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An Evaluation Model of Preschool Teacher Talent Training Based on Big Data Technology

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ABSTRACT

The key to improving the quality of preschool education lies in high-quality preschool teachers, and high-quality preschool teachers in turn depend on high-quality teacher education. A pilot project to "strengthen the training of kindergarten instructors" was recommended by the Ministry of Education. This research studies the resident training mode implemented by pilot normal colleges and universities, uses big data technology to collect the required data, and uses neural networks to evaluate the talent training mode of preschool teachers, and finally completes the following work: 1) This article introduces the research progress of the talent training mode of preschool teachers at home and abroad; 2) Introduced are the RBF neural network's fundamental ideas and algorithmic stages, and the evaluation index system for the training of preschool teachers is established; and 3) Experiment to determine the best model parameters, then feed the test data into the model you trained, and compare the output against expert evaluations.

KEYWORDS

Big Data, Neural Network, Preschool Teachers, Talent Training

INTRODUCTION

Various countries in the world are keen to reform teacher education. For instance, in the United States, the education reform movement initiated by the NBPTS (National Board for Professional Teaching Standards) established professional standards for outstanding teachers in various subjects of basic education. The United Kingdom promulgated the "Excellent Teacher Program," and Germany launched the "Excellent Teacher Education Program." Australia has the "Government Excellent Teachers Program" while Singapore developed the trinity training model for high-quality teachers. These initiatives show a global commitment to improving teacher education.

Bearing this in mind, most normal colleges and universities in China need to update their preschool education programs. Traditionally, preschool education majors in teachers' colleges generally value

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theory over practice and value concept over ability, but this needs to change. The main goal of training preschool education professionals in normal universities must be to continuously improve their professional skills (Han et al., 2005).

China's three main goals for preschool education are: popularizing preschool education; defining government responsibilities; and focusing on rural preschool education. There is a need to build a team of preschool instructors with noble morals, compassion for children, outstanding business acumen, and good organizational skills, and this must be done as quickly as possible (Cross, 1987). According to a number of official sources, China places a high priority on preschool education and invests heavily in it, and this has built a solid foundation for the reform and development of preschool education. Preschool instructors play a crucial role in improving the quality of prepreschool instruction and furthering the cause of prepreschool education (Dombkowski, 2002).

In 2010, the Chinese Ministry of Education introduced the "Excellent Teacher" training program as a new measure to enhance the quality of teacher training as a step to reform teacher education (Toren et al., 2008). In an August 2014 publication titled "Opinions on Implementing the Excellent Teacher Training Program," the Ministry of Education outlines a number of requirements for training "excellent teachers," with specifics tailored to meet the needs of elementary, middle, and high school students, as well as preschoolers. It also points out weaknesses and deep-seated flaws in existing teacher training methods, and it calls for reform of the current system. It encourages schools, colleges, and local governments to work together to create a new collaborative training mechanism. The goal is to have a large number of high-quality teachers with strong professional ethics and skills, and who are constantly striving for self-development.

The "Excellent Teacher Training Program" introduces a collaborative, three-in-one training format. As a result, teachers' training has undergone a fundamental shift, creating new possibilities and challenges, especially for preschool instructors. Currently, teacher training programs are lacking in practical education. High-quality preschool instructors are essential for raising the standard of instruction in this age group, and high-quality teacher preparation is a prerequisite for both (Volante & Fazio, 2007). Usually, students training to be teachers get practical experience for at least a semester in primary, secondary, and preschool institutions. The professional standards for preschool teachers should be fully implemented and instructors' professional level should be raised.

However, the reality is that preschool education is still a weak link in all levels of education. Some scholars have pointed out that students in normal colleges are giants in book knowledge and dwarfs in preschool action. Many graduates from normal colleges who apply for preschool teaching jobs will feel unprepared and have a low success rate. Students majoring in preschool education lack effective guidance in practice, and they cannot combine the theory they have learned with practical education and teaching. Schools do not pay enough attention to the cultivation of students' practical ability, and students also fail to realize the transformation from "student status" to "teacher status," lacking the improvement that comes with practice (Tal, 2010).

Though the graduates of normal colleges have studied systematic educational theory, it is difficult for them to apply this knowledge to practical education and teaching work. The main reason for this is the lack of effective practical experience and the failure to generate practical knowledge and wisdom in educational practice; thus, practical education in the current training of preschool teachers is still relatively weak. Professional teachers cannot have only theoretical knowledge and training. Theory and practice should be integrated. Therefore, a new and effective preschool teacher training model that strengthens the connection between theory and practice must be developed.

The resident training mode for preschool teacher education that incorporates Chinese characteristics provides a promising solution these problems (Walk et al., 2018). In "Opinions on Implementing the Excellent Teacher Training Program," the Ministry of Education proposes "to adapt to the reform and development requirements of preschool education, build a training system with a solid foundation, strong capabilities, integration, and create a group of exceptional preschool teachers that love preschool education, have comprehensive skills and an amazing capacity to safeguard and

instruct" (Wolf et al., 2019). The resident training model adopts a new, collaborative mechanism of multi-subject joint training of universities, local education bureaus, and preschools. It combines practical work experience with learning, integrating subject-specific courses with experiential courses in order to train high-level preschool teachers who can serve and lead grass-roots preschool education (Hoffman et al., 2020).

Big data technology provides new ideas for the construction and sharing of preschool teachers' training resources, models, and means, especially in terms of personalized professional development. Teacher training should promote the overall development of learners. In terms of content and method of teacher training, it should shift from classroom instruction to practical, digital, and personalized learning. Technologically, teacher training should adopt real-time tracking and process analysis. By collecting and analyzing big data, insights can be gained about teachers' training needs, with data to support these insights. This can then be used to support and design personalized training courses and improve training effectiveness. This paper focuses on the resident training model implemented by a pilot normal university as the research object, uses big data technology to collect the required data, and establishes the evaluation index system of preschool teacher training based on the RBF neural network.

RELATED WORK

There is an increasing focus on the reform of basic education all over the world. China, too, is growing its reform efforts while focusing on improving the quality of education. For the "Excellent Teacher Training Program" and a pilot project to train outstanding preschool teachers, the Ministry of Education came up with a number of ideas aimed at raising the standard of education and the caliber of instructors.

There have been several studies and papers on this subject that we would like to mention in brief. On the topic of what makes excellent teachers, Kayhan and Kılıç (2011) stressed that they should have a good academic education, the ability to express themselves clearly, a keen interest in students and learning, and strong social skills. Gültekin (2009) believed that the best teachers should be invested in both teaching and in student relationships, and pointed out that excellent teachers are very successful in helping students learn in various ways. These methods have a lasting, real, and positive impact on students' thoughts, behaviors and emotions.

Continuing with the subject of how the best teachers distinguish themselves, Snyder et al. (2011) believed that excellent teachers are better than ordinary teachers in professional knowledge and teaching ability, and their overall development is better than ordinary teachers. They have a perfect knowledge structure and the spirit of constantly surpassing themselves and pursuing excellence. On the subject of preschool teachers, Meng, L et al. (2022) stressed that excellent preschool teachers should have stable and lasting professional motivation, positive and enterprising thinking, must be career-oriented, and must be invested in the pursuit of excellence. They must not only love their students, but must also care about student development, social progress, the country, and humanity.

The educational object of preschool teachers is preschool children, and the particularity of their educational objects also determines the particularity and complexity of the profession of preschool teachers. To become an excellent preschool teacher, you need to have a strong moral center, a sound knowledge structure, and superb teaching skills. In addition, it is essential to have a lifetime dedication to early childhood education and the principles and beliefs that go along with it. Prior to setting training goals, it is important to think about the logic of such objectives, not only to satisfy the demands of talent development but also to obey the laws of teacher development.

On the topic of preschool teachers, Seçer (2010) elaborated the training objectives of excellent preschool teachers from both pre-service and after-service aspects. The paper pointed out that the pre-service and after-service training objectives of excellent preschool teachers are consistent in

general cultural knowledge accumulation, professional knowledge and academic literacy training, professional literacy development and psychological adjustment, innovative education personality, teaching ability, and education awareness training. The difference is that the pre-service training goal focuses on cultivating students' basic knowledge learning and reserve ability, basic teaching skills, and basic professional quality.

Teachers' training must focus on improving their professional skills and teaching abilities. Taking the preschool education curriculum as an example to analyze its current situation, Baker-Henningham (2018) pointed out that we should reposition curriculum objectives, adjust curriculum structure, optimize curriculum content, highlight practical characteristics of the curriculum, strengthen practice orientation, and meet the actual needs of the profession.

Torbeyns et al. (2020) pointed out that the curriculum of preschool education majors in colleges and universities has the following problems. First, from the perspective of graduates' readiness for employment, there is a disconnect between professional theoretical courses and practical courses, as well as overlapping course content. Secondly, from the perspective of meeting the "Professional Standards for preschool Teachers," there are problems such as an unreasonable public basic curriculum and imperfect art curriculum. In response to these problems, corresponding solutions are put forward, like clarifying the goals of talent training, building an open and compatible curriculum system, highlighting the course practice orientation, creating a reform model centered on ability, improving the supervision and management mechanism, and improving the talent quality evaluation system.

Hedlin and Åberg (2018) pointed out that the traditional teaching model in normal colleges has more than enough teaching but insufficient interaction and practice. During teaching activities, students are passive, and their enthusiasm and creativity have not been fully developed. Therefore, we should improve teaching methods and enhance teaching practices. The training management and evaluation of excellent preschool teachers is also a very important task. An effective management and evaluation mechanism is a key link to ensure the quality of excellent teacher training (Sillat et al., 2017).

The construction of an efficient teaching incentive system may completely activate instructors' passion for teaching and allow them to commit themselves genuinely to teaching activities, therefore boosting teaching quality and personnel training. In addition, a sound teaching quality evaluation and monitoring system is also key to improving teaching quality. To evaluate the quality of preschool teacher training, standards can be formulated that define the scope of the education industry, and then gaps can be identified through comparison.

The professional standards for teachers involves three major areas: professional knowledge, professional skills, and professional quality. Among them, professional skills are the most prominent external indicator of preschool teachers' quality, and they are also the core factor of evaluating preschool teachers' professionalism. Professional skills are the concentrated embodiment of preschool teachers' professional development in educational practice. It is a concept that includes multiple levels and aspects, and it has comprehensive characteristics. The professional standards, professional certification, and professional training of preschool teachers are also included in the above categories, which are the main dimensions of the professionalization of preschool teachers.

Walk et al. (2018) proposed that for the cultivation of outstanding preschool teachers, the quality evaluation standard of "virtue-professional +" can be established. The "virtue" here is the requirement and evaluation of the moral conduct of outstanding preschool teachers. "Professional" is the requirement and evaluation of the professional quality of outstanding preschool teachers. "+" is the requirement and evaluation of outstanding preschool teachers in other aspects of comprehensive quality. It can be subdivided into many aspects, such as scientific research vision, lifelong learning ability, life skillsand so on. At the same time, it is emphasized that the "excellent teacher qualification system" can be implemented on a trial basis.

It can be seen that current research on the professional ability of preschool teachers mainly focuses on the development of preschool teachers' professional ability after service, while less attention is paid to the training of preschool education students. In terms of the research paradigm, previous studies mostly used qualitative methods to explore at the theoretical level, while there were a few confirmatory studies combining theory and practice, which led to a more comprehensive discussion. However, the research results were not convincing for educational and teaching practice.

METHOD

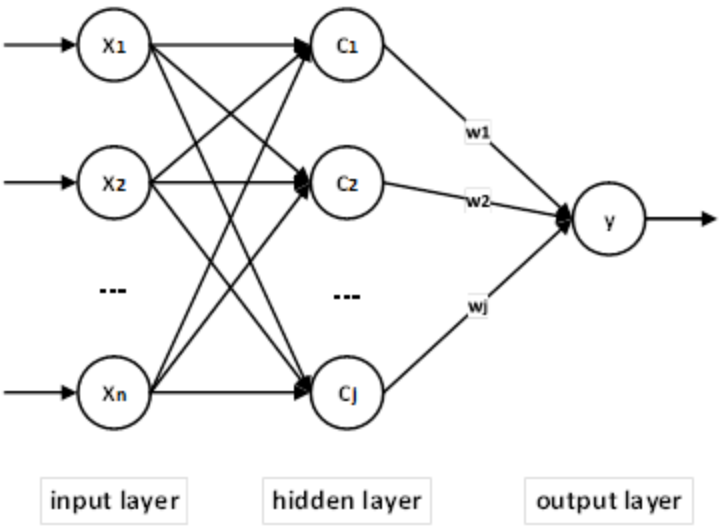
Overview of RBF Neural Networks

Artificial Neural Network (ANN) is a nonlinear large-scale adaptive dynamic system composed of nonlinear processing units. It uses distributed storage of information and has the function of associative memory. Its processing unit performs nonlinear operations, which makes the network have strong adaptive and fault-tolerant capabilities. Over the years, research and application have shown that using it for signal processing and pattern recognition can be very close to human thinking.

Fast convergence, great adaptable learning ability, and a simple structure are all positives of the RBF (Radial Basis Function) algorithm. In terms of global and optimum performance, it is a new and effective feedforward neural network. Its topology is shown in Figure 1. It can quickly and efficiently find the rules hidden in the data and can meet the time requirements of flow prediction.

The first layer of the RBF neural network is the input layer, which is composed of neurons responsible for receiving data. When the data signal $x_i\left(i=1,2,\ldots,n\right)$ enters the neural network through the input layer, the data is associated with each node of the neural network A correspondence. The second layer of the RBF neural network is the hidden layer, which mainly completes the nonlinear transformation of the input data and transmits the transformed data information to the neurons $c_j\left(j=1,2,\ldots,m\right)$ of the next layer. The number of hidden layer nodes is measured by a formula. Usually, the more the number of nodes, the higher the prediction accuracy of the neural network; but when it is more than a certain value, there will be an overfitting problem. The neurons in the hidden layer use the selected radial basis function to respond to the input signal. The commonly used RBF neural network radial basis functions are as follows:

Figure 1. RBF neural network topology



1. Gaussian function:

$$R_i\left(x\right) = exp\left[-\parallel x_i - c_j \parallel^2 / \left(2\sigma^2\right)\right] \tag{1}$$

2. Reflected Sigmoidal function:

$$R_i\left(x\right) = \frac{1}{1 + exp\left(\frac{\parallel x_i - c_j \parallel^2}{\sigma^2}\right)} \tag{2}$$

3. Inverse multiquadrics function:

$$R_i\left(x\right) = \frac{1}{\sqrt{\parallel x_i - c_j \parallel^2 + \sigma^2}} \tag{3}$$

The third layer RBF neural network output layer expresses the link between the hidden layer and the output layer in Equation 4:

$$y = WR = \sum_{i=1}^{m} w_i R_i\left(x\right) + \omega_0 \tag{4}$$

where w_i is the connection weight between each neuron from the hidden layer to the output layer, $R_i\left(x\right)$ is the output of the hidden layer, ω_0 represents the deviation, and generally takes the value 0.

There are several ways to evaluate preschool teachers, but the RBF neural network is the most often used method for determining a teacher's final assessment value based on their performance in a training program.

In this paper, the error function of the RBF neural network is used as the objective function, and the gradient descent method is used to calculate the minimum objective function value, and then adjust the basis function width parameters and connection weights of neurons. The defined objective function can be expressed as:

$$E = \frac{1}{2}\sum_{p=1}^{n} e_p^2 \tag{5}$$

where e_p represents the neural network training error corresponding to the p-th data sample, which can be defined as:

$$e_p = y_i - y_i^{'} = y_p - F\left(x_i\right) = y_p - \sum_{i=1}^{n} w_i R_i\left(x\right) \tag{6}$$

where y_i is the actual value, and $y_i^{'}$ is the evaluation value of the neural network.

To train the RBF neural network model, the sum of squares of the difference between real and estimated values is the objective function of the model. Gradient descent is a method for progressively altering the RBF neural network's model parameters in the direction of the objective function's negative gradient. The gradient of the connection weight and the basis function width of the RBF neural network can be expressed as:

$$\nabla F_{w_i}\left(x\right) = R_i\left(x\right) \tag{7}$$

$$\nabla F_{b_i}\left(x\right) = \frac{2\omega_i}{b_i^3} R_i\left(x\right) \| x_i - c_j \|^2 \tag{8}$$

$$b_i^2 = 2\sigma_i^2 \tag{9}$$

The correction value of each parameter should be expressed as follows:

$$\Delta\omega_i = \eta\sum_{j=1}^{n} e_j R_i\left(x_j\right) \tag{10}$$

$$\Delta b_i = \eta\frac{\omega_i}{\sigma_i^3}\sum_{j=1}^{n} e_j R_i\left(x_j\right) \| x_j - c_i \|^2 \tag{11}$$

where η is the learning rate of the neural network.

RBF Neural Network Evaluation Process

This paper attempts to use an artificial neural network to determine the weight of each index to overcome the adverse factors caused by the artificial setting of weights. According to the specific classroom teaching, the set scoring indicators are scored quantitatively. The RBF network is adopted to take the quantitative score of the index as the input and the fitness (and final evaluation) as the output. The model generated by this method is close to the combination of qualitative and quantitative characteristics of human thought. The specific process of the training evaluation of preschool teachers using an RBF neural network is shown in Figure 2.

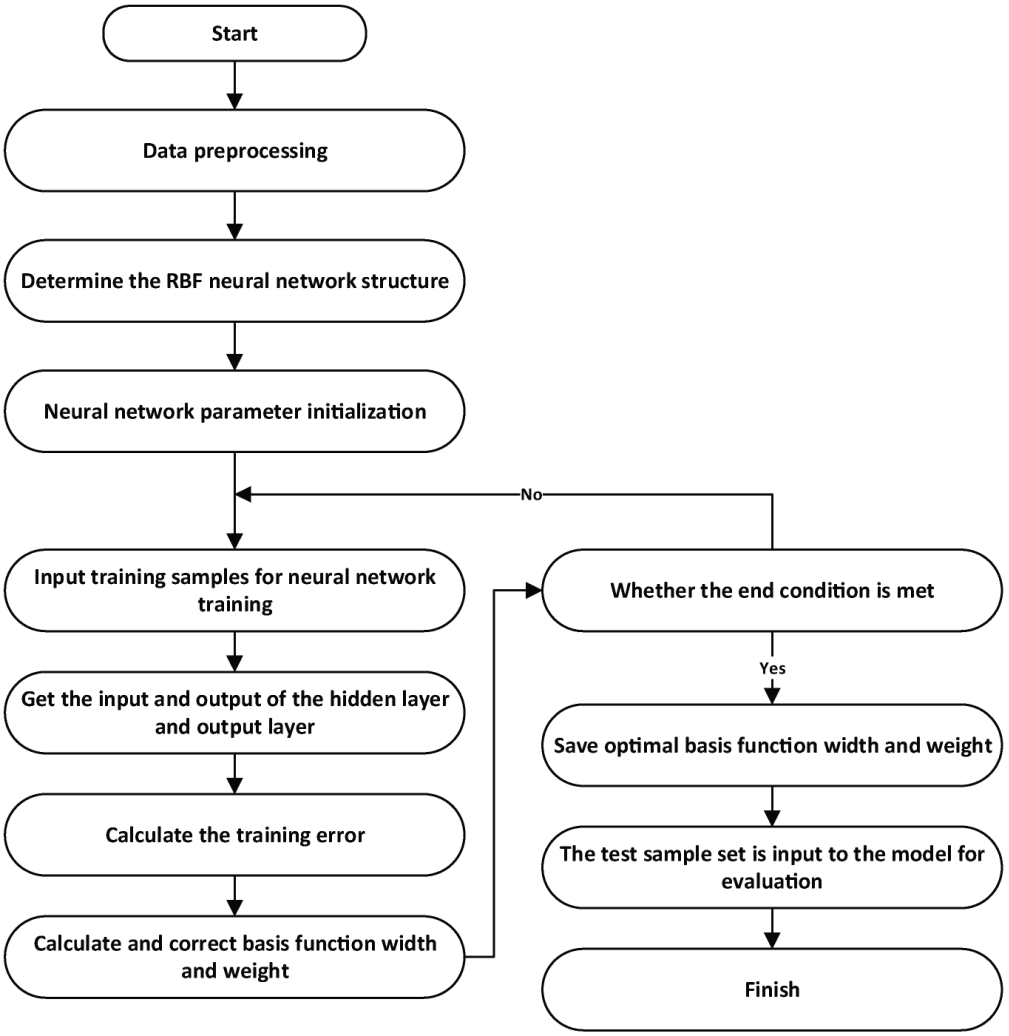
Construction of an Evaluation Index System for Preschool Teacher Training

The Value Orientation of the Evaluation Index System

1. **Focus on Efficiency:** Excellent teacher training needs to pay attention to efficiency, and to the resource input and the output of training results in the process of cultivating excellent teachers (Ji & Tsai, 2021). Since educational activities are different from general production activities, the training of talents has its own laws and has a certain lag (Miao & Wang, 2022). Therefore, the problem of efficiency in the field of education should be studied. It is not simply the pursuit of speed and the number of talents cultivated per unit of time. Instead, it is more important that the best educational effect can be achieved by optimizing the settings of resources and educational funds.

In educational economics, education is regarded as a kind of production and economic activity. It is proposed that efficiency is the ratio of educational resource consumption to the direct output of education. It is often measured by directly quantifiable indicators such as graduation rate, enrollment rate, classroom utilization rate, and equipment utilization rate (Jing, 2021). While studying efficiency in educational management, the ratio of capital input to output is examined, and so is the ratio of non-financial input to output. The research on output focuses more on measuring academic achievement.

Figure 2. Preschool teacher training evaluation using RBF neural network: A flow chart



Therefore, when evaluating excellent teacher training, it is necessary to consider both class size, student size, and student achievement.

Quantitative indicators such as teacher ratio and expenditure are included in the scope of inspection. However, non-quantitative indicators such as organizational management, teaching methods, and mechanism construction also need to be included in the scope of inspection. By exploring the best resource allocation plan, the quality of training outstanding teachers can be improved. It is worth noting that in the evaluation, it is also necessary to pay attention to whether the training activities of excellent teachers conform to the laws of education and the growth of educational talents, and fully tap the efficiency of training under the premise of compliance with the laws (Zhou, 2020).

2. **Focus on Effectiveness:** Educational effectiveness is defined by UNESCO as an outcome measure for a specific educational goal or academic achievement. Chinese scholars generally divide educational effectiveness into two dimensions (Zhang, 2022): internal and external. External effectiveness refers to the long-term impact of education on social macro aspects such as politics,

economy, and culture. Internal effectiveness refers to the impetus that education provides to the participants in educational activities (that is, teachers, students, and educational managers) to their own survival and development.

Therefore, from the perspective of efficiency, the cultivation of outstanding teachers should not only meet the needs of personal development, but also promote the development of students in educational knowledge and skills, moral cultivation, and lifelong learning. It should also promote the reform of teacher education and improve the overall quality of teachers in our country, so they can contribute to the development of education, culture, and economy in our country.

This is why focusing on the dual effect of excellent teacher training stipulates the quality and quantity of this training. Paying attention to effectiveness means the rational use and arrangement of various resources in the training process, including both the utilization rate of educational and teaching resources, and the security of various organizational systems. Paying attention to effectiveness also means paying attention to the results of excellent teacher training; that is, considering whether the trained students can meet the need for high-quality teachers in basic education, and understanding what kind of beneficial impact it has on the development of individuals and society. Emphasizing the dual effect of teacher training activities is an important guarantee for scientific, efficient, and sustainable development.

Construction Principles of the Evaluation Index System

At present, China has not established the evaluation index of an excellent teacher training program. However, the current teacher education evaluation still has problems such as focusing on summative evaluation, single evaluation content and subject, and cumbersome evaluation indicators. Taking these problems into account, the following principles should be followed when constructing an evaluation index system for preschool teacher training:

1. **The Principle of Development:** In the past, educational evaluation emphasized the inspection of the results, paid attention to the screening function, and ignored the developmental function of evaluation. To construct an evaluation index system for outstanding preschool teachers, we must adhere to the principle of development. This will serve the improvement and construction of excellent teacher training through evaluation, and also serve the scientific decision-making of this training.
2. **The Principle of Diversification:** This mainly reflects the diversity of methods, the diversity of subjects, and the diversity of content. To begin with, there is a wide range of assessment techniques to choose from. These include: qualitative and quantitative evaluations combined; diagnostic, formative, and summative assessments combined; as well as self-and other- and other-and-other- assessments combined.

Second, the evaluation subject is diversified. Excellent teacher development is a complex activity involving multiple stakeholders. When designing the evaluation index system, not only must schools and the government be included as evaluation subjects, but also students, primary and secondary schools, etc. should be included in it as well, so as to realize the expression of interests of multiple subjects.

Third, the evaluation content is diversified. When designing the evaluation index system, classification design should be carried out. On the one hand, common evaluation indicators should be designed. On the other hand, it is necessary to distinguish and design indicators that reflect the characteristics of the training subjects themselves.

3. **The Whole Process Evaluation is Combined With the Key Evaluation:** The use of neural networks to evaluate the training of outstanding preschool teachers is a whole-process evaluation from the training objectives to the training process to the training results. This also meets the requirements of the "Certification Measures" to implement "all-round and whole-process evaluation" for teacher education.

However, because the training of excellent preschool teachers is a complex talent training activity, it involves many links and human and material resources. Evaluation indicators that are too complex will reduce the validity of its use, so a combination of whole-process evaluation and key evaluation is adopted. The whole process evaluation takes the policy requirements for the cultivation of excellent teachers into account and also focuses on the outstanding problems still existing in the field of teacher education. Then, the key elements for training excellent teachers are evaluated in a focused manner, and a concise set of criteria for assessment is created.

Evaluation Index System for Talent Training of Preschool Teachers

Based on the above value orientation and selection principles, this paper constructs an evaluation index system for preschool teacher talent training that can be used for neural network evaluation, as shown in Table 1.

EXPERIMENT AND ANALYSIS

Data Sources and Preprocessing

In order to verify the validity of the model proposed in this paper, a total of 1,165 groups of relevant data were collected from the Academic Affairs Office of a university for training and testing.

Table 1. The evaluation index system of talent training for preschool teachers

Index	Label
College entrance examination scores	U1
Willingness to teach and teachability	U2
Senior professional title teacher ratio	U3
Proportion of part-time teachers	U4
Teacher education service experience and training	U5
The setting of teacher skills training platform	U6
The ratio of theoretical and practical courses	U7
The integration and openness of the teacher education curriculum system	U8
Proportion of demonstration practice bases	U9
Institutional scientificity and synergy of selection, training and evaluation	U10
Internship qualification assessment system is scientific	U11
The innovation of teacher classification training mechanism design	U12
Effectiveness of Teaching quality monitoring and evaluation mechanism	U13
Frontier knowledge of disciplines and coverage of latest research results	U14
The integration of information technology and classroom teaching	U15

Parameter Selection of the Model

The RBF neural network algorithm and model are used to comprehensively evaluate the quality of preschool teachers' talent training. Using MATLAB, a three-layer RBF neural network is established. There are 11 neurons in the input layer, one neuron in the output layer, and eight nodes in the hidden layer.

1. **Selection of radial basis function:** This paper selects the three functions mentioned above for comparison, and the specific experimental results are shown in Figure 3. It can be seen that the Gaussian function works better. Therefore, the radial basis function chosen in this paper is a Gaussian function.
2. **For the number of neurons in the hidden layer:** This paper verifies the performance of the algorithm by setting the number of neurons from four to 14 different neurons. We calculate the MSE to get the optimal number of neurons. The experimental results are shown in Figure 4. It can be seen that the error is the smallest when the number of hidden layer nodes is eight, so the number of hidden layer nodes is selected to be eight.
3. **Selection of learning rate:** The learning rate is also an important factor affecting the training effect of the neural network. This paper selects the learning rate in the range of [0.1, 1] for testing. The results obtained are shown in Figure 5. It can be seen that the training effect of the model is best when the learning rate is 0.4, so the selected learning rate is 0.4.

Performance Test of the Optimal Model

After selecting the optimal parameters of the RBF model through the above experiments, 100 groups of data are normalized as training samples of the RBF neural network model. The number of RBF network training is 1,000, the number of iterations is 800, the initialization step is 0.3, the M value is 500, the momentum coefficient is 0.85, and the allowable error is 0.001. 20 pairs of sample data are selected for test and comparison. The mean square error of sample training is shown in Figure 6. Through the verification of the test results, it is found that the evaluation data of the supervision group is very close to the identification value of the neural network system, and the results are satisfactory.

Figure 3. The effect of different radial basis functions on model training

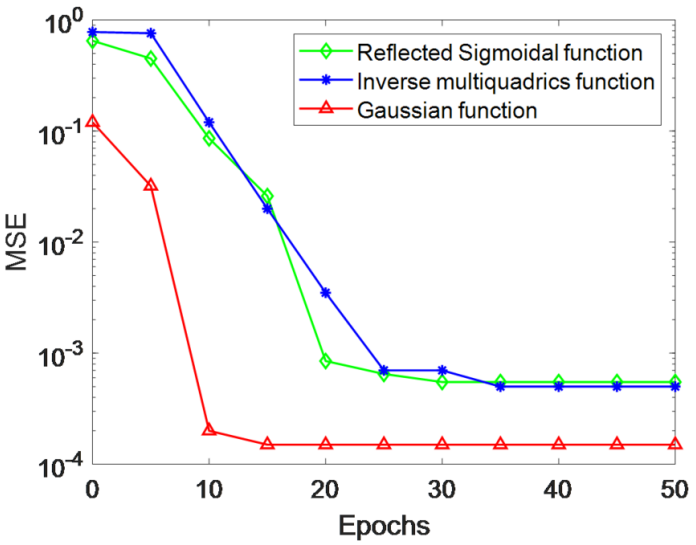


Figure 4. The effect of different numbers of hidden layer nodes on model training

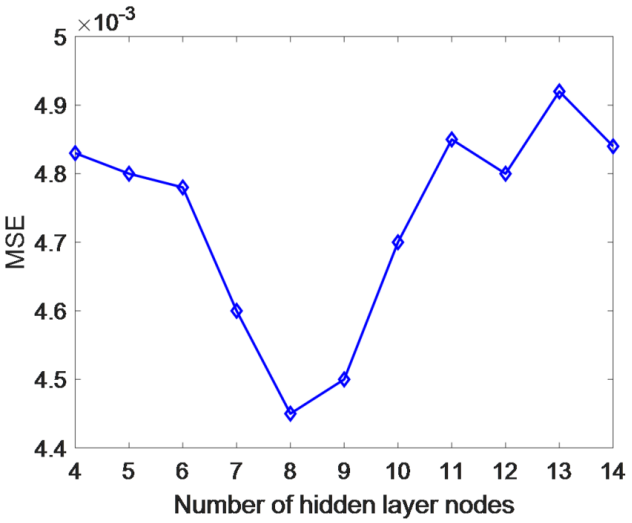
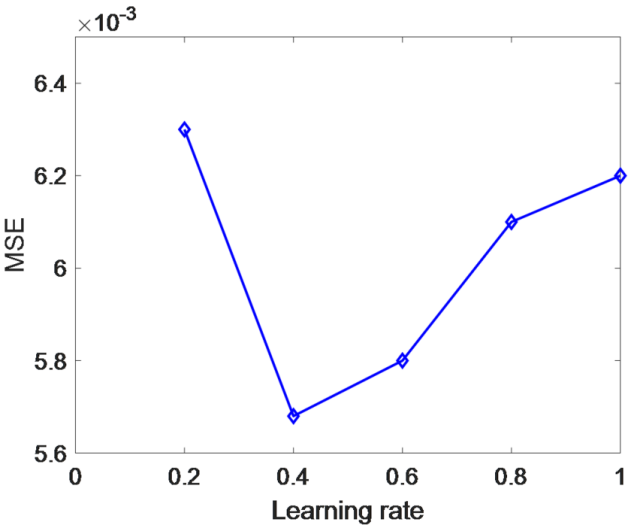


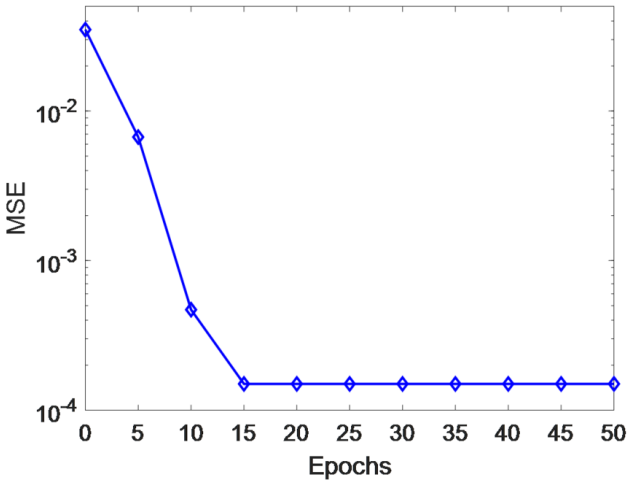
Figure 5. The effect of different learning rates on model training



CONCLUSION

According to current trends in preschool education and teaching, innovative education has a number of challenges and obstacles in the early childhood education process. In response to the relatively weak practical education component in the training of preschool teachers, this paper studies the resident training mode implemented by pilot normal colleges and universities, uses big data technology to collect the required data, and uses a neural network to evaluate the talent training mode of preschool teachers. Finally, it completes the following work: 1) This paper introduces the research progress of the talent training model of preschool teachers at home and abroad, and establishes a theoretical basis for the method proposed in the following. 2) The basic idea and algorithm steps of RBF neural network are introduced, and the evaluation index system

Figure 6. RBF neural network training graph after optimal parameter selection



of preschool teacher training is established. Through the verification of the test results, it is found that the evaluation data of the supervision group is very close to the identification value of the neural network system, and the results are satisfactory.

However, the many ways in which big data can better serve the talent training of preschool teachers is a complex research topic. In further research, it is also necessary to refine the big data application framework some more, follow up the research of software, hardware, and the construction of evaluation index systems and so on, and open up a new era of talent training for preschool teachers based on big data.

CONFLICT OF INTEREST STATEMENT

We have no conflicts of interest to disclose. We sincerely thank the researchers whose techniques and studies contributed to the ideas presented in this paper.

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