

Preschool Education Students in Higher Vocational Colleges under the Background of "Healthy China"

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Abstract: *The health of young children is the key to achieving a "Healthy China". As "quasi teachers" of preschool education in vocational colleges, their scientific care level directly affects the health level of young children. This paper expounds the connotation of scientific literacy, analyzes the importance of improving the scientific literacy of preschool education students, and gives some thoughts on improving the scientific literacy of preschool education students in higher vocational colleges based on teaching practice.*

Keywords: Healthy China; vocational school; Preschool education; Scientific literacy.

1. INTRODUCTION

Health is an important foundation for people's happiness, national prosperity, and social development, and it is the aspiration and pursuit of a better life for the people of the whole country. The report of the 19th National Congress emphasized the need to further implement the Healthy China strategy, and health has been elevated to an unprecedented level. Young children are the future of our country, and their health level is the key to achieving the Healthy China strategy. Vocational pre-school education students are the main force of future preschool teachers. Their scientific literacy level directly affects the scientific care level of children, has a significant impact on the health of the whole society, and plays an important role in the smooth implementation of the "Healthy China" strategy and the early realization of the "Chinese Dream".

According to the research results of scholars at home and abroad, scientific literacy should have four levels: rich natural science and cultural knowledge, and be able to solve practical problems in life; Being able to transfer scientific research methods and scientific thinking applications to various fields of life; Having strong operational ability, innovative ability, and the ability to apply scientific knowledge; Good at discovering problems, possessing scientific emotions, scientific spirit, and values.

2. THE IMPORTANCE OF IMPROVING SCIENTIFIC LITERACY OF PRESCHOOL EDUCATION STUDENTS IN HIGHER VOCATIONAL COLLEGES IN THE CONTEXT OF HEALTHY CHINA

The experiment was conducted for 3 separate days. The researcher selected 76 English majors in Henan University of Technology. All the participants in this study voluntarily took part in the experiment. The vocabulary test was administered during class hours in the classroom. The researcher then put the scores of the vocabulary test into the SPSS 16.0. After analyzing the results of the vocabulary test, the researcher chose 64 participants at last. Then all the 64 students were arranged to take part in the working memory capacity test. When subjects took the working memory capacity test, they were required to carefully read the instruction on the computer screen. This experiment was conducted during school hours in a computer room. Participants were used to the procedures before the experiment and they were told the scores had no relation to their final exam performances to relieve their anxiety in process of this test. They needed to analyze whether the sentence was true or false, and remembered the last word of each sentence at the same time. If they thought the sentence was true, they would click on the true icon. If they thought the sentence was wrong, they should click on the wrong icon. After that, the next sentence would appear immediately.

After the working memory capacity test, a pilot study was needed. Five participants were selected to take part in the pilot study, and the requirement was that these students' English language proficiency was of the similar level.

They were given 30 collocations including the target 10 collocations. This pilot study was to ensure that students didn't know the target collocations before they took the experiment. This study was conducted during normal class time. In order not to cause psychological anxiety of students, they were told that the results would not affect their scores of their final examination.

2.1 Early childhood science education is a need to promote the comprehensive development of young children

The purpose of quality education is to achieve the comprehensive development of the educated. According to Kant, The purpose of education is to achieve the full perfection that everyone can achieve. The development of comprehensive, free, sufficient, organic, and harmonious qualities is an ideal environment for human development, which can be described as healthy development. On the path to healthy human development, various inherent qualities and potentials need to be awakened and enlightened, and scientific literacy is one of them. To integrate science and humanities, neither scientism nor humanism can be the only one. Science and technology and humanistic literacy are like two wings of a bird. Only a person with harmonious unity, high humanistic literacy, and resolute scientific spirit can achieve comprehensive development. The harmonious development of humanistic literacy and scientific literacy is the standard of children's healthy development, and also the basis for their future healthy development.

2.2 Early childhood science education is a need to stimulate the potential of young children's scientific literacy

The need to stimulate the scientific potential of young children is also a demand for their own development. The role of education is not to cultivate all young children into technological talents, but to cultivate those with "scientific talents" according to the different personality characteristics of young children. This is not only conducive to social development, but also suitable for the development of young children themselves. In the process of cultivating scientific talents, scientific enlightenment in the early childhood education stage is quite important and the heavy responsibility of enlightenment.

We also need to rely on preschool teachers to take on the responsibility. The various experiences and scientific interests gained by young children in kindergarten science education are the driving force behind their lifelong pursuit of truth. A preschool teacher who is not familiar with scientific knowledge, does not know how to explore, and lacks scientific interest will be helpless in the face of preschool science education. At present, students majoring in preschool education in vocational colleges are the main force of preschool teachers. Therefore, their scientific literacy will play a decisive role. "Scientific seeds" are eager for the careful cultivation of preschool teachers with good scientific literacy. If colleges and universities cannot cultivate students' good scientific literacy, preschool science education will fail in the future.

2.3 Science education is the need for the professional development of the current preschool teacher team

Preschool children of appropriate age are the growth stage of curiosity and thirst for knowledge. Seizing the critical period of education, scientific enlightenment education is crucial. Only when preschool teachers have a scientific mind can they provide scientific enlightenment and education to young children. At the 5th Asia Pacific Forum on Media, Science, Technology and Social Development, a survey data released by China Women's College was shocking. Among the 484 preschool teachers and preschool education students interviewed, 2.3% and 3.2% had scientific literacy respectively, which is indeed a fact that cannot be ignored. Although in recent years, a series of incentive measures have been introduced by education authorities and various talent training institutions at all levels, the current situation of early childhood education still remains severe.

2.4 Preschool science education is the need to improve the scientific literacy of the whole people

The report of the 19th National Congress of the Communist Party of China pointed out that "firmly implementing the strategy of rejuvenating the country through science and education, the strategy of strengthening the country through talent, and the innovation driven development strategy" all of the above goals rely on the support of scientific and technological innovation talents. Building a scientific and technological innovation oriented country

requires the improvement of scientific literacy of all people. Strengthening science education for children is the basic way and the starting point for improving citizens' scientific literacy. Therefore, the cultivation of scientific and technological innovation talents should start from children, and it is particularly important to improve the scientific literacy of preschool teachers. Students majoring in preschool education are prospective preschool teachers. The pre service training of preschool teachers' scientific literacy is the main way and an important measure to provide scientific literacy for all.

At present, the preschool education professional curriculum plan still focuses on the cultivation of liberal arts knowledge and literary and artistic skills, while ignoring the education of scientific knowledge and scientific literacy, which leads to the imbalance of the current knowledge structure of preschool teachers. The weak scientific literacy of preschool teachers can be improved through in-service training, further education and other forms. The key issue that needs to be addressed is that vocational pre-school education majors should promptly revise their talent training plans, establish reasonable training goals, and set corresponding scientific courses. Whether it is pre-service learning or after-service training, both need to be carried out through systematic and reasonable curriculum settings. Improving the scientific literacy of preschool teachers is related to the integrity of children Facial development is also an inevitable requirement for the professional development of preschool teachers.

3. UNDER THE BACKGROUND OF HEALTHY CHINA, THE SCIENTIFIC LITERACY THAT VOCATIONAL PRE-SCHOOL EDUCATION STUDENTS SHOULD HAVE

As a prospective preschool teacher, children who are full of curiosity, eager to explore, but lack experience must have good scientific literacy. Digital manufacturing is the result of the integration of manufacturing technology, computer technology, network technology and management science. It is also the inevitable trend to realize digitization for manufacturing enterprises, manufacturing systems and production processes, mainly including design, control and management. The development of computer technology enables humans to use the extremely simple "0" and "1" coding technology for the first time to realize the coding and decoding of all sounds, words, images and data; making all kinds of information acquisition, processing, storage and transmission to achieve standardized and high-speed processing.

3.1 Early childhood scientific education knowledge

During the school learning stage, one should first actively understand the knowledge of natural and social sciences, absorb the cutting-edge achievements of modern technology, and master more relevant knowledge backgrounds in the design of science education activities. Secondly, it is necessary to master the basic knowledge and theories of scientific early childhood education methods, as well as the theoretical foundation of early childhood education majors. With the continuous development of digital manufacturing technology, it has become an important means to improve the competitiveness of enterprises and products. In recent years, the development of digital manufacturing technology has been accelerating, and digitization is to transform many complex and changeable information into measurable Numbers and data. Then, the appropriate digital model is established with these Numbers and data, which is transformed into a series of binary codes, introduced into the computer and processed uniformly[1-3]. This is the basic process of digitization. The main research contents of digital design and manufacture are as follows: Computer Aided Design, Computer Aided Engineering, Computer Aided Manufacture, Computer Aided Process Planning, Product Data Management, Enterprise Resource Planning, Reverse Engineering, Rapid Prototyping.

3.2 Early childhood scientific education ability

The basic abilities of early childhood science education mainly include observation ability, thinking ability, operational ability, creative ability, and the ability to collect and process information. Achieve proficiency in operation, inspection, and manufacturing in science education. Digital manufacturing is a manufacturing process based on the knowledge fusion of manufacturing process, which is characterized by digital modeling simulation and optimization. Analyze, plan and reorganize product information, process information and resource information according to user demands, realize product design and function simulation and prototype

manufacturing, and then quickly produce products that meet user requirements. The main content of digital manufacturing is CAD/VM/CAE product digital design technology and NC/CNC/DNC/FMS digital processing equipment. Digital manufacturing is the whole process of product design, process assembly, process control and final product, among which the most core, suitable for most domestic enterprises and easy to realize is the integration of CAD, CAPP and CAM. To realize CAD/CAPP/CAM integration, automatic programming of NC code is a key problem, which is a bridge between CAD and CAM. The numerical control code is generated directly from the result of product design, and transmitted to the CNC system of CNC equipment through network or other medium and interface, so as to directly control the numerical control machine for machining without intermediate drawings.

3.3 Young children's scientific design and guidance abilities

In the process of teaching practice, it is necessary to be good at capturing the needs of young children and be able to adjust the goals of activities according to their feedback at any time. In the selection of activity content and materials, it is necessary to prioritize the interests of young children or activity materials that can stimulate them to actively explore. The process of learning scientific knowledge should be transformed into a cognitive process of interest and needs for young children, so that they can be driven by curiosity to engage in scientific exploration activities. The second development of automatic programming should follow a series of principles, such as engineering, modularization, standardization and inheritance. The second development should be planned as a whole according to the idea of engineering, and the principles of modularization, standardization and inheritance should be adhered to. Engineering principle: Firstly, it defines and analyzes the problems to be solved in detail, and describes them exactly, determines the technical and functional goals of the software, writes the software requirements specification, and confirms the test plan and data requirements specification. Then, according to the requirements of the requirements specification, design the architecture of the corresponding software system, write the software outline design and detailed design specifications, database or data structure design specifications, and assemble the test plan, so as to guarantee the reliability, validity and maintainability of the software.

3.4 Scientific research ability in early childhood education

The ability of educational scientific research has an important guiding significance for the development of preschool education, is an inevitable requirement for the reform and development of preschool education, and is also the fundamental guarantee to improve the scientific literacy of preschool education students. It includes the collection of research materials, exploration of research methods, application of measurement tools and topic selection, and writing of papers. Modularization principle: Firstly, the software structure design should follow the principle of modularization, decompose the whole system into several sub-systems or modules, define the interface relationship between subsystems or modules, make each module function single, to keep the module relatively independent, parallel software development, modification and extension convenient. Modularization allows developers to design different modules at the same time, shortening the software development cycle.

4. WAYS TO IMPROVE SCIENTIFIC LITERACY OF PRESCHOOL EDUCATION MAJORS IN HIGHER VOCATIONAL EDUCATION IN THE CONTEXT OF HEALTHY CHINA

The robotic production line rapid conveying system is a device that utilizes the transmission of the robot arm and the conveyor belt to reduce the strength of the worker to some extent and improve the working conditions. For factory enterprises, it is an effective way to reduce costs, save resources, and improve efficiency more effectively. The automation of the production line can improve the precision and accuracy of the processing on the basis of fully improving production efficiency and reducing costs. In terms of safety, there will be a start - stop switch on the basis of the control cabinet, and there will be a corresponding emergency stop switch. When a danger occurs, or when the machine is malfunctioning, when the emergency stop button is pressed, the robot will Completely stop working. This also guarantees personal safety and product quality to a certain extent. This paper introduces the conveyor belt transported by the robot production line, as well as the basic functions of the control diagram and the working principle of the module control system. In the function above, the characteristics and advantages of the function are mainly introduced; according to the problems that the conveyor belt is prone to occur in real life, some problems are raised in the process of using the control cabinet, and the contents of the maintenance are also pointed

out, and the robot is also pointed out. The development direction of the conveyor system.

4.1 Stimulating students' interest in learning science related courses

In the process of cultivating scientific literacy of preschool education students in higher vocational colleges, we should pay attention to the basic nature of scientific knowledge, stimulate students' cognitive structure of science, grasp the growth point of knowledge, and promote students' internal drive for learning. The content of science education should be close to the content of students' life education, providing the premise and possibility for students to obtain true scientific knowledge and experience. Only by realizing that the content they are learning is the knowledge they must understand currently or in the future can students be motivated to actively explore, truly experience and comprehend the value of science, and be full of curiosity and thirst for knowledge about scientific problems in life. Therefore, teachers should diversify their teaching methods and forms. For example, in teaching, we can stimulate students' curiosity by creating situations; Through diligent thinking and questioning, students are guided to discover problems. By cleverly setting questions, students' desire for exploration is stimulated, enabling them to be good at questioning, researching, and exploring in their studies. And teachers should organize students to independently complete the process of discovering knowledge in a timely and moderate manner, allowing them to verify their own ideas and ultimately draw conclusions, so that students can experience the joy of success in the exploration process, and thus develop good habits of exploring science.

4.2 Strengthen education and teaching reform, integrate disciplines, and develop a curriculum system related to science

Pre service education of preschool teachers is an important way to improve their scientific literacy. In view of the current curriculum design of preschool education major in higher vocational education, we need to organize in-depth discussion, build a scientific curriculum system, develop a scientific training program, break professional boundaries, reflect cross disciplines, develop an innovative curriculum system of "theory+skills+practice", and improve the curriculum design of scientific education skills and the evaluation system of scientific literacy.

4.3 Conduct diversified scientific research activities and create a scientific atmosphere

The formation of scientific literacy needs a strong scientific atmosphere and educational environment, which can promote science in many ways and in many forms, so that a good scientific education environment can imperceptibly affect students' behavior and emotions, stimulate their interest in science and technology, and play the role of environmental education. One is to regularly organize various scientific and technological activities. For example, holding science and technology lectures, student science and technology knowledge competitions, science and technology production competitions, science and technology cultural exhibitions, etc. Let students feel the influence of scientific and cultural atmosphere, and promote the cultivation and continuous improvement of students' scientific literacy. The second is the close integration of theory and practice, such as using mathematical geometry knowledge to create various geometric bodies, using physics or chemical principles to innovate and design a small experiment, or creating teaching aids for children to play with. Third, encourage students to actively participate in social science popularization activities on weekends or in winter and summer vacations to publicize scientific knowledge, and go to the science and technology museum and science popularization report group as volunteers to act as interpreters, so as to encourage students to active learning science and technology related knowledge to make up for their own shortcomings and improve their scientific literacy level.

4.4 Strengthen learning awareness, expand learning channels, and establish a belief in lifelong learning

Students majoring in preschool education in vocational colleges are the future frontline teachers or managers of kindergartens. To focus on the professionalization of future preschool teachers, they must first determine their own learning goals, strengthen their awareness of learning and the concept of self-directed learning, continuously accumulate scientific education knowledge, pay attention to practical experience in scientific education, keep up with the times, constantly innovate, and establish a belief in lifelong learning.

5. THOUGHTS ON IMPROVING THE SCIENTIFIC LITERACY OF PRESCHOOL EDUCATION STUDENTS IN HIGHER VOCATIONAL COLLEGES IN THE CONTEXT OF HEALTHY CHINA

In recent years, many places have made a series of bold attempts and innovations in improving the scientific literacy of pre-school education students in higher vocational colleges, and have successively introduced some promotion measures and security systems. Although some achievements have been achieved in the implementation of the accumulation, there are still many gaps with expectations.

5.1 Team leadership of professional teachers is a prerequisite for improving scientific literacy

The promotion of scientific literacy does not depend on the single fight of science teachers, but on the formation of a learning community with pre-school professional teams and front-line kindergarten teachers. Disciplines cross penetrate and complement each other. The ultimate goal of early childhood science education is to enlighten science, enable young children to establish scientific values, and cultivate their innovative consciousness and spirit.

5.2 Cultivating hands-on exploration ability is the key way to improve scientific literacy

Early childhood science education is not about preaching from book to book, but about creating conditions for young children to actually participate in exploration activities, allowing them to experience the process and methods of scientific exploration, and the joy of discovery. This puts higher demands on early childhood teachers. For the cultivation of preschool education students, schools should build a multi-dimensional practical training platform, mobilize students' enthusiasm for hands-on work, and cultivate their ability to make scientific education for young children more practical and gamified.

5.3 Cultivating students' scientific emotions and values is the core purpose of improving scientific literacy

The core of scientific literacy is the emotional attitude and values towards science. Improving the scientific literacy of preschool education students not only enables them to obtain scientific knowledge and scientific skills, but also, more importantly, has scientific ideas, scientific methods and scientific spirit.

5.4 Establishing a scientific scientific literacy evaluation system is the indicator

Academic evaluation plays a guiding role in students' scientific learning. A scientific evaluation system guides students' development direction and sets goals for students majoring in preschool education. Evaluation is an important part of the talent cultivation process, and the lack of evaluation is equivalent to the lack of standards, which can easily deviate Objectives and evaluation criteria should fully consider the subjective initiative of the subject, be goal oriented, and focus on process development.

6. CONCLUSION

Children's health is the basis for realizing a healthy China. Scientific education is closely linked with children's health. Kindergarten is the main position of children's education. The key to the formation of children's scientific literacy lies in scientific basic education. The level of scientific literacy of preschool teachers plays a decisive role in children's scientific enlightenment education. Therefore, accelerating the curriculum reform of preschool education majors, optimizing the curriculum structure and talent cultivation plans are important topics for preschool normal colleges.

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