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Exploration of Application Innovative Talent Training Methods from the Perspective of Informatization

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***Abstract*—Based on the background of informatization and combined with the requirements of innovative talent training in application-oriented undergraduate colleges, this paper explores how to combine information technology with talent training to provide assistance for talent training. On the basis of analyzing the current situation of application innovation talent training, the connotation, main problems and training goals of application innovation talents are explored. Then, starting from the role of information technology in the cultivation of innovative talents, explore the current innovative talent training methods and make suggestions.**

***Index Terms*—Application innovative talents; Cultivate; Informatization; Undergraduate colleges;**

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I. INTRODUCTION

The 21st century is an era of scientific and technological progress, knowledge innovation, and education reversal, and an era of knowledge economy driven by innovation to national development. In the new era, all walks of life urgently need a large number of application-oriented talents, and applied innovative talents, as an important subject of technological innovation in the process of national economic transformation, are an important part of establishing talent advantages in the future knowledge competition. Colleges and universities are important places for talent training, in the face of such a new era of rapid development, how to reshape the talent training system, cultivate the core ability and literacy of talents, adapt to scientific and technological innovation and social development, is a new challenge for the cultivation of innovative talents in higher education applications.

In October 2020, the World Economic Forum released the Future of Work Report 2020, which predicts that the core competencies that employers will value most in 2025 can be divided into two categories: soft power and cross-disciplinary expertise. Among them, the most important soft skills are 15, which are analytical thinking and innovation ability, active learning and learning strategy ability, complex problem solving ability, critical thinking and analysis ability, creative creativity and initiative ability, leadership and social influence, technology use, supervision and control ability, technology design and programming ability, positive thinking, pressure resistance and resilience, reasoning, sorting out problems and conceptual ability, emotion management ability, error detection and experience analysis ability, service-oriented ability. Systematic analysis and evaluation skills, persuasion and negotiation skills. At the top of the list are analytical thinking and innovation skills, complex problem solving skills, creative creativity and initiative skills. The 2020 Future Work Report points out the direction for the cultivation of future talents in various countries.

II. MEANING, PROBLEMS, AND GOAL

1. Meaning

Applied innovative talents refer to applied technical talents with innovative quality and innovation ability, which is the highest goal of application-oriented talent training. In terms of knowledge structure, it should have a three-dimensional knowledge structure, and on the basis of having certain basic knowledge of natural sciences, humanities, social sciences, innovation and entrepreneurship, it is also necessary to have a wide range of involvement and understanding of related disciplines. It should focus on learning the innovation theory, innovative method and innovative technology of the major. In terms of ability structure, it should have strong practical ability, keen observation, cross-field application of knowledge, strong research ability, technical solution expression ability, strong learning ability and other non-technical abilities. In terms of quality structure, on the basis of the quality of application-oriented talents, there should also be a tenacious will to bear hardships and stand hard work and resist pressure, a fearless spirit of daring to question and criticize, a strong sense of competition, innovation and the spirit of pioneering and innovation, and a sense of market and application.

2. The main problems

Since 2017, colleges and universities have actively promoted the construction of new engineering, deepened higher engineering education, reconstructed talent training goals and programs, reformed talent training models, and significantly improved the comprehensive quality of applied innovative talents, but there are still the following problems in the process of training applied innovative talents: unclear understanding of the connotation of applied innovative talents, insufficient training subjects of applied innovative talents, insufficient application ability and innovation ability of teachers, outdated teaching methods, insufficient training of application ability and practical spirit, Innovation and entrepreneurship education has failed to integrate organically with professional education, and cross-border integration and innovation ability cultivation are insufficient.

3. Training goals

The training goal of innovative talents in colleges and universities is to reflect the concept of talent training. Defining the training goals and being able to adhere to the correct direction in the follow-up talent training process is also the premise of ensuring the quality of talent training. The goal of innovative talent training is mainly composed of the following parts.

First, cultivate innovative talents with independent learning ability. Innovation is based on the ability of individuals to think independently, in the information age, more need to have independent learning ability and strong research ability of talents, in the face of the external rapidly changing information environment can maintain their own unique understanding, so as to grasp the focus of knowledge structure and development direction, form a higher level of understanding, establish independent learning, lifelong learning, personalized learning capabilities, to achieve self-sustainable development. Therefore, innovative talents must have the ability to think independently.

Second, cultivate innovative talents with advanced knowledge. Advanced learning not only requires a broad range of individual knowledge, but also a systematic integration and in-depth understanding of knowledge, and finally forms a profound and extensive knowledge structure system, which can integrate the knowledge of various disciplines. Innovative talents need to carry out in-depth professional research based on extensive knowledge and technology in order to make breakthroughs at the forefront of theory.

Third, cultivate innovative talents with strong comprehensive ability. Strong comprehensive ability is not

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only reflected in outstanding learning ability and innovation ability, but also has good performance in various aspects such as personal observation ability, integration ability, and communication ability. In the current context of informatization, traditional teaching methods have been impacted, teaching forms have also changed, and in this process, it is more necessary to grasp the changes of the times and conform to the trend of the development of the times. The creative thinking ability of learners can help individuals to learn selectively and innovatively, accurately and quickly select the required information in the face of the huge information network, properly process and apply the information, break the convention and reorganize the information, so that the new information can be comprehensively used. In the current Internet background, various information technologies and disciplines penetrate and integrate with each other, and learners need to establish their own creative thinking and provide direction for the development of their own innovation ability. [8] examined the development and refinement of possible mathematical models for the intellectual system of career guidance. Mathematical modeling of knowledge expression in the career guidance system, Combined method of eliminating uncertainties, Chris-Naylor method in the expert information system of career guidance, Shortliff and Buchanan model in the expert information system of career guidance and DempsterSchafer in the expert information system of career guidance method has been studied. The algorithms of the above methods have been developed. The set of hypotheses in the expert system is the basic structure of the system that determines the set of possible decisions of the expert system. This set, which is crucial in decision-making, should be sufficiently complete to describe all the possible consequences of situations that arise in the subject area. Therefore, it is important to improve the mathematical models of the intellectual system of career guidance. [9] discussed about specific Policy document which ensures of which the teaching, learning in addition to assessment methods are upwards to the amount of typically the course and are ideal to the attainment involving objectives and intended understanding outcomes of the program and the course. The particular policy requires that school members use recent in addition to variety of teaching, mastering methods and assessment methods. Higher Quality Accredited Institutions will continue to further more improve the standard involving teaching and learning via recognition, sharing and moving of good practices to be able to inspire the learners to be able to achieve their potentials throughout a multicultural environment in addition to in turn, improve accomplishment, retention and learners pleasure.

III. THE ROLE OF INFORMATION TECHNOLOGY

Cultivating innovative talents is a new requirement for talent training in the current social development. The development of information technology provides new ways and ways for talent training, meets the development needs of college students' innovation ability, and provides college students with richer information resources, broader vision, and more diversified platforms. The emergence of educational resource platform meets students' requirements for knowledge resource acquisition, which is conducive to cultivating independent learning ability and innovation ability. The role of information technology in the cultivation of innovative talents is mainly reflected in the following aspects.

4.1 Arouse interest

In the traditional teaching mode, teachers are the leaders of classroom teaching, and the way of teaching is used to provide knowledge to students, and the relationship between teachers and students is not close, and it is difficult to mobilize students' enthusiasm in the learning process, and it is difficult to establish a specific image of knowledge. The development of information technology can realize the connection between theoretical teaching and practical links, and at the same time, through rich teaching methods and teaching methods, the classroom teaching form is more diversified, so as to arouse students' interest in learning and better understand the knowledge learned. Under the background of informatization, modern multimedia technology and network technology are integrated into the teaching process as auxiliary tools, and the knowledge content is more vivid and intuitive by providing images, audio, video, 3D pictures, etc., so that students can have a more comprehensive understanding of knowledge in the learning process. This rich and interesting learning environment also provides students with a free learning space, which is conducive to the formation and development of students' creative thinking. At the same time, the wide application of rich and diverse information education technologies and methods in sex and teaching can greatly mobilize students' enthusiasm and initiative in learning, and stimulate students' interest in independent learning and problem solving.

4.2 Develop autonomy

In the context of informatization, the informatization of educational resources and educational means has been realized, and various educational resource platforms have provided students with more targeted learning modes. At present, various educational resource platforms can customize personalized learning content for students according to their independent learning situation, and provide students with personalized learning methods. Teaching on the information network platform breaks the limitations of time and space. Different from the traditional offline teaching method, online teaching pays more attention to the autonomy of learners themselves, from the original teachers mobilizing students' enthusiasm for learning to students learning independently and actively, students become the main body of learning, can conduct independent inquiry on the Internet, collect educational resources, and expand personal vision. The teacher has changed from a dominant position to a guide and a helper. The background of informatization provides students with mutual communication and collaborative learning methods, which can improve students' enthusiasm

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for learning to a certain extent and realize students' personalized development.

4.3 Provide learning styles

The application of information technology in the field of education can help students transform their learning styles. In the information network teaching platform, students can choose the corresponding learning content according to their personal needs and personal ability level, based on their likes, interests, and deficiencies, and in the process of learning plan formulation, they can arrange learning progress and learning methods according to their personal level and needs, which greatly improves students' learning ability and inquiry ability. The application of information technology makes students change from passive learning to active learning, and learning becomes a process of spontaneous exploration, in which students' sense of innovation and innovation ability are greatly improved.

4.4 Provide an educational environment

Educational information technology provides a variety of options for the educational environment. Through information network technology, it provides students with a broader platform and enables students to choose corresponding educational resources according to their own needs. Through the network, students can quickly understand the achievements of current academic development and provide basic information support for their scientific and technological innovation. The construction of online courses and online platforms can allow students to obtain teaching results and rich teaching resources directly through the information platform, and students can also communicate with others through the platform, providing a good environment for students to independently discover problems and conduct follow-up research. Under the background of the current development of information technology, a variety of teaching software has brought convenience to teachers, enriched the original traditional teaching forms, and provided a diversified educational environment for the cultivation of innovative talents in colleges and universities.

IV. CULTIVATION PATHWAY

Specifically, human resource development measures are the question of "what kind of people to cultivate" and "how to cultivate". For how to cultivate innovative talents, we can consider from many aspects: talent training content, talent training means, talent training system and talent training evaluation.

5.1 Achieve institutional innovation

The talent training system is the relevant regulations and procedures for talent training and the specific implementation system formulated by colleges and universities in combination with the current national talent needs, which is an important pre-mentioned guarantee for realizing talent training. The talent training system changes with the needs of the times and is constantly changing. Therefore, colleges and universities need to continuously combine the demand for talents in the current era and the country's needs for talents to realize the renewal of the talent training system. At the same time, teaching management and talent training are inseparable, and the reform and innovation of talent training system is also the promotion and development of teaching management in colleges and universities. Teaching management also needs to have advanced management concepts to help the talent training system. At present, there are problems of patterning and administration in the teaching management and teaching system of undergraduate colleges and universities in China, and it is necessary to accelerate the reform and innovation of the teaching management and talent training system of colleges and universities, and cultivate talents based on the needs of the times and society. In teaching management, the introduction of advanced information technology greatly improves management efficiency, facilitates teaching and teaching affairs management, and provides guarantee for the talent training system.

5.2 Provide cultivation methods

In traditional education, talent training is mainly realized through the form of classes, and the original talent training means are too single, and the effect of talent training is greatly limited. The impact of the current development of information technology on the way of talent training is mainly reflected in the reform of teaching methods and methods. Different from the traditional teaching form, at present, considering the individual differences of students in China, the classroom teaching of undergraduate colleges can respect the needs of talent development and provide personalized education to the greatest extent. The information network platform provides students with a relaxed learning environment, teachers create an independent learning environment for students by providing learning platforms and learning resources, students can independently choose learning courses, learning time, learning progress, learning location in the platform, obtain educational resources according to personal needs, raise questions based on personal doubts, and discuss with others, which greatly stimulates the creative and personalized development of learners. In addition, many colleges and universities can combine the current advanced education information methods to provide students with more intuitive and visual teaching.

5.3 Provide Teaching Resources

Although the current level of information technology development is high, and the online teaching mode has achieved certain results in the teaching process, at present, China's undergraduate colleges and universities still take offline teaching as the main form in the process of talent training, and the content of talent training is mainly based on professional courses. China's current curriculum system is mainly based on different majors for curriculum setting, through the credit system to achieve the diversified training of talents, the main learning content is professional courses, and the elective content is relatively small. Therefore, much of the knowledge that students are exposed to during their learning process remains specialized knowledge. Teachers should actively use information technology and network platforms to provide students with richer educational resources and ways to obtain resources. Based on the educational resource sharing platform, students can search

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for knowledge according to their personal interests and needs, and achieve a high degree of differentiation and integration between knowledge. With the help of online education, break through the limitation of traditional teaching to provide only single, professional knowledge. Guide students to acquire knowledge of multiple disciplines through the online platform to achieve the integration of in-class knowledge and extracurricular knowledge. The background of informatization provides integrated knowledge resources for talent training, integrates professional teaching with general education, and realizes the unity of breadth and depth of students' knowledge content. In addition, the cultivation of innovative talents not only requires a rich knowledge system, but also needs to grasp the development direction and development level of the times. Teachers should be good at providing students with diversified network platforms, providing students with rich resources inside and outside the school, including international current academic resources and educational resources, so that students can broaden their horizons, establish international awareness, and cultivate international competitiveness.

V. Conclusion

The development of knowledge economy and informatization has promoted the opening up of talent training, and universities, as an important base for talent training, shoulder the burden of ensuring the quality of innovative talent training. Based on the development background of education informatization, we need to combine the needs of national talents, realize the scientific and diversified training content, means, system and evaluation, establish a flexible teaching organization mechanism, put people first, and create a new situation in the cultivation of innovative talents with applied innovation.

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