Research Article

Multifactor Association Analysis Model of Preschool Education Based on Multivariate Nonlinear Matrix Theory

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Received 22 July 2022; Revised 26 August 2022; Accepted 6 September 2022; Published 11 October 2022

Academic Editor: Ning Cao

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This paper uses the multivariate nonlinear matrix theory to conduct an in-depth study and analysis of the multifactor correlation in preschool education, and designs a multifactor correlation analysis model to be applied to the actual preschool education process. A nonlinear approach is used to define the dynamics of a planar segmented smooth system with visible folds on a switching surface, and conditions are given for the system to have a sliding periodic orbit through this visible fold. A curriculum relatedness analysis algorithm based on Euclidean distance is proposed, which takes distance as a perspective and calculates the curriculum relatedness by measuring the difference of the curriculum in different dimensions; a curriculum relatedness analysis algorithm based on cosine similarity is proposed, which takes a vector as a perspective and calculates the curriculum relatedness by measuring the cosine of the angle between different curriculum vectors; a curriculum relatedness analysis algorithm based on correlation coefficient is proposed. The course relevance analysis algorithm based on the correlation coefficient evaluates the relevance of different courses from a centralized perspective. After preprocessing the course results, two different types of datasets were selected for the experiments of the three algorithms. The results show that all three algorithms can calculate the correlation degree of the courses, which can provide scientific data support for the curriculum arrangement of the school so that the school can scientifically verify and optimize the curriculum arrangement. The three algorithms are compared from the calculation results and theories, among which the correlation coefficient correlation analysis algorithm has the best effect. This study proposes suggestions to promote students’ noncognitive ability development from the perspective of preschool education development; grasp the critical period of children’s noncognitive ability development and pay attention to preschool education investment; further develop inclusive preschool education to ensure the educational opportunities of disadvantaged groups; promote regional preschool education reform to ensure the quality of preschool education in rural areas; and guide parents’ participation and cooperate with schools to cultivate children’s noncognitive ability.

1. Introduction

Preschool education is an important part of basic education, the starting point of lifelong human development, and the foundation of the foundation. Optimizing the spatial allocation of preschool education resources is an objective requirement to promote balanced, inclusive, and high-quality development of preschool education. As preschool education is the beginning of lifelong education, countries have placed the development of preschool education in an important strategic position and adopted various policy measures to realize the development of preschool education in their countries [1]. There needs to be information that needs to be exchanged between related teachers; teacher reciprocity requires a sincere willingness to help colleagues. In recent years, our government has taken various measures to develop preschool education, which is relatively weak in China, and preschool education has achieved unprecedented development: the number of kindergartens, children, and teachers in kindergartens has increased year by year, the kindergarten enrollment rate has been rising, and inclusive kindergartens have been vigorously developed. However, some parents or local governments still lack awareness of the importance of preschool education, and domestic research
on the value of preschool education is in its infancy [2]. It is important to investigate the impact of preschool education on personal development to help society more clearly understand the importance of preschool education. This study investigates the long-term effects of students’ experiences of preschool education on the development of noncognitive abilities in junior high school from the perspective of life course theory, enriching domestic research on the value of preschool education, which is important for individuals to receive quality preschool education, promote the development of noncognitive abilities and the accumulation of early human capital, and the further development of preschool education [3].

Matrix equation is an important research direction of matrix theory, which has extremely wide applications in mathematics and some related scientific computing fields, such as control analysis, vibration theory, dynamic programming, and biology. The introduction of matrix theory in modern scientific fields can make the expression and calculation of problems simpler on the one hand, and facilitate the application of computers and the development of computing technology on the other hand, which adds a wide range of research prospects for the application of matrix theory and opens new avenues for the study of engineering technology. Matrix equations themselves can be divided into linear equation problems and nonlinear equation problems [4]. For young children, scientific and reasonable preschool education can improve their intelligence of preschool children, exercise their ability to express and identify things, help strengthen their willpower and self-control ability, help them form a good personality in preschool, and promote their positive integration into the social environment and overall development. For families, the healthy growth and development of children become an important factor in determining the happiness and harmony of family life. Therefore, vigorously developing preschool education and promoting the healthy physical and mental development of young children not only bring social welfare to each family and create economic value for society, but also benefit the future development of the country.

In scientific research, complex networks are a tool used to study complex systems. Since all existing complex systems can be represented by complex networks through appropriate methods, complex networks can present various characteristics of complex systems, including group structure, degree distribution, and clustering coefficients, in addition to the advantages of high universality and simplicity of models, which include almost all levels of research. In a harmonious atmosphere, each teacher can grow, not just a part of the teacher’s development. Reciprocity is in line with the goal of teacher community development. Complex networks are very close to the actual world around us, and it is possible and complete to analyze the evolution of educational emergencies with complex networks. Complex networks can represent the influencing factors in the event process by nodes and present the characteristics of the event through the network structure. As the event is changing and developing, different influencing factors that disappear or join during the event can be represented by the creation and disappearance of nodes or connections, and the topology of the network can well express the evolutionary state and law of the event. The network structure of complex networks and the basic measures of complex networks can also be used to study the characteristics of educational emergencies, including the degree and its distribution characteristics, the correlation of degree, the degree of aggregation and its distribution characteristics, and the shortest distance and its distribution characteristics.

2. Related Works

The main view of the environmental or climate orientation is that the learning community is based on cooperation, where people work to arrange learning and educational activities, and the kindergarten is a communal environment where all community members grow together [5]. This environment has a common vision and cultural atmosphere. Rohaizad explains the learning community as an organization that ultimately respects and coexists with differences through the struggle for “sameness”; it is a new social learning model that differs from the traditional classroom in that everyone is diverse and multilevel when learning the same content [6]. Sahin defines a learning community as a new learning model, which consists of four main elements: conversation, assistance, context, and meaning construction [7]. These four elements are constantly recycled, recirculated, and reconstructed [8]. The community is characterized by the following: a common cultural-historical heritage, a system of mutual transformation, and a cycle of production. In the common cultural-historical inheritance, individuals have common habits of thinking; in the system of mutual transformation, individuals continuously develop and transform and gradually become part of the system; in the cycle of production, novices join the community to get learning and training and gradually become veterans; and the community is continuously injected with fresh blood [9]. The system is a theory and method used to study problems with little data and information and uncertainty by generating and developing known information, extracting valuable information, and accurately describing and effectively monitoring the operational behavior of the system and its evolutionary laws [10].

In terms of social capital, parents with dominant occupational status enjoy richer social network resources and social closure resources and are better able to provide their children with security in educational opportunities. A frequency-domain identification method is proposed for multivariate linear dynamic systems with arbitrary inputs, which can obtain consistent estimates of the system model parameters. For multivariate equation-error systems, the literature [11] proposed a generalized stochastic gradient algorithm based on the decomposition technique by decomposing the original system into some subsystems using the decomposition technique. By combining the idea of coupled identification with the theory of finite data window with forgetting factor, a coupled recursive least-square identification algorithm with finite data window with forgetting factor for multiple linear regression systems is
proposed in [12], which not only does not involve matrix inversion operation in the calculation but also can overcome the data saturation phenomenon, so that it can quickly track the time-varying parameters and obtain accurate parameter estimates. In the five fields, each teaching and research group is formed according to the interests and advantages of each teacher. The practicality of the algorithm is verified through experiments on the identification of the parameters of permanent magnet synchronous motors. In addition, family demographics also have an impact on individual preschool experiences, with children from two-parent families having a greater chance of receiving preschool education than children from single-parent families [13].

In conclusion, the higher the socioeconomic status of the family and the richer the possession of various socioeconomic and cultural capital, the higher the likelihood that children will have access to preschool education opportunities and resources. As preschool education is a socially oriented public institution, the general social environment is also an important factor influencing individual preschool education experiences. Research has shown that the level of educational development in an individual’s region affects an individual’s access to preschool education and that the overall level of education in a region reflects the importance the government places on education and the resources it can provide for school-age children to receive an education. In addition, the degree of attention and investment in preschool education by other social institutions and the preschool education services provided are also important factors affecting students’ preschool education experience.

3. Analysis of Multivariate Nonlinear Matrix Theory’s Multifactor Correlation Analysis Model of Preschool Education

3.1. Improved Multivariate Nonlinear Matrix Correlation Analysis Method Design. With the increasing scale of control systems, there are many more complex multichannel complex systems, and the disturbances outside the system are becoming increasingly complex and variable. However, there are increased ways for us to acquire knowledge and information, which can be acquired through interaction with others, book knowledge acquisition, and links between technology and knowledge points. To address this situation, it is an important research direction in the field of identification to effectively build mathematical models of systems by iterative techniques using the system measurement data and the gradient search principle. The iterative identification methods usually use batch data to refresh parameter estimates, i.e., dynamically update the parameters to be identified by batch processing the observed data, and this approach is often used in the identification process with limited measurement data.

In the generalized iterative identification method, the stacked information matrix and the stacked output vector of the system to be identified are constructed by using the batch data, so that the parameter estimation accuracy is high. However, this generalized iterative identification method is often only suitable for offline system identification. To utilize the iterative identification method in offline identification, this paper will study the generalized incremental iterative identification method for the M-EE-ARMA system by combining the multi-interest identification theory, which can dynamically update the data in the data window according to time \( t \), to achieve the purpose of online identification [14]. In the organization of teacher teaching and research, there are planned activities to discuss and exchange teaching experience, to maximize the cooperation of teachers in the teacher community. To further reduce the influence of colored noise on parameter estimation accuracy, this section will study the filtered generalized incremental iterative identification method for the M-EE-ARMA system based on the data filtering technique. By introducing a linear filter into the original system model to filter the input and output data of the system, and then using the filtered input and output data for system identification, the parameter estimation accuracy of the identification algorithm can be effectively improved.

We consider the following multiple equation-error autoregressive sliding average system as follows:

\[
y(t) = \phi(t)\theta - \frac{D(z)}{C(z)} v(t + 1).
\]

Furthermore, to reduce the impact of colored noise on the parameter estimation accuracy, the system model is processed by using a data filtering technique to whiten the noise, and then, the new filtered identification model is used to derive the multivariate equation-error system based on the new filtered identification model.

In the iterative identification method, the identification is usually performed using batch data, but this approach is only suitable for offline identification. To make the iterative identification method suitable for offline identification, a dynamic data window of length \( q \) is used here, which can be moved forward with the increase in time \( t \), so that the data in the data window can be dynamically updated.

\[
Y(t) = y^T(t), y^T(t - 1), \ldots, y^T(t + q - 1)^T \in R^{m \times q}. \tag{2}
\]

In the GEGI recognition algorithm of the M-EE-ARMA system, the moving data window contains \( q \)-sets of data from \( i = t + q - 1 \) to \( i = t \), and the data window can be moved forward with the increase in time \( t \). During the dynamic movement of the data window, the data contained in the data window can be updated in real time. It has the characteristics of cooperation and openness. However, different methods have different influences and magnitudes on teachers.

This iterative identification method uses the latest \( q \)-group data up to the current moment \( t \) for parameter estimation, and when the iteration reaches a certain number of steps (or the parameter estimation accuracy does not improve), it stops the iterative computation and moves the data window forward one step to introduce new
obtained, while removing the old data inside the data window, keeping the q-group data inside the window, and then using the data in the new window for iterative computation [15]. The data in the new window are then used to iteratively compute the parameter estimates, and the computation continues in this way until the parameter accuracy is achieved. By shifting the data window forward with time \( t \), it is possible to apply the iterative algorithm to online identification, as shown in Figure 1.

Obtaining the mathematical model of the controlled system is the basis for system analysis and control strategy design. Only when an accurate mathematical model is established can the behavioral characteristics of the system be better analyzed and its laws of motion be understood. As an experimental statistical method, system identification often uses the input and output data of dynamic systems to build the corresponding mathematical models [16]. However, in real life, most control systems are disturbed by random noise, which makes the results obtained from the direct use of observation data inaccurate. To obtain useful information from the system observations and reduce the influence of random noise on the accuracy of parameter estimation, this section introduces data filtering techniques to process the measurement data of the multi-equation error autoregressive sliding average (M-EE-ARMA) system. With the continuous improvement of the production technology of modern industrial systems, the controlled objects in the field of industrial control are usually multivariable systems with large-scale, complex structures, and uncertain disturbances. The data filtering technique is generally used to deal with systems disturbed by colored noise. By introducing a linear filter into the original system model to filter the input and output data of the system, the filtered input and output data are then used for identification to effectively improve the parameter estimation accuracy of the identification algorithm. The object of this section is the M-EE-ARMA system, which has a more complex noise structure and parameters, and, therefore, is more representative of the general noise model.

![Figure 1: Computational flow of the multivariate nonlinear matrix equation-error autoregressive sliding average system.](image)

$$Y_f(t) = \begin{bmatrix} y_f(t) \\ y_f(t^2 - 1) \\ \vdots \\ y_f^T(t + q - 1)^T \end{bmatrix}, \quad \varphi_f(t) = \begin{bmatrix} \phi_f(t) \\ \phi_f(t^2 - 1) \\ \vdots \\ \phi_f^T(t + q - 1)^T \end{bmatrix}$$ (3)

The evolution of complex networks is time dependent, and this time dependence is relative and can be divided according to the order in which the development occurs in time, or according to the state in which the events develop. Since the complex network is given time nodes, the network will change with the change of nodes, so different time nodes can have different complex network representations, which is the timeliness of the evolution of complex networks, and can present the change process and state of the event, which is more conducive to scholars’ research on the evolution mechanism, evolution process, evolution law, and evolution characteristics of events with complexity.

However, although complex networks have many types, the current direction of research on complex networks is still dominated by the study of unweighted and undirected networks. Usually, researchers use unweighted and undirected networks to analyze networks abstracted from the real world, which can facilitate the study of network graphs by researchers [17]. Complex networks can also be represented in the form of matrices, and both relationship matrices and adjacency matrices are usually used to represent network matrices. The adjacency matrix is used as a description of the relationships between nodes in a network, while the correlation matrix is used as a description of the relationships between nodes and edges in a network. If a computer is used to store a network, the adjacency matrix representation is the most commonly used network matrix representation. Therefore, how to apply the classical iterative class
identification method to the multivariable system identification is very difficult. It has become a research hotspot and difficulty in the field of system identification.

\[ L = \frac{1}{1/2n(n-1)} \sum_{i>j} d_{ij}. \]  

Social media and ICTs often facilitate access to information and encourage the creation and sharing of information, not just on the internet. Rationalism focuses on the interconnectedness of sources, building relationships, interaction, and knowledge sharing in a complex network that is constantly forming. The relational learning theory builds on the interplay of perspectives that knowledge exists in networks of information or among multiple individuals. The core idea of the theory is for learners to connect with and benefit from the knowledge, while also providing information to other learners, primarily by having a group of people with common needs or similar interests to learn together through ongoing dialogue.

First, learning is not just an individual act; it is a process of forming connections between various types of information and knowledge nodes. Second, learning is not just the existence of direct information transmission with people, but may be artificially created tools that are more conducive to help store a large amount of knowledge, with the help of equipment, which is the future development trend of learning [18]. Third, pure knowledge absorption and informal learning are not as important as individual proficiency in their learning capabilities. Fourth, learning ability is promoted by developing the ability to form connections with external knowledge. Fifth, in addition to the connection between the same type of knowledge, the ability to make cross-disciplinary connections between different disciplines and professions is also one of the necessary abilities to master. Sixth, the smooth flow of knowledge within the pipeline is the ultimate learning purpose proposed by connectionism. Individual learning should be constantly updated with the times, and knowledge is not static and may be eliminated and changed at any time. We should pay attention to discerning the true and false knowledge in learning, and choosing the correct information as much as possible, as shown in Figure 2.

The impact of the changes in the view of knowledge, learning, and practice brought about by the emergence of connectionism on the construction of today’s learning communities is immense, and the effects will spread to all types of kindergarten organizations as the theory develops and matures. Today’s knowledge is constantly changing over time and is not just waiting for us to learn somewhere. Knowledge is rapidly changing, and in many cases, it is in chaos and cannot be clearly defined or logically defined until it is approached. But there are increased ways to acquire knowledge and information, through interaction with others, through book learning, and technology to create links to knowledge points.

In this way, the importance of building learning communities for kindergarten teachers cannot be overstated. By building a good community, teachers can establish strong connections with other teachers, with the knowledge provided by the kindergarten, and with the outside world. The standard deviation in the evolutionary network at the germination stage was 142 times the mean intermediate centrality, and the maximum value of the intermediate centrality was 19 times the mean. The maximum value of type centrality is 11 times the average value. This allows teachers to learn through the connections between knowledge even when they are outside of the kindergarten environment. Our traditional teacher learning is a transfer of ready-made knowledge within the kindergarten and between the external links provided by the kindergarten, which is ready-made knowledge to the students and is outdated or incomplete by the time the teacher applies it in practice. When faced with a large amount of new knowledge related to the profession, teachers are unable to promptly update their knowledge reserves through channels.

3.2. Multifactor Correlation Analysis Model Design for Preschool Education. The essence of reciprocal relatedness is to describe the interactions between members and the relationship of associated existence. The survival of an individual is a prerequisite for the reciprocal associative relationship between people in the community [19]. However, in real life, most control systems are disturbed by random noise, which makes the results obtained by directly using the observation data for identification inaccurate. The development of association effectively guarantees the input and output of knowledge and information in the learning community of kindergarten teachers, increases the motivation of teachers to learn cooperatively through mutual association, mobilizes team cohesion, and develops kindergarten teachers in the group. In their research, scholars have found that the following points are needed for different individual teachers to establish correlational relationships: associated teachers...
need to have information to exchange with each other; teacher reciprocity requires a sincere willingness to provide help to colleagues, and each teacher can grow in a cordial atmosphere, not just some teachers; and reciprocity is consistent with the goal of teacher community development. Kindergarten teachers share their knowledge and develop their thinking skills while helping others. The reciprocal association is a powerful motivator for progress among teachers in kindergarten teacher learning communities. Sharing and collaboration among teachers require not only the active participation of teachers but also the guidance of kindergarten leaders who are committed to improving the core competencies of kindergarten teachers. The input and output data of the system are filtered by introducing a linear filter into the original system model, and then, the filtered input and output data are used for system identification, thereby effectively improving the parameter estimation accuracy of the identification algorithm.

The two main forms of teaching and research within kindergartens are collective lesson planning and activities of teaching and research groups in each area. Compared with teachers’ independent lesson preparation, the collective lesson preparation is an important mechanism for improving the effectiveness of classroom teaching activities, an important guarantee for kindergarten teachers’ professional growth, and a powerful driving force for achieving continuous advancement of teaching activities. Kindergarten teachers’ collective lesson preparation brings into play the strength of teachers’ groups, explores the true meaning of teaching according to the characteristics of kindergarten and children, integrates teaching methods and teaching arts, and focuses on the cooperation and exchange of quality resources among teachers, as shown in Figure 3.

Teaching and research groups in each field gather collective wisdom to conduct teaching and research and are community organizations that improve the professional development of kindergarten teachers [20]. In the kindergarten community organization, teachers are generally divided into core teachers, expert teachers, and novice teachers; and each teaching and research group is formed in the five major areas according to the optimal combination of each teacher’s interests and strengths. In the organization of teachers’ teaching and research, there are planned activities to discuss and exchange teaching experiences to maximize the cooperation of teachers in the teacher community.

The variables to be verified in this study mainly involve preschool experience, which reflects whether students receive preschool education, and noncognitive abilities, which include self-efficacy, learning engagement, intrinsic motivation, and sociality. Preschool education is the first stage of formal schooling in that students are specifically trained and developed some behavioral habits and noncognitive abilities. The educational activities in preschool education are more guided and encouraged by teachers, and students accumulate more successful experiences in the activities, so they are more confident when facing problems; in preschool education, where the main activity task is playing, students’ concentration on things is improved.

The main effects of preschool education experience on self-efficacy, intrinsic motivation, and sociality were 0.061, 0.067, and 0.061, and they were all significant at the 1% level; after adding the variables of urban and rural types, the interaction effect values reached 0.288, 0.240, and 0.240, respectively. They learn to communicate with their peers and teachers, resolve conflicts and contradictions, and establish healthier and more positive peer relationships. Since the kindergarten stage is far away from the entrance examinations, teachers are more likely to train students for their growth and development, students are more likely to engage in certain activities for their consideration rather than for utilitarian purposes such as examinations, and intrinsic motivation is then developed. Because students’ noncognitive skills are developed in preschool and because noncognitive skills have a relatively long-term and stable effect, the noncognitive skills that students develop early in life may still have an impact in secondary school.

For the basic profile of kindergarten teachers, this study focused on collecting data from several aspects such as gender, age, years of teaching experience, highest education, job title, current position, and nature of the kindergarten in which they worked. From Table 1, we can see that among the 138 teachers surveyed, female teachers are still the main force of kindergarten teachers. The number of teachers with senior or higher titles was controlled within a certain range from the composition of the surveyed teachers’ titles; the nature of the kindergartens in which they worked was mainly public kindergartens in the surveyed sample.

The existence of the kindergarten teachers’ community is mainly through internal preparation and research, collaboration between kindergartens and other kindergartens, cooperation between universities and kindergartens, and the online learning community model, which are the main carriers of teachers’ learning, teaching, and research. It has the characteristics of cooperation and openness [21].
However, the influence of different modalities on teachers and the magnitude of their effect vary. Teachers’ real ideas and opinions are obscured, and even if they have ideas, they avoid making changes and innovations. Teachers feel that the director is the greatest leader and that no one has any opposing views, so many of the problems of teaching practice that should be taken seriously are not solved. Kindergartens generally conduct preliminary investigations before launching projects, and then, take the next steps to understand the current needs of teachers and actual conditions through “consultation, interviews, or questionnaires. Overall, such activities will only increase the burden on kindergarten teachers and cause them to resist the community, thus making the kindergarten teachers’ community lose its vitality or even be terminated.

4. Analysis of Results

4.1. Results of Multivariate Nonlinear Matrix Correlation Analysis. In the case of a relatively small computational scale, there is no significant difference in the number of iteration steps between the two methods to solve the square root problem, and the computation time of the algorithm is slightly less than that of ALG-Duan. As the computational scale increases, the algorithm outperforms ALG-Duan in terms of the number of iteration steps, computation time, and stability, as shown in Figure 4.

This further indicates that the data filtering technique can effectively reduce the influence of colored noise on the system measurement data, which can improve the parameter estimation accuracy.

In the process of system identification, the establishment of a mathematical model that reflects the dynamic law of the system through measurement data is the first task of in-depth study of the controlled system. With the continuous improvement of the modern industrial system production process, the controlled objects in the field of industrial control are usually multivariable systems with large-scale, complex structures and uncertain disturbances. This lays a solid foundation for community development. Therefore, how to apply the classical iterative class identification method to multivariate system identification has become a hot and difficult research problem in the field of system identification. In this paper, two system models of multivariate error systems under different noise conditions, namely, the multivariate error autoregressive system and multivariate error autoregressive sliding average system, are studied in detail.

For the multivariate error system, the iterative identification method of the system is studied in detail. The generalized gradient iterative identification algorithm and the generalized least-square iterative identification algorithm for the multivariate error class system are derived by using the negative gradient search principle and the least-square principle. By using the batch data to construct the stacked output matrix and the stacked information matrix, the iterative identification method can make full use of the measured data of the system in each iteration, and, therefore, has a better accuracy of parameter estimation, as shown in Figure 5.

The standard variance in the emergent evolutionary network is 142 times the average intermediate centrality, and
the maximum intermediate centrality is 19 times the average; the standard variance in the eruptive evolutionary network is 256 times the average intermediate centrality, and the maximum intermediate centrality is 11 times the average; and the standard variance in the moderate evolutionary network is 607 times the average intermediate centrality. The iterative identification method usually uses batch data to refresh the parameter estimation; that is, the parameters to be identified are dynamically updated by batch processing the observation data; and this method is often used in the identification process of limited measurement data. The standard variance in the long-tail evolutionary network is 406 times the mean intermediate centrality, and the maximum intermediate centrality is 10 times the mean. Thus, it can be analyzed that the “bridge” nodes of the evolutionary network in the easing period account for a larger proportion of the evolutionary network in this period than in the other periods, which indicates that the influences in this period play an important role in the whole evolutionary process.

The goals and tasks of establishing a community of teachers are different for different levels of kindergartens. To make the community training mechanism suitable for the development of kindergartens, kindergartens usually conduct a preliminary survey before starting the project, through “consultation, interviews, or questionnaires” to understand the current needs and realistic conditions of teachers before taking the next step. A solid foundation is laid for community development.

As a result, preschool education has achieved unprecedented development achievements: the number of kindergartens, and the number of children and teachers in kindergartens have increased year by year; the enrollment rate of kindergartens has continued to rise; and inclusive kindergartens have been vigorously developed. In the pre-study process, the principles of science, democracy, and openness should be followed. Science is the premise, if the research is not based on the logical system established by the community, through the wrong ideas to guide the establishment of the community, it is bound to produce only poorer results. Democracy is the guarantee that the research fully listens to the opinions of kindergarten teachers and scholars who are experts in early childhood education to ensure that community building is an effective organization accepted by teachers.

4.2. Results of Applying the Multifactor Correlation Analysis Model for Preschool Education. Since students are dynamic individuals, the benefits of receiving preschool education are reflected in different degrees in each student, and the benefits cannot be generalized and may be heterogeneous depending on the students’ backgrounds; this study examined the different effects of preschool education on the noncognitive abilities of students from urban and rural areas with parents of different levels of education, to examine the effects of receiving preschool education on different groups of students.

Due to differences in the allocation of educational resources, the preschool education received by students from urban and rural areas may significantly differ, so the interaction term between preschool education experience and urban-rural type was constructed to test whether there is a significant difference in the effect of preschool education experience on students’ noncognitive abilities in the urban-rural dimension. According to the interaction effect test steps, the interaction terms of the control variables were included in the regression model in turn, and the regression coefficients of each variable are shown in Figure 6.

The results showed that the interaction effects of preschool education experience and urban and rural on three noncognitive ability indicators of self-efficacy, intrinsic motivation, and sociality were significant; and the interaction on learning engagement did not reach the significance level. The main effects of preschool experience on self-efficacy, intrinsic motivation, and sociality were 0.061, 0.067, and 0.061, respectively; all of them were significant at the 1% level; and several noncognitive abilities of sociality have significant enhancement effects.

Students want to know as much information as possible about graduates’ employment and choose their future careers through a large amount of historical employment information, and it is difficult to satisfy the demand by only showing the popularity of positions. When choosing their first job, on the one hand, they need to measure the degree of fit between their conditions and the industry practice standards, unit recruitment requirements, etc., and understand which industries and units are popular for graduates of this major; and on the other hand, they also need to consider the prospects of the industry, units, and positions. Most students do not have the opportunity to consult with their seniors or sisters who have graduated for many years for employment information. Moreover, students who have
graduated are bound by the exposure of their positions; most of them only have knowledge about the industry they are engaged in; and their knowledge about other industries and positions is not comprehensive.

At the same time, the basic concept and practice approach of preschool education directly reflect the realistic expectation and ideal pursuit of society for preschool education. It can be said that preschool education is a business of pursuing dreams and ideals. On the one hand, the introduction of the matrix theory in the field of modern science can make the expression and calculation of the problem easier. By inheritance, it means that, like any other resource, the accumulation of preschool education resources is always a historical process of inheritance. The present reality of resources is both the continuation of past resources and the foundation of future resources. The inheritance of preschool education resources mostly appears in the form of social public goods, with distinct social public goods and trendy future development, as shown in Figure 7.

Different regions and stages, and preschool education resources are always limited, and comparing the spatial allocation level of preschool education resources cannot be judged simply by the size of the resources, but must adhere to the basic requirement of coordinated development, adhere to specific analysis of specific problems, consider the differences in supply and demand of regional preschool education resources between urban and rural areas, and between regions and between schools, and consider the basis of preschool education development. It is beneficial to enhance children’s willpower and self-control ability, help children form a good personality before school age, and promote their active integration into the social environment and all-round development. The basic requirements of preschool education are to take into account the differences in supply and demand between urban and rural areas, regions and schools, the basis of preschool education development, development level and development goals, current development and long-term development, key development and general development, and economic and social development, so that the limited preschool education resources can be optimally allocated and the effectiveness and impact of resources can be maximized.

Coordinated allocation is the basic requirement of preschool education resource allocation and is also an important measure to evaluate the degree of optimal allocation. Especially in the case of limited preschool education resources, coordinated allocation is an inherent requirement and an important element to improve the effectiveness of education resources and promote the universal, inclusive, and balanced development of preschool education.

5. Conclusions

In this paper, a generalized incremental iterative identification algorithm for multivariate equation-error systems is proposed. Compared with the generalized iterative identification method, the generalized incremental iterative identification method can realize the online form of iterative identification because it uses dynamic data windows that move with time. In addition, the dynamic form of data windows can make full use of the collected observation information to correct the parameter estimates. In addition to the advantages of strong universality and simple model, complex networks can also present various characteristics of complex systems, including group structure, degree distribution, and clustering coefficient, which almost include all
research levels. The imperfect organizational structure of the kindergarten teachers’ learning community is an important reason that affects the development of the community. The subjectivity of kindergarten teachers is not valued; teachers’ cooperative learning cannot be fully carried out; teachers’ goals and learning contents are the same except for leaders; and there is no clear division of labor. For example, when collective lesson planning is carried out within kindergartens, teaching and research are usually performed in the same areas, while cross-subject and area activities are rarely carried out. Often these sites have different subsections representing different areas or types of topics, and teachers are free to join a group at any time or create their subsections to provide a communication group for everyone. Through propensity score matching, it was found that students’ receipt of preschool education had a positive predictive effect on self-efficacy, academic engagement, intrinsic motivation, and sociality in secondary school. Moreover, receiving preschool education had the greatest positive effect on intrinsic motivation, followed by self-efficacy, and a relatively small positive effect on learning engagement.

Data Availability
The data used to support the findings of this study can be obtained from the corresponding author upon request.

Conflicts of Interest
The authors declare that they have no conflicts of interest or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments
This work was supported by the Hubei Famous Teacher Studio “Project of Organization Department of CPC Hubei Provincial Committee and the Education Department of Hubei Province (Hubei Teacher Letter (2017) No. 13), project no. 19, and “100 Universities with 100 Counties Universities Service Rural Revitalization with Scientific and Technological Support Action Plan (2021-2025)” Project of Hubei Provincial Department of Education, project no. BXLBX0945.

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