

# *Path of Preschool Education Personnel Training Under the Background of Big Data*

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**Abstract:** With the emergence of big data, the improvement of China's comprehensive national strength and the development of modern educational technology, the important position of preschool education in the education system has been widely valued by people, and our government has also incorporated the preschool education reform into the national medium and long-term education reform and development plan, which has promoted the rapid development of preschool education in China in recent years. Taking a Kindergarten Teachers College as a case, this paper designs the questionnaire and interview outline by using the methods of questionnaire and interview, and carries out the investigation and interview on the educational practice ability of the selected research objects. Aiming at the deficiency of the current students' educational practice ability, this paper analyzes the problems existing in the cultivation of the current preschool education majors' educational practice ability at the junior college level by combining with the survey data. In view of these problems, this paper puts forward some thoughts on the cultivation of the educational practice ability of the preschool education majors at the junior college level, including determining the scientific talent training objectives, optimizing the curriculum structure, and reforming the curriculum system Reform the teaching methods of teachers and improve the practice of education.

## 1. Introduction

With the progress of technology, people's physical labor, mental labor and intellectual labor are gradually replaced by artificial intelligence, labor skills are gradually developing in the direction of diversification, and innovation consciousness and ability are becoming more and more important. In the next 30 years, the technological revolution will evolve into a social revolution. What we need to think about in today's education is what kind of talents the future society needs. In the future, talents with more unique and personalized mission will be more popular and valuable. However, the actual

situation of pre-school education professional training is not ideal. It is urgent to think about how to cultivate talents in the field of pre-school education suitable for the future social needs under the background of big data.

Since the 1980s, people gradually began to realize that there is a serious separation between theory and practice in teacher education. As a result, many countries have begun the transformation and reform of the concept and system of teacher education. For example, the United States, the United Kingdom, Japan and other developed countries are carrying out new model exploration, highlighting practice as the core, and put forward "teacher professional development school", "school-based training", "teaching research" and other models respectively. At present, preschool teacher education in China is also developing from "knowledge model", "skill model" to "practice model". The lack of teaching practice ability is the quality that kindergarten teachers' graduates generally lack. Specifically, they are not good at analyzing the psychological motivation behind children's behavior through observation; they are not good at dealing with problems timely and effectively through good teacher child communication; they lack the ability to reflect and Research on children's teaching activities, and so on [1]. "In the current pre-school education personnel training, practice teaching, which is more important than theory, is a weak link." Therefore, from the perspective of the practical problems of pre-school education personnel training in secondary vocational schools, it is imperative to strengthen the pre-school professional practice teaching. In the existing research, a small part of the research is based on the national preschool education major or the preschool education major in a certain region [2]. Most of the studies take a school or an institution as a case study. The research on the cultivation of Applied Undergraduate pre-school education talents focuses on how to set up the curriculum of Applied Undergraduate pre-school education specialty. In the aspect of curriculum setting, taking a specific school as an example, the research is lack of wide application; there is less research on the cultivation goal of Applied Undergraduate pre-school education specialty, and there is lack of theoretical explanation on the cultivation goal of talents; there is little research on the cultivation goal of Applied Undergraduate pre-school education specialty the research on the training specifications of applied undergraduate is lack of systematicness, and the theoretical basis and practical basis are not studied; there are more researches on the arrangement of practical links, and the possibility of cooperative training between universities and preschool education institutions is explored in practice, and the cultivation of students' professional skills and practical ability is strengthened, such as "kindergarten school cooperation", "whole program" practice and "double teacher training" However, there is no in-depth exploration on the ideas and principles of practical link arrangement. This paper focuses on the four core issues of talent training mode, namely talent training objectives, talent training specifications and curriculum structure. In order to provide theoretical guidance for the specific practice of Application-oriented Undergraduate pre-school education talent training mode [3].

With the development of basic science and technology environment such as big data, Internet and cloud computing, the continuous expansion of the total amount of knowledge not only makes the existing knowledge and skills face upgrading, but also makes great changes in the structure of knowledge and skills that people need to master. In the future, no matter which industry, the cultivation of single knowledge and skill structure has been unable to meet the needs of the intelligent age, and it also goes against the development trend of education. In the face-to-face interviews with the relevant leaders and front-line teachers of the preschool education major in the same research school, the author found that there are many deficiencies in the current preschool education professional training, which is more contrary to the education background. The purpose of this paper is to analyze the changes of talent demand types and education concepts in the field of

preschool education under the background of smart education, explore the development direction of preschool education talent training in the future, and give reform suggestions on preschool education talent training in Vocational Colleges from the aspects of talent training objectives, curriculum organization, teaching methods and teaching evaluation.

## **2. Related Concepts**

### **2.1. Preschool Education**

Preschool education major refers to the discipline category formulated under the guidance of certain education policies to cultivate specialized talents engaged in preschool education and research to meet the needs of the development of China's socialist modernization. In our country, there are mainly secondary vocational colleges, higher vocational colleges, higher vocational undergraduate colleges and ordinary undergraduate colleges. The object of this study is defined as the preschool education major of secondary vocational colleges, and Xingtai modern vocational school is selected as a case. Students of this major mainly focus on learning comprehensive professional quality and professional knowledge, and they are front-line workers and practical skilled talents who can undertake the work of nursery education in preschool education institutions and related industries and have certain innovative research ability [4].

### **2.2. Personnel Training**

"Personnel training" refers to the process of education and training of talents, and the ultimate goal is to achieve the all-round development of morality, intelligence and physical education. "Talent" refers to such a kind of people, they must have certain professional knowledge, special skills, at the same time have a certain contribution to the society, are workers with high quality. "Cultivation" means to create suitable conditions for its growth and reproduction. Its original meaning is a biological term. The cultivation under the concept of education refers to the process that educators impart systematic scientific and cultural knowledge and skills to the educated according to certain social needs, so as to promote their physical and mental development [5]. Therefore, "personnel training" refers to making students become people with professional knowledge and skills through education. This process includes a series of necessary contents and links. It is necessary to determine the training objectives, prepare sufficient training contents to achieve the objectives, determine the training links and methods, supervise and inspect the training process, and evaluate the training results. In short, training is an activity of long-term corresponding education and training for the educated according to a certain goal [6].

### **2.3. Big Data + Teaching Related Concepts**

Big data + education refers to introducing big data thinking into education, taking big data as the carrier and gradually changing the form of education. Big data is also produced under the rapid development of science and technology, such as mobile TV, network and so on. They are different from traditional data. The form of big data is more novel and more in line with the development trend of this era. Its data collection is more convenient, the range of data recording is larger, and it has a broader development prospect [7]. Therefore, in the process of contemporary college students' education, there is a broader demand for big data. The education industry has high requirements for information collection. By using big data + education, the student is a kind of resource integration.

Only by achieving the sharing and timeliness of resources, can it really be called the effective integration of resources [8].

In today's education process, the use of big data is more and more extensive and in-depth. From the initial use of big data to record some information, now we can use big data to conduct in-depth exchanges and discussions on some educational issues, carry out questionnaire survey of views, intention research selection, etc. The role of big data in education is no longer a simple third-party media, but also an important tool for Education [9]. Educational experts have published their own views on education in the internet background under the "Internet plus education" teaching wisdom research. She believes that the biggest advantage of big data in education is the low cost of information recording, which does not require huge cost of paper, printing, transportation and so on. Relying on big data, it can provide the educational resources needed in a short time. Information is widely transmitted. In the process of education, schools should firmly grasp this advantage, use big data to record and analyze the information of the majority of students, process the education information that needs to be transmitted, and provide students with more abundant education resources, so as to promote the improvement of modern education level [10].

## 2.4. Related Formulas

(1) Mean square error

$$RMSE = \sqrt{\frac{\sum_{(u,i) \in T} (r_{ui} - r'_{ui})^2}{|T|}} \quad (1)$$

(2) Mean absolute error

$$MAE = \frac{\sum_{(u,i) \in T} |r_{ui} - r'_{ui}|}{T} \quad (2)$$

(3) Accuracy

$$Precision = \frac{\sum_{u \in U} |R(u) \cap T(u)|}{\sum_{u \in U} |R(u)|} \quad (3)$$

## 3. Investigation and Research on Preschool Education Personnel Training Under the Background of Big Data

### 3.1. Respondents

At present, preschool education in a kindergarten is divided into three-year system and five-year system. According to the characteristics of preschool education, and combined with the tasks, contents and requirements of preschool education in the new period in "professional standards" and "curriculum standards" issued by the Ministry of education, the training objectives of preschool education in a kindergarten are determined.

### 3.2. Investigation Methods

In order to fully understand the current situation of education practice ability training of preschool education students in a kindergarten, according to the education practice ability training objectives in professional standards, this paper designs a questionnaire, which includes two parts: basic information and education practice ability training survey. In order to ensure the accuracy of the survey results, nine authoritative experts in this field were consulted during the design of the questionnaire, including 6 professors and 3 associate professors. According to the opinions and suggestions put forward by experts, the initial questionnaire was finally formed. Finally, the validity of the initial questionnaire is tested. The test results show that the overall design and content design of the questionnaire are relatively perfect, which shows that the questionnaire has good validity. In order to test the reliability of the questionnaire, the method of test-retest reliability was used. The test-retest interval was 15 days. The similarity between the two tests was 83%. Spearman index  $R = 0.842$ ,  $P < 0.01$ , which indicated that the designed questionnaire had good reliability and could well evaluate the cultivation of educational practice ability of preschool education majors at professional level.

## 4. Investigation Results and Analysis

### 4.1. Investigation on the Dominant Mode of Classroom Teaching Content

Through the investigation on the dominant way of classroom teaching content in a kindergarten, it is found that 65.96% of preschool education teachers' classroom teaching content is dominated by teaching materials, 21.28% by cultivating students' ability, and 12.77% by examination or vocational certificate, as shown in Figure 1. According to the survey, there are still 21.28% of teachers whose teaching content design is based on the cultivation of students' ability, and they are committed to providing students' educational practice ability through classroom teaching, so as to combine theory with practice, realize the effective combination of teaching, learning and application, and effectively promote the improvement of students' educational practice ability.

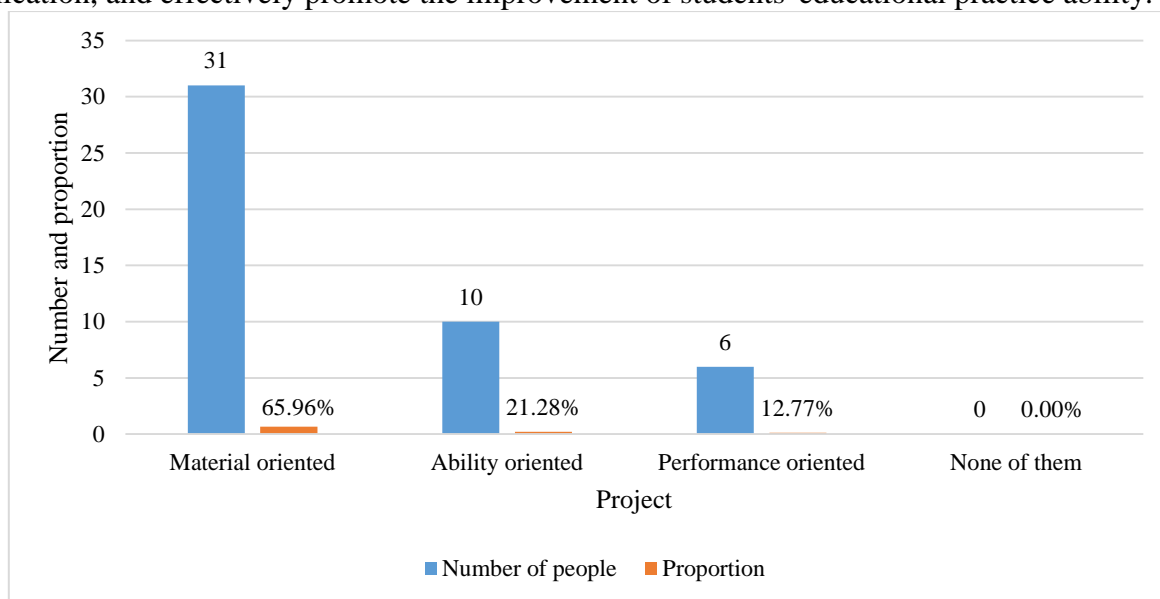


Figure 1. The dominant approach to classroom teaching content

#### 4.2. Investigation on the Rationality of Educational Practice Curriculum

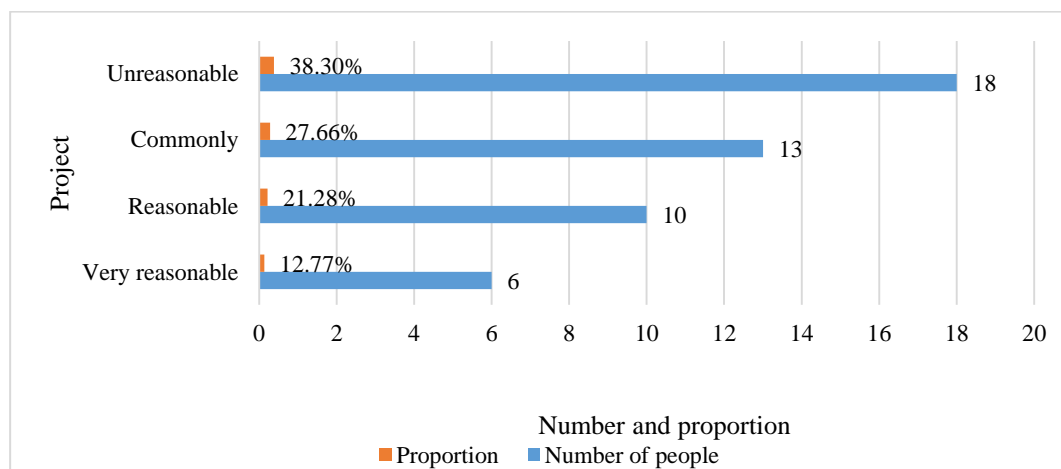


Figure 2. Rationality of educational practice curriculum

Educational practice courses are mainly carried out through the school training center, off campus practice and off campus training base. There are a few double qualified teachers in the teaching of practice courses. From the content of practice and training, it mainly focuses on children's observation, early childhood care and education. In addition, some kindergarten teachers will be invited to carry out teaching in the specific education practice course.

As shown in Figure 2, 12.77% of the teachers think that the educational practice curriculum arrangement of preschool education major in H kindergarten is very reasonable, 21.28% think it is reasonable, 27.66% think it is average, and 38.30% think it is unreasonable. The data shows that most teachers in a kindergarten still think that the current curriculum of educational practice is unreasonable and needs to be improved.

Table 1. Reasons for finding unreasonable

Practical Courses	Quantity	Proportion
Too much emphasis on theory	17	94.44%
Less practical content	14	77.78%
Too few hours	17	94.44%
Content does not meet requirements	13	72.22%
Others	1	5.56%

As shown in Table 1, the reasons for the unreasonable arrangement of educational practice curriculum are investigated. The main reasons are that the current school attaches importance to theory and ignores practice (94.44%), the number of hours of educational practice curriculum is less (94.44%), the content of educational practice curriculum is less (77.78%), and the content of educational practice does not meet the needs of Kindergarten (72.22%). The results show that there are too many theoretical courses and too few practical activities in H kindergarten, which fully exposes the problems in the arrangement of educational practice courses in H kindergarten.

#### 4.3. Investigation on Academic Practice of Preschool Education Major

Through the questionnaire survey, we have a deep understanding of the reasons why students' practice in the kindergarten of the practice base is not strong in improving students' educational

practice ability. It mainly focuses on the following aspects: the cooperation degree of the practice base is not high (75.68%), the practice guidance work is not in place (64.86%), the practice target positioning is fuzzy (56.75%), the students' own practical ability is insufficient (45.95%), and the students' lack of understanding of the practice (32.43%), as shown in Table 2. The investigation from these aspects also deeply reflects that there are some problems in carrying out practical activities, such as fuzzy orientation of practice objectives, low cooperation degree of practice base, inadequate practice guidance, students' insufficient understanding of practice, and students' weak practical ability.

*Table 2. Investigation on the causes of unsatisfactory improvement of students' practical ability in practice base*

Causes of unsatisfactory results	Quantity	Proportion
Objective of Practice	21	56.76%
Practice base cooperation is not high	28	75.68%
Practice guidance not available	24	64.86%
Lack of awareness of practice	12	32.43%
Its own practical ability is not	17	45.95%
Others	5	13.51%

#### 4.4. Countermeasure Analysis

(1) Determine the idea of talent training focusing on the cultivation of educational practice ability

The goal of developing preschool education specialty in Colleges and universities is to cultivate qualified preschool teachers for the development of preschool education in China, that is, to cultivate talents according to the demand of kindergarten for preschool education talents. Therefore, under the guidance of the relevant policies of national junior college education, the major of preschool education at the junior college level should make it clear that the main goal is to cultivate practical talents for the society, that is, to cultivate talents for kindergartens. In view of this requirement, colleges at the junior college level should determine the idea of personnel training focusing on the cultivation of educational practice ability. First of all, it is necessary to determine the training mode focusing on the cultivation of educational practice ability, that is, to focus on students' educational practice ability, and to determine the teaching plan according to the needs of kindergartens, nurseries, children and their parents for preschool education, so as to make the teaching plan develop in the direction of practicality and practicality. Therefore, colleges and universities should improve the curriculum system of theory and education practice according to the characteristics and knowledge acceptance ability of college level preschool education students, enhance the cultivation of students' education practice ability, effectively combine theory with practice, and cultivate practical preschool education talents needed by the society.

Secondly, the learning mode focusing on the cultivation of educational practice ability is determined, that is, when colleges and universities cultivate preschool education students, they should make learning plans according to the educational needs of kindergartens, kindergartens, children and their parents, so that students can form a good habit of self-study and self-development. In this way, students can deeply understand the market demand through internship, so that they can selectively self-study on the road of self-study, and make students build the goal of self-development.

Strengthen curriculum construction



There are obvious deficiencies in the design and implementation of teaching activities and communication with parents. However, there is no relevant curriculum for the cultivation of these abilities in the current curriculum system of preschool education major at the junior college level. According to the deficiency of students in these aspects, schools can offer some courses in interpersonal communication skills, creating teaching environment and organizing children's activities. Especially for the problem of students' insufficient ability to deal with emergencies and accidents, corresponding courses are set up to enable students to deal with some emergencies or accidents and improve their ability to deal with emergencies and accidents. In addition, the training of students' art and sports skills should also be guided by the professional needs, and the key breakthrough should be made according to the actual needs of kindergartens, so that the basic art and sports skills courses can not only maintain the characteristics of professional art courses, but also highlight the color of children, which is in line with the actual children's teaching.

**Improve the combination of teachers' professional theoretical knowledge and Practice**

For some theoretical courses of preschool education major, teachers should pay attention to the dullness of theoretical course teaching in the teaching process, and it is difficult to stimulate students' interest in learning. In view of this situation, teachers should integrate theory into specific practical activities according to professional training objectives and professional needs, create some subject scenarios, and apply situational teaching method, inquiry teaching method, group cooperative learning method, case teaching method, etc. to improve the combination of professional theoretical knowledge and educational practice, which can not only make students actively participate in teaching.

Learning activities, at the same time through the combination of theory and practice of teaching mode, can effectively improve students' teaching practice ability.

Educational skills course is the main course to cultivate students' educational practice ability, which is a practical course. For these courses, teachers should focus on the application of practical teaching method, so that students can experience, experience, if they can not enter the practice base for practice, teachers can use the practice case, create a simulation situation for simulation teaching, so that students can experience, experience, so that students can effectively apply the textbook knowledge to practice. At the same time, through the guidance of teachers in the process of case teaching, some wrong behaviors of students can be corrected in time, which is helpful to the improvement of students' educational practice ability.

## 5. Conclusion

Through the research, this paper roughly understands the problems existing in the professional practice teaching system of preschool education in secondary vocational schools, draws on the advanced experience at home and abroad, deeply analyzes the ability based theory, the concept of full practice curriculum, constructivism theory and so on, and puts forward countermeasures and suggestions for the practical problems of the professional practice teaching. Through the research, it enriches the relevant theoretical content of secondary vocational school and preschool education major, constructs the practical teaching system of the major, clarifies the application ideas of relevant theories, and reflects the significance of integrating theory with practice. Taking a kindergarten as the prototype, this paper combs the reform ideas of constructing the practical teaching system of preschool education major in secondary vocational schools, provides ideas and preliminary experience for the practical teaching reform of other majors or other schools in secondary vocational schools, and plays a practical role of reference.



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## Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

## Conflict of Interest

The author states that this article has no conflict of interest.

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