, commerce, and agriculture. It is not difficult to see from this that the core of modern social and economic development is gradually shifting towards the electronic information and communication engineering industry. Especially with the rapid development of technologies such as big data, 5 G, Internet, and Internet of things, the deep integration of interdisciplinarity and the rapid development of technologies, science, and technology has shown an obvious trend of comprehensive development. Under such circumstances, it is more difficult to train professionals in electronic information and communication engineering. Facing the future development, how to effectively train excellent talents in electronic information and communication engineering has become a major issue that the education circle needs to think deeply.

The Orientation of Colleges and Universities to Cultivate Outstanding Talents

At present, China's rapid socioeconomic development has continuously expanded the demand for talents and deepened the educational reform. Under such circumstances, major universities have put
forward a series of reform measures to train outstanding talents that meet the requirements of socioeconomic development. For the cultivation of outstanding talents, all colleges and universities have put forward corresponding cultivation requirements in combination with the actual situation. Although the overall cultivation requirements of talents in all colleges and universities are slightly different, on the whole, the current actual situation of China's social and economic development has new requirements for talents, the overall cultivation framework of outstanding talents is generally comprehensive, research-oriented and international. Some of them have put forward the goal of building an internationally renowned high-level research university so that colleges and universities can truly become leaders in training professional talents and effectively promote the sustainable development of higher education in modern society. All in all, in the current social and economic environment, the development, the construction of education and teaching in colleges and universities is mainly aim at cultivating outstanding talents[1].

For the understanding of "excellence", many colleges and universities believe that "excellence" is a state while pursuing excellence is a spirit. To cultivate outstanding talents effectively, we should not only fully develop the spirit of excellence, but also fully grasp the correct method of pursuing excellence, which means we need to look at various problems existing in the current process of China's social and economic development and construction from a critical, dialectical and innovative perspective. Outstanding talents should have a strong sense of social responsibility and take building socialism with Chinese characteristics and realizing the great rejuvenation of the Chinese nation as their responsibility, to make full use of innovative theories and technologies to solve current social problems and promote the real sustainable development of China's social economy.

**Future-oriented Training Approaches for Outstanding Talents in Electronic Information and Communication Engineering**

To train outstanding talents in electronic information and communication engineering for the future, we must first scientifically establish the training objectives. A clear training goal is an important prerequisite for the effective training of outstanding talents. The scientific establishment of training objectives can indicate the training director for the future training of outstanding talents in electronic information and communication engineering and lay an important foundation for the formulation of corresponding training plans. In the education of electronic information and communication engineering specialty, the main training goal for the professional talents is to face the industry and the future, but also to face the world to train professional and outstanding talents in electronic information and communication engineering [2]. In the process of training professional and outstanding talents in electronic information and communication engineering, students of this major are not only required to have a firm and firm grasp of basic knowledge of electronic information and communication engineering, but also to have strong analysis ability, be able to scientifically and reasonably analyze signals and information systems such as communication electronic circuits, embedded systems, etc., and on this basis, strengthen the effective cultivation of electronic information circuit and system design ability and engineering practice ability. Through practical training, we can continuously improve the practical operation level of our professional skills, so that we can make full use of the professional knowledge and skills of electronic information in the process of practice and play a positive role in the development and construction of electronic information engineering. At the same time, we should effectively cultivate students' professional standards, professionalism, social responsibility, and other aspects of literacy, and promote the trinity development of students' knowledge, ability, and personality, so as to truly grow into elite talents leading the sustainable development of the social economy.

The future-oriented training of outstanding talents in electronic information and communication engineering must scientifically set up the curriculum system, take professional core courses as the foundation, and combine with professionally related courses. While training professional talents in electronic information and communication engineering with solid professional knowledge and skills, it is also necessary to effectively cultivate their comprehensive qualities to make them grow into a
professional, compound and practical talents, become real elites in the industry and promote the continuous deepening development and wide application of electronic information and communication engineering in the process of social and economic development and construction.

**Future-oriented Training Practice of Outstanding Talents in Electronic Information and Communication Engineering**

**Construction of Innovative Laboratory**

During the period of training outstanding talents for the future electronic information and communication engineering major, it is necessary to build an open innovation laboratory, especially for undergraduates, with teachers' guidance and sufficient facilities, including IT basic equipment, experimental equipment, office equipment, and tools, etc. And set up competition activities with the theme of "Expertise + hardware development and design", for example, China institute of communications is organizing the 2020 "Deep Tang Cup", 5 G Technology and Application Contest, for College Students, which is a technology contest in the fields of mobile communication, big data and Internet of Things, combining academic and engineering activities, whose aim is to stimulate students' enthusiasm for innovation, enhance their learning and practical ability in 5 G technology, strengthen the training of engineering and technical talents in colleges and universities, promote the reform and innovation of teaching content and teaching methods based on "New Engineering" and accelerate the transformation of 5 G related technological achievements. Participating in technical theory competition, engineering equipment practice competition and application innovation competition, through this kind of practicing teaching method, it is effective to highlight the innovation of hardware in the laboratory and practice's characteristics, which lays a good foundation for theoretical study and practice platform for cultivating undergraduates' theoretical level and practice ability [5].

**Construction of Undergraduate Tutor Mechanism**

Facing the future, in the process of teaching and training of electronic information and communication engineering with the standard of excellent talents, we must give full play to the role of instructors. Through the construction of a perfect mechanism of undergraduate instructors, we can effectively strengthen the communication between instructors and undergraduates and promote effective interaction, thus significantly increasing the mentoring role of instructors and promoting the effective improvement of undergraduate professional theoretical knowledge and practical skills. At the same time, it can also effectively cultivate undergraduates' innovative consciousness and ability, so that their innovative practical ability can be effectively strengthened and improved.

In addition, the construction of a perfect mechanism for undergraduate tutors can make full use of the role of tutors in the process of training outstanding talents, urge tutors to effectively perform their duties, guide students to divergent thinking, think deeply, and actively explore deeper knowledge areas, when answer questions and solve doubts for undergraduate students, they can also effectively cultivate and improve students' thinking ability, promote their overall development of comprehensive literacy, and promote the development of applied undergraduate teaching.

**Strengthen International Exchanges**

As far as the current development of electronic information and communication engineering is concerned, the developed countries are relatively more mature in terms of the level of electronic information and communication engineering, leading China in some fields. Based on that, by sending undergraduates to develop abroad and carrying out a systematic study or technical exchange in-process study, the mastery level of professional knowledge and skills of students majoring in electronic information and communication engineering can be effectively improved. Meanwhile, their professional thinking can be effectively expanded, so that the students majoring in electronic information and communication engineering can master relevant professional knowledge and practical ability, and look at the future development problems of electronic information and
communication engineering in an advanced view. Furthermore, it will play a more important role in
the development and construction of related fields and provide important human resources and
knowledge and technical support to promote the development and progress of China's socialist
modern society. Therefore, students should be actively encouraged to go abroad for professional
exchanges, to enhance their understanding of the professional knowledge and skills, improve their
professional level and promote their professional growth, which can play an extremely important
role in promoting the cultivation of future-oriented talents in electronic information and
communication engineering.

Strengthen the Construction of Teaching Courses in Professional Fields
According to the training objectives of outstanding talents, the teaching courses to be taught
specifically and in detail. Including class hours, course categories, etc, and it is required that courses
cannot be replaced by lectures or graduation designs. Thus effectively improving the teaching
quality of undergraduate courses and optimizing the teaching effect. Under the guidance of
professors in their professional fields, undergraduate students can actively and effectively improve
their professional knowledge and technology level. It also promotes the all-round development of
the students’ comprehensive qualities, and truly grow into future-oriented talents in electronic
information and communication engineering, playing a positive role in the future development and
construction of social economy [4].

Strengthen the Organic Combination of Scientific Research and Teaching
It’s hard to separate scientific research and teaching. With the help of scientific research, the quality
of education and teaching in colleges and universities can be effectively improved. And the training
effect for outstanding talents can be strengthened. Through education and teaching, we can lay an
important academic foundation for scientific research and train outstanding scientific research
talents. It shows that scientific research and teaching are inseparable and must be organically
combined to complement and promote each other. This is of vital importance to the development
and progress of electronic information and communication engineering in our country.

In the future-oriented training of outstanding talents in electronic information and communication
engineering, we should also make full use of the support of significant scientists to effectively serve
the teaching work. Thus significantly strengthening the training effect of outstanding talents. Through the use of a mentoring mechanism that the laboratory is open to senior students so that
senior students have the opportunity to enter the laboratory for practical operation and participate in
scientific research projects in person. And it will effectively strengthen the practical teaching effect.
Training and exercising the practical operation skills of electronic information and communication
engineering professionals will effectively improve the practical literacy level of talents, achieving
the goal of fostering outstanding talents, making them truly grow into elites in the electronic
information and communication engineering industry and contribute knowledge and technical
strength actively to develop this field and unleash their value.

Optimize the Teaching Mode of the Course
In order to effectively train future-oriented talents in electronic information and communication
engineering, optimizing the teaching mode is an essential and important measure. To effectively
optimize the teaching mode of the course, apart from offering new courses in electronic information
and communication technology, well-known scholars, senior technical engineers, and relevant
leaders of industry competition groups in the field of electronic information and communication
engineering should also be invited to give relevant lectures to introduce students to the development
of this field, including the research progress and application of new technologies, etc. To enable
students to fully understand the latest developments in the development of electronic information
and communication engineering industry, and to promote the updating of students' knowledge and
technology, it is extremely important to improve the level of knowledge and technology of students
of this major and their professional ability and accomplishment.
In addition, to effectively cultivate future-oriented talents in electronic information and communication engineering, we can also adopt the teaching mode of a small class. Through the application of diversified teaching modes such as small class discussion and video teaching, we can effectively realize the comprehensive training of students majoring in electronic information and communication engineering, promote the continuous improvement of their theoretical and professional level. It also comprehensively develop their comprehensive qualities. At the same time, through the application of different mode assessments and evaluation methods evaluate the electronic information and communication engineering professional students’ professional growth and personal developments, scientifically reasonably objectively comprehensively and truly. And it also helps enhance the abilities effectively, and strengthen professional students weak links and constantly improve the level of specialization, so as to effectively realize the cultivation of outstanding talents [6].

Construction of Excellent Teaching Team and Excellent Courses
In order to cultivate future-oriented talents in electronic information and communication engineering, it is necessary to build an excellent teaching team, optimize the curriculum and build excellent courses. That is the necessary prerequisite and indispensable foundation for cultivating. Based on the training requirements of outstanding talents, the core courses of specialized courses should be constructed first, and then the outstanding teaching team should be constructed according to specialized courses. It should be noted that at least one excellent teaching team should be built for each major, which should include at least six core courses. In the light of training objectives and requirements of outstanding talents, it is necessary to effectively sort out the professional core courses. Reforming comprehensively the teaching methods, contents, and evaluation methods on the basis of the actual situation and objective requirements. It will significantly improve the teaching effect and truly realize the training of outstanding talents in electronic information and communication engineering for the future.

Training Collaborative Innovation Practical Talents
During the modern college teaching, to cultivate outstanding talents, we must make full use of electronic information technology to promote the trinity development of production, study, and research. At the same time, we should actively pay attention to the cutting-edge technologies in the development of the electronic information and communication industry. Besides, we should introduce advanced experiences and concepts to play an active role in promoting the development and progress of our electronic information and communication engineering. It also can strengthen international cooperation. In addition, it also benefits training future-oriented talents in electronic information and communication engineering. By promoting the international coordinated development of electronic information and communication engineering, it can produce an important exercise and training effect in training the practical and learning ability of the specialty. This is essential and key content for training future-oriented talents of electronic information and communication engineering specialty, and it is also an indispensable important quality for excellent talents [6].

Conclusion
In today's society, electronic information and communication engineering has become an indispensable important supporting force for social and economic developments and constructions. And it’s also the research direction of key science and technology related to the promotion of social and economic modernization. The rapid developments of electronic information and communication engineering have brought a profound impact on modern Socioeconomic and even play an extremely important role in promoting the future development of the social economy. Facing the future development, based on the significance of electronic information and communication engineering to the development and construction of social economy, we must vigorously cultivate outstanding talents of electronic information and communication engineering,
so as to ensure the human resources reserve for the modernization and construction of social economy. To sum up, in order to strengthen the training of outstanding talents in electronic information and communication engineering for the future and lay an important foundation for the sustainable development of our country's social economy, we must reform and innovate the training methods and techniques of outstanding talents from various aspects. We can truly train talents for the future, make talents have the advance of the times, and become an important force for guiding social and economic development.

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