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Constriction on the Teaching Mode in Application of Practical Talents Training in Environmental Monitoring Curriculum

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Abstract:
Based on the characteristics of environmental science, a new teaching mode in application of practical talents training in Environmental Science Curriculum teaching mode is proposed including the 3+1" talent training mode, online experiment teaching platform, diversified experimental teaching system, the entrepreneurship competition practice system，the service in coastal. It shows that the new teaching mode can effectively improve students' ability in comprehension, operation, experiment, innovation and practice. This is a beneficial exploration for achieving the target of cultivating students with professional skills and quality.
Keywords: Environmental Science; Teaching mode; Practical Talents Training

1 Introduction

Since 2010, the reform of practice teaching mode and the students' comprehensive quality are promoted constantly on the basis of the needs on environmental protection industry of talent as the goal and the training students' practice ability and innovation spirit as the emphasis. The projection of environmental science professional undergraduate is combined organically such as course experiment, independent innovation, skills, race, social practice, practice, organic combination, and so on.The practical skills and quality training plan for the innovative talents of environmental science specialty has been implemented fully, and a practical teaching system has been formed gradually which is helpful to the cultivation of innovative talents.

2 Based on the "3+1" as the talent training mode, the practical teaching framework has been which is conducive to the cultivation of outstanding talents in environmental science has been built

In order to strengthen the training of the students "ability of environmental science, enhance social adaptability of student , the system of cultivation of knowledge, the ability and the quality of environmental science students are designed in three aspects since 2010, which is focus on quality education, strengthen the cultivation of innovation and practical ability. The training mode of "outstanding talent 3+1" is established. In the first 3 years, the students should carry out professional theoretical study and professional experimental teaching and innovative project training in the school, so as to train the students' basic experimental skills, good scientific research quality, innovative thinking and innovative ability. In fourth years, the students should carry out professional training in scientific research base and science and technology enterprises, in onto to deepen the professional knowledge, exercise the ability of innovation and practice, improve the ability of communication, organization and coordination ability, communication ability, team cooperation consciousness, cultivate students' occupation spirit and occupation morality, innovation spirit and practice ability, at the same time to complete the graduation design (thesis).The framework is helpful to cultivate students' experimental skills, good scientific research quality and innovative practical ability.

3 Based on the school analysis and testing center, an experimental teaching platform integrating knowledge education and ability training has been built

Based on the analysis and test center school, three experimental teaching platform of the online teaching platform, teaching laboratory, science and technology innovation laboratory were established in environmental science experiment curriculum, and one of the experimental teaching platform was created in financial knowledge and ability training. Through the online teaching platform, the students should carry out experimental project preview, simulation training, online assessment, online booking, teacher-student interaction, and so on. The students should carry out independent experimental training to lay the foundation. Teaching laboratory will be open around the clock, through the online simulation teaching platform evaluation. By online booking, the students can carry out independent experimental teaching laboratory training, which can cultivate students' comprehensive ability of applying knowledge and experimental skills , expand the teaching space and enhance the autonomy of students' experimental learning.

4 Based on the high quality teaching resources, the diversified experimental curriculum teaching system adapted to the training of knowledge system and ability is constructed

For a long time, it has been focused on strengthening the construction of teaching quality in environmental science. It has built a professional brand, excellent course of environmental science, environmental monitoring and excellent environmental chemistry course in the university and a teaching team of a high ideological quality,

professional quality, fine potential, structure reasonably.At the same time, the leading role of Environmental Science brand professional has give full play. Based on these high-quality teaching resources, the core experimental course teaching system of Environmental Science specialty has constructed the knowledge system and ability training. According to the training objectives and teaching plan of environmental science, the specialty core experiment course in environmental science has formatted on the teaching system and students reflect the environmental knowledge of science curriculum system to improve the personality development by the training of students' knowledge, ability, quality and so on. It is composed finally "theory and course of convergence, and meet the students' ability training system and development; both interrelated and relatively independent," "integration, open" in practice teaching system from macro to micro, from the simple to the skills training and comprehensive ability from the foundation to the innovation, compose. It is includes the basic experiment (course) teaching system, improve the experiment teaching system (Curriculum) and innovative research (comprehensive experiment, course design, graduation practice teaching system) "etc..In order to cooperate with the reform of the experimental teaching system, the three-dimensional experimental teaching materials including bilingual experimental teaching materials and digital experimental teaching materials were compiled. At the same time, we should continue to deepen the teaching reform of experimental courses, vigorously promote the heuristic, inquiry, discussion, participatory teaching methods, and constantly improve the effect of experimental teaching.

5 Base on the cultivation of students' ability as the core, the practical teaching management and evaluation system which emphasizes both process management and objective management has been established

In order to ensure the effective operation of the research practice teaching system, it was developed a training program which is conducive to the growth of innovative talents, and designed the corresponding practical teaching plan and practical teaching syllabus. At the same time, it was increased from 25% of the total credits to 32% of the current in the core experimental teaching credit of environmental science, which is improved greatly the proportion of experimental teaching credits of Environmental Science major. It plays a very important role in Engineering design for cultivating students' comprehensive use of environmental science knowledge and computer technology to analyze the ability to solve practical problems, to cultivate students' innovation consciousness and practical ability, training students the spirit of unity and cooperation. To this end, we have opened the "environmental engineering curriculum design" course to strengthen the training of students' engineering design ability. It opens "device design of sewage treatment were village small sewage treatment station" in the curriculum of the "comprehensive experiment in environmental science" and the "skill training in environmental science ", which is improved the students' ability of designing, environmental science from "science" to " engineering " solid foundation. At the same time, it was promoted actively the full tutorial of environmental science majors monitorial system. The students began to participate in the second grade teacher in university learning guidance and innovation practice, not only improve the students' innovation spirit and practice ability, to cultivate students' scientific thinking ability, but also strengthen students' practice to consolidate the basic knowledge. We are Organize students to participate in social practice activities, participated in the Yan-cheng City CPPCC "conform to the masses expectations, work together to promote the safety of drinking water project" special research activities, in order to enhance the awareness of environmental protection, promote the concept of environmental protection, strengthen the professional learning, expand the horizons of students, improve the students' ability to adapt to society and strain capacity.

6 Base on entrepreneurship competition as the carrier, the practical service system for improving the comprehensive quality of students' entrepreneurship is established

The skills competition are attaches great importance in the "Challenge Cup", "Pu Cup", "Ann Eli Reith", which are cultivating students' innovative spirit, enhance the carrier function of their independent entrepreneurial, technological entrepreneurship, entrepreneurial team ability, strengthen competition organization and guidance. It was established a long-term mechanism of competition with "student business service system, high-quality teachers the team and the necessary funding" as the core. We has won 4 times in the National Collegiate Business Plan "Challenge Cup" competition gold medal, 2 times in the grand prize of Puxi Cup "environmental monitoring skills competition, and 1 times in the" Ann Eli Reith Cup "competition grand prize water treatment. The students have been enrolled to 985 universities and 211 universities, such as Xiamen University, Fudan University, East China University of Science and Technology, Soochow University, Nanjing Normal University, Jiangnan University and other universities.

7 On the basis of regional characteristics, a practical teaching platform for enhancing the application ability of Jiangsu coastal area has been formed

In order to adapt to the local economic and social development needs in Environmental Science, we set specially

the module direction ,such as pollution control and cleaner production, environmental impact assessment, environmental monitoring and so on. It was delivering innovative applied talents for Yancheng City environmental protection industry. With the Yancheng environmental protection science and technology city has become the only state-level industrialization demonstration base in Northern Jiangsu Province, and become one of the ten most competitive environmental protection industrial parks in china. In order to coordinate the development of students' participation in the Yancheng environment and economy, It has been jointly run with the yancheng environmental science and technology and engineering research institute of nanjing university. The staff of the chemical industry park enterprise waste water treatment plant (station, workshop) have been held many times. It were enhanced their professional skills, and promoted the healthy development of the park, closely related to regional economic reality, combined subject advantages and characteristics, enhanced the service of Jiangsu coastal development national strategy ability, trained a large number of promoting regional economic and social development for talents.

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