Research Article

Application of Edge Computing and Data Mining Processing System in Preschool Education Courses

Baoliang Xu [ID]

School of Education Sciences, Lingnan Normal University, Zhanjiang, Guangdong 524048, China

Correspondence should be addressed to Baoliang Xu; xubaoliang137@126.com

With the deepening of reform and opening up, my country's preschool education has entered a vigorous development. At the same time, higher requirements are put forward for the field of preschool education. Preschool education is an important part of education, and preschool education is the foundation of basic education. However, the informatization construction in the field of preschool education in my country has just started. In order to implement the planning requirements of the Ministry of Education on strengthening the informatization construction of preschool education, build a digital platform, improve children's quality, promote the harmonious development of children's body and mind, improve professional ethics and the professional level of preschool education practitioners with the help of modern new media, and meet the professional development and sense of achievement, acquisition, and satisfaction of preschool education practitioners. Taking multiple measures to ensure the diversified needs of preschool education practitioners is the important and only means for the stable, comprehensive, and sustainable development of preschool education. The data visualization platform of IOT architecture designed in this paper for edge computing ensures the application of massive data in preschool education courses, ensures the stability of system data transmission, and realizes the visualization of IOT terminal data. Therefore, the introduction of data mining technology in this paper can improve the utilization of resources, provide support for teachers, students, and ordinary users, and enhance the versatility of the preschool education resource platform.

1. Introduction

Today, with the reform of China's education system, preschool education has become more and more important [1]. Many scientific research institutions and educational institutions actively introduce information technology and develop and build a preschool education resource platform [2]. These platforms can provide teachers, students, and administrators [3] various resources, such as children's mental health, children's intellectual development, children's creativity improvement, and other knowledge content [4]. With the long-term operation of the platform, a large amount of data information has been accumulated, so it is very important to actively improve the utilization of preschool education resources [5].

As the foundation of basic education, the importance of preschool education is self-evident [6]. After the opening of the comprehensive two child policy, the number of preschool children has increased significantly [7]. These factors also make China's preschool education face greater pressure than before [8]. The 19th CPC National Congress proposed that preschool education should realize the deployment of early childhood education [9].

The opinions of the CPC Central Committee and the State Council on deepening the reform and standardized development of preschool education issued in 2018 clearly pointed out that the unbalanced and insufficient development of preschool education in China is still very prominent, and it is still a weak link in the whole education system [10]. One of the problems is that the construction of teaching staff lags behind, so the countermeasures of "Innovating the training mode and optimizing the training curriculum system" are put forward [11]. The quality of preschool education talent training

depends on the curriculum of preschool education major in each school [12].

At this stage, the preschool education talents cultivated by secondary vocational schools are still an important part of kindergarten teachers, but their graduates' vocational adaptation level is low, and their comprehensive quality and ability have not yet reached the postobjectives [13]. The fundamental reason for this phenomenon is that at present, the preschool education curriculum of secondary vocational schools mainly adopts the traditional three-stage curriculum model, emphasizing theory over practice and ignoring the connection between knowledge and specific work tasks, and it cannot effectively cultivate students' comprehensive quality, key capabilities, and professional ability.

Based on this situation, it is necessary to comprehensively adjust the curriculum system of preschool education in secondary vocational colleges to truly meet the requirements of kindergarten teachers' professional ability [14].

From the development situation in recent years, the development level of preschool education has been significantly improved, and the demand for preschool education teachers is also rising [15]. It is undeniable that for modern society, higher education has obvious characteristics of popularization, but most kindergarten teachers are provided by the preschool education major of secondary vocational schools [16]. However, the phenomenon of low employment quality that does not match the high employment rate is very prominent [17]. Graduates generally do not have good job adaptability, and their comprehensive professional characteristics are poor, which is difficult to meet the requirements of kindergarten teachers' professional ability [18]. The low quality of talent training reflects the problems in the curriculum of preschool education in secondary vocational schools, which cannot achieve the goal of kindergarten vocational ability training [19]. From the current development situation, the preschool education major in secondary vocational schools in China is mostly divided into three curriculum stages, paying attention to theoretical research methods and ignoring the key impact of practical operation [20]. In the long-term development, the relationship between knowledge and specific work tasks is bound to be ignored, and students' key abilities and professional abilities cannot be effectively cultivated [21].

To sum up, with the continuous development of society, the importance of preschool education has increased significantly. These factors have led to the further improvement of the requirements for the training of preschool education professionals. In terms of curriculum design, it basically does not meet the requirements of the professional ability of nurses, and it is difficult to meet the actual needs. Since the concept of competency based vocational education was put forward, it has gradually attracted the attention and research of vocational education in China and has been widely used in the curriculum reform of vocational education.

As a front-line educator of secondary vocational preschool education, finally, the author has a real understanding of the current situation of the curriculum of this major and believes that we should jump out of the current three-stage curriculum system of secondary vocational schools and reform the curriculum model under the guidance of colleges and universities. Vocational education concept: this study will actively carry out case studies on the curriculum of preschool education in secondary vocational schools on the basis of the necessary ability-based vocational education, effectively analyze the current situation of the curriculum of case schools from the perspective of ability based, and put forward relevant suggestions. Edge learning is a data mining and analysis algorithm, which can recommend the required learning materials from a large number of preschool education resources according to the needs of users. It has an important role and significance.

2. Related Concepts and Theoretical Basis

2.1. Concept Definition. The full name of secondary vocational school is "secondary vocational and technical school." The secondary vocational and technical school plays an important role in China's vocational education system and is in the core development position. Secondary vocational and technical middle school mainly refers to the school that provides vocational and technical education for students in the whole high school stage. In secondary vocational and technical secondary schools, the academic system of general subjects is a three-year system, that is, the academic year is three years. The main types of secondary vocational and technical middle schools are ordinary middle schools, vocational high schools, and technical schools, which are referred to as "technical schools" in short.

Preschool education refers to the school education specially for preschool children aged 0–6. Due to the special situation of preschool children, the staff engaged in preschool education must have the corresponding professional knowledge. For secondary vocational and technical schools, a special "preschool education" major is set up to cultivate comprehensive talents who are competent for preschool education and have professional knowledge and skills of preschool education. For students, it is undoubtedly a very wise choice to work in nurseries and kindergartens, which is very consistent with the purposes and objectives of secondary vocational and technical schools.

As a professional term in the field of educational science, each researcher has different understanding and interpretation of the significance of curriculum based on different research contents and perspectives.

The education dictionary says that "the courses taught in schools are an organic whole with due structure and function, so it is also called f curriculum system" or "curriculum structure." It mainly refers to that the school usually determines the specific training objectives based on the overall school running objectives, the nature of the school itself, and the nature of disciplines and majors, and it defines the form of professional learning and the vocational skills and working skills that need to be developed. Therefore, the division of labor and cooperation between courses is reasonable and determined.

The concise encyclopedia of international education has different understandings on the curriculum. William Hubert, an American curriculum expert, believes that

"curriculum design refers to the full range and characteristics of the curriculum arranged by schools or other institutions." Liang pointed out in the educational theory volume of the Encyclopedia of Chinese preschool education that from a macro perspective, it mainly refers to the whole learning plan. The course aims to achieve the training objectives of the school and selects educational content. The division of labor "reflects the purpose and nature of running a school," mainly the selection and arrangement of learning content.

Another domestic researcher pointed out that curriculum design is an important part of curriculum design, that is, under the guidance of certain educational values and educational development needs, talent training units will consider and formulate appropriate talent training goals according to the needs of social development, discipline research and development, as well as the special needs of students' personal career development and life pursuit. Standardize the development and setting of the curriculum system, organize the selection and arrangement of talents, determine teaching subjects and training objectives, and promote the establishment and improvement of the professional talent training system.

2.2. Theoretical Basis for the Curriculum Setting of Preschool Education in Secondary Vocational Schools.

In the process of practice, we cannot do without the guidance of scientific theory. Only in the process of practice under the guidance of scientific theory can we achieve good results. The curriculum should be scientific and reasonable, with both professional theoretical basis and relevant policy basis. The concept of competency standard vocational education breaks the restrictions of China's traditional discipline standard talent training mode and is more conducive to improving the quality of vocational education talent training. Based on this, this study selects three secondary vocational schools in Qingdao as perfect kindergartens, which is the theoretical basis of educational curriculum. The theory of competency-based vocational education curriculum originated in the United States in the 1960s. It is believed that the traditional educational concept pays too much attention to the explanation of book knowledge points and ignores the cultivation and improvement of students' practical ability. Therefore, it greatly affects the effect of education. The ability-based vocational education curriculum is mainly to improve students' knowledge and professional skills on the basis of clarifying the established job requirements and vocational ability indicators, combined with students' own abilities and levels.

Compared with other previous educational theories, this theory pays more attention to students' practical ability in addition to the study of textbook theory. It is mainly under the basic premise of vocational ability training to ensure that students can be competent for corresponding employment positions after learning. It is a relatively advanced educational concept at this stage and has been widely recognized all over the world. Its basic characteristics include first, pay attention to the analysis of postvocational ability

requirements, set corresponding professional courses and evaluation indicators on this basic premise, and take the vocational ability training objectives as the basic content requirements of the post. Curriculum education and reasonable training: second, pay attention to the improvement of students' comprehensive quality, carry out targeted training according to different students' comprehensive level and learning ability, and adopt a differentiated evaluation system to improve education efficiency; third, attach great importance to the improvement of students' autonomous learning ability. Teachers are the main guides of students, guiding students to make their own learning plans and arrangements, answering students' questions and doubts, giving full play to students' autonomy and initiative, and being responsible for students' personal growth and future. The teacher's first process here should not exceed 1000 predictions, and only the guidance and demonstration effect can be brought into play. Fourth, teaching methods should be more diversified and flexible, emphasizing the improvement and science of management mechanism.

In general, this theory plays a very important role in talent training. We need to truly meet the job needs and cultivate more excellent talents for the society. They not only have solid professional theoretical knowledge but also have good practical ability and can adapt to society and positions as soon as possible. Therefore, in the future curriculum system construction, we should take the vocational ability training as the basis of all work, pay attention to the cultivation of students' practical operation ability, meet the needs of diversified and personalized education, and establish a student-oriented professional ability. The scientific evaluation index system is used to comprehensively realize the construction of the education system. Secondary vocational preschool education is an important foundation and source to provide a large number of kindergarten teachers to the society and comprehensively improve the level of educational practice. Combined with the relevant concepts of competency-based vocational education curriculum, it can give full play to its guiding role in professional curriculum setting and improving students' comprehensive professional ability.

According to the vocational standards for kindergarten teachers (trial) issued in recent years, there are clear definitions and requirements for kindergarten teachers and preschool education practitioners. The document points out that kindergarten teachers should receive professional vocational education and must have noble morality, love education, and have sufficient professional knowledge and professional technical ability. This standard has become an important reference for kindergarten teacher training.

In addition, the vocational standards for this trial also put forward specific implementation suggestions: schools should comprehensively analyze the requirements of school employment, professional characteristics, and the current situation of existing teachers, pay attention to improving the level of relevant majors, ensure the rationality of curriculum, promote employment, pay full attention to pre-employment training and postemployment retraining and education, realize the key significance of professional ethics for their

own development, guide them to actively participate in various social practices, and comprehensively improve the professional level and professional technical ability of kindergarten teachers and preschool education practitioners.

3. Related Technologies

3.1. Edge Computing. Edge computing was explained at the SIDCOM (Special Interest Group on Data Communication) conference in the field of communication networks. Edge computing originally originated from the media field. Its meaning is a platform that integrates key technologies such as data collection, network transmission, data storage, application calculation, and application on the side close to the data source or object, providing efficient services for applications under edge nodes. Edge computing is further divided into generalized edge computing and narrow edge computing. As shown in Figure 1, it presents a typical multilayer edge computing architecture.

Edge computing in a narrow sense means that the computing node is located on the data source, and the main application of edge computing in the narrow sense is the camera of video surveillance. Video surveillance cameras often contain CPUs and GPUs. Performing calculations in the camera equipment can realize face recognition in the monitored images, which can improve the speed at which the monitoring personnel receive alarm responses. As a result of using such a design, the cost of the terminal equipment is very high, the quality and volume of the terminal equipment are doubled compared to the traditional equipment, the power consumption is also very large, and the heat dissipation function is poor. In the industrial Internet of Things application environment, that is, data processing is performed on the sensor terminal, and most application scenarios require low-power products as terminal devices, and even some products are powered by batteries, which have certain requirements on the power consumption of terminal devices. Therefore, the edge computing described in this article refers to the generalized edge computing.

In a broad sense, edge computing refers to being far away from the cloud, being under the same network node as an object or data source that is close, and performing data processing. This kind of transmission process from the sensor of edge computing in the narrow sense to the cloud is called the computing node, and the calculation of the node after the data settlement in the same network environment is also called fog computing. At present, most of the edge computing technology research refers to generalized edge computing, and because the computing nodes of generalized edge computing are not limited by the conditions of IoT terminals, developers can configure servers with different computing power according to their needs so as to realize edge computing. The calculation of points can be applied in more and more complex scenarios.

To sum up, the three data visualization graphics libraries mentioned above will be compared in this article from the perspectives of compatibility, underlying implementation and open source, as shown in Table 1:

3.2. Data Mining. The extensive research and extensive application of data mining can be regarded as the result of the natural evolution of information technology. As a multidisciplinary field, data mining can be defined in many ways. Even if the term "data mining" itself is interpreted, it cannot fully cover the rich content it contains.

Both clustering and outlier analysis can be classified as unsupervised learning, as shown in Table 2. Clustering tasks analyze data objects without regard to class labels, usually due to the absence of labeled class data in the dataset. In general, outliers are discarded as noise or outliers in most data mining tasks. However, in some application scenarios such as fraud detection, outlier analysis can be interesting. Outlier analysis, also known as anomaly mining, is generally closely related to cluster analysis methods.

$$\Delta(x_1, x_2) = \Delta(x_2, x_1). \tag{1}$$

Then, (Ω, Δ) represents the metric space; (x, xj) represents the distance function between the elements xi and x. There are three functions that are often used to calculate distances: Manhattan (Equation 2), Euclidean (Equation 3), and P-norm (Equation 4).

$$\Delta(x_i, x_j) = \sum_{k=1}^{N} \left| f(x_i, a_k) - f(x_j, a_k) \right|, \tag{2}$$

$$\Delta(x_i, x_j) = \left(\sum_{k=1}^{N} \left(f(x_i, a_k) - f(x_j, a_k) \right)^2 \right)^{1/2}, \tag{3}$$

$$\Delta(x_i, x_j) = \left(\sum_{k=1}^{N} \left| f(x_i, a_k) - f(x_j, a_k) \right|^P \right)^{1/p}. \tag{4}$$

Let the nonempty finite set $U = \{x1, x2, \ldots, xn\}$ on the real space Ω, then the neighborhood δ-definition of $\forall xi$ is

$$\delta(x_i) = \{x \mid x \in U, \Delta(x, x_i) \leq \delta\}. \tag{5}$$

Let the nonempty finite set $U = \{x1, x2, \ldots, xn\}$ on the real number space Ω and the neighborhood relation N on it, that is, the two-tuple $NS = (U, N)$, $\forall X \subseteq U$; then X is the upper and lower approximations in the neighborhood approximation space $NS = (U, N)$ which are

$$N^- X = \{x_i \mid \delta(x_i) \cap X \neq \varnothing, x_i \in U\}. \tag{6}$$

Then, the approximate boundary of X (7) is obtained, the lower approximation N−X is the positive domain, and the area completely unrelated to X is the negative domain.

$$BN(X) = N^- X - N\_X. \tag{7}$$

Set the neighborhood decision system NDS = (U, A ∪ D), the decision attribute D divides the universe U into N equivalence classes (X1, X2, \ldots ,XN), $\forall B \subseteq A$; then the decision attribute D is about the upper and lower approximations of set B which are expressed in the following equations Eq. 8 and Eq. 9, respectively.
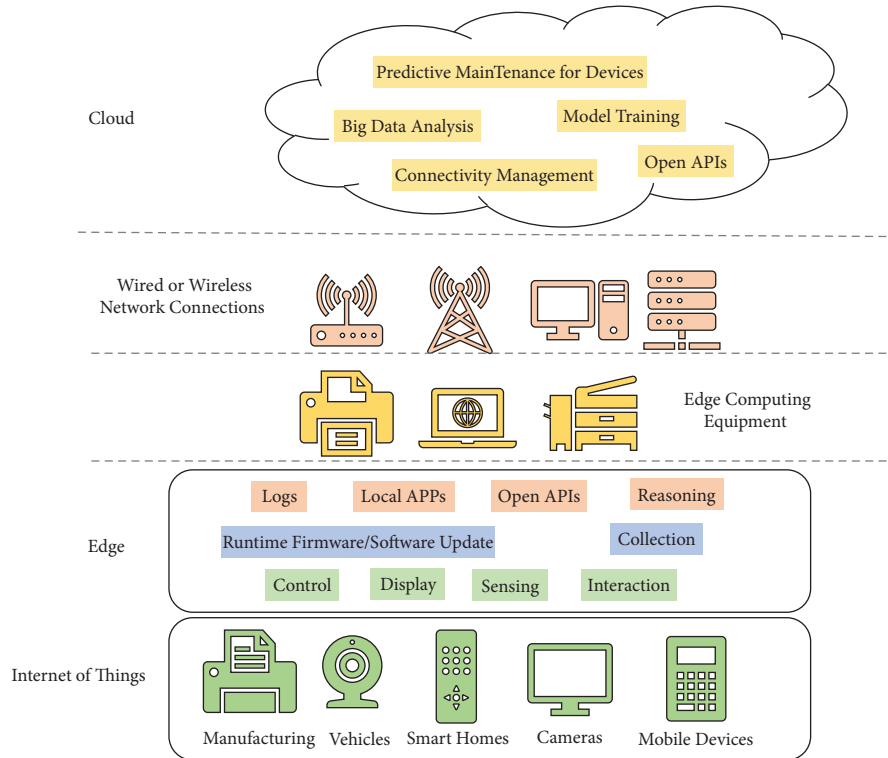
Figure 1: Edge computing architecture.

Table 1: Comparison of visual chart libraries.

Visual chart	Compatibility	The underlying implementation	Open source
ECharts	Compatible with all major browsers IE6 and above, also supports zooming and gestures on mobile	Canvas, based on vector graphics library ZRender, provides intuitive, interactive, and highly customized data visualization charts	Free Github 49.9k star
Highcharts	Internet Explorer 6 and above all major browsers, perfect support for mobile zoom, gesture operation	SVG, a simple and easy way to add interactive charts to web sites or web applications, has a limited chart library	Commercial payment Github 10.4k star
D3.js	Compatible with all major browsers IE9 and above	Canvas and SVG need custom development	Free Github 100k star

Table 2: Detailed introduction of data mining functions.

Subfunction	Meaning	Methods	Output	Example
Data characterization	Characterisation of data refers to a collection of general features or characteristics of the target class data, often using queries to collect data corresponding to user-specified classes.	Simple data summarization based on statistical measures and graphs, OLAP roll-up operation based on data cubes and attribute-oriented induction techniques are adopted.	Graph method (e.g., pie chart, bar chart, curve, and so on) and generalized relation and rule description method.	To investigate the characteristics of an aquatic product with a 5% increase in sales in the previous quarter, data on this product can be collected by executing SQL queries on the sales database.
Data to distinguish between	Compares the general characteristics of the target class data object with those of one or more contrast class data objects.	The methods used for data differentiation are similar to those used for data characterization.	The form generally includes comparison measures to help distinguish the target class from the comparison class.	Users want to compare the 5% increase in sales of aquatic products in the last quarter with the 20% decrease in sales of aquatic products in the same period.

Let $\Delta = R \times RN \longrightarrow R$ in N-dimensional real number space Ω; then, Δ is a metric (distance) on RN, if Δ satisfies the following conditions.

$$R = (r_1, \ldots r_{10}, ar_{11}, \ldots ar_{15}, br_{16}, \ldots br_{20}), \quad (8)$$

$$\mathrm{SCDDF} = \left(\overrightarrow{OM}; r_1, \ldots r_M; dr_1, \ldots, dr_M; \theta_i \right). \quad (9)$$

Dependency of decision D on condition B

$$k_D = \gamma_B(D) = \frac{\left| Pos_B(D) \right|}{|U|}. \quad (10)$$

The algorithm is more effective in attribute reduction. This conclusion has been given. The verification data come from the UCI data set. The results after attribute reduction are shown in Figure 2.

4. Experimental Results and Analysis

4.1. Data Collection and Testing Environment. Qingdao vocational and technical middle school is the only public vocational and technical school in Qingdao Development Zone, and it is also a national key vocational middle school. Qingdao vocational and technical middle school has 89 classes, more than 5000 students, and 282 teaching staff, of which more than 70% of the teaching staff have intermediate and senior titles, and 117 double qualified teachers. There are 16 teaching majors, including preschool education, animation design, accounting, logistics management, business Korean, electromechanical technology application, computer, and so on. Qingdao vocational and technical middle school takes improving students' employability as the basic development direction, serves students and the society, pays attention to the cultivation of students' professional and technical ability, the teaching of professional knowledge, and the cultivation of professional and professional quality as the purpose, and adheres to the school running philosophy of "adult, talent, success."

The preschool education major of Qingdao vocational and technical middle school began to recruit students in 2001. Up to now, the number of graduates of the preschool education major of the school has exceeded 2000, mainly concentrated in kindergartens in small and medium-sized towns such as prefectures, cities, and towns. At present, the preschool education major of the school has 360 students and 25 full-time teachers. At the same time, the major is also equipped with piano room, art classroom, dance classroom, vocal music classroom, and other training classrooms.

The hardware configuration of the edge computing server of this system is shown in Table 3.

Chrome is currently the most widely used browser and provides a complete page testing function. This article will use the Chrome browser (Developer Tools) developer tools to analyze and test platform performance and metrics. In the Network control panel of the developer tool, the platform can initiate the request to the server to the whole process of receiving the returned data. The detailed information in the Network includes the URL path, HTTP request header, request parameters, HTTP status code, resource file, and server response information delay.

4.2. Analysis of the Current Situation of the Curriculum Setting of the Preschool Education Major in the Case School. According to the curriculum concept of this study, that is, according to the concept of the training objectives of the preschool education major of secondary vocational education, plan and design the curriculum, formulate a reasonable curriculum framework system and curriculum content structure, and provide targeted suggestions and opinions on class hour arrangement and curriculum arrangement according to the different teaching conditions of each academic year so as to create a complete preschool education curriculum system of secondary vocational schools. Through interviews, questionnaires, and data review, this study will analyze the current situation of the training objectives, curriculum structure, and discipline setting of preschool education major in the three case schools and investigate and understand the implementation of the curriculum.

According to the survey and statistics in Figure 3, only 8% of the students in school are satisfied with the training objectives of their major. These data fully show that students' satisfaction with the training objectives is very low. At the same time, nearly 20% of the students do not understand the training objectives of their major, and only 2.01% of the students think that they can achieve the training objectives by studying professional courses, but they are very pessimistic about the realization of the training objectives.

Through the results of interviews and questionnaires, it can be seen that the students and teachers in Qingdao secondary vocational and technical middle school generally pay less attention to and agree with the training objectives of preschool education. Many of them, not only students but also some teachers do not know how to achieve the training objectives.

It can be seen from the survey results in Table 4 that among the three schools, only Qingdao preschool normal school offers elective courses, accounting for only 5.19%. In the survey of "whether it is necessary to set up elective courses according to students' interests," 63.12% of students think it is necessary, 17.51% of them think it is necessary, and 11% of them think it is normal. Only 7.54% thought it was unnecessary. It can be concluded that students still generally believe that it is very necessary to set up elective courses.

Based on the optimization of Canvas instructions, the cache optimization method is used. After using the cache optimization method to execute the drawing instructions, the graphics are first saved in the off-screen Canvas, which can optimize the original many drawing instructions into one instruction. The optimized result can render the frame rate up to 60 fps.

As shown in Figure 4, the unoptimized page using the native ECharts graphics library and the page using 5 optimization methods are refreshed 20 times, and finally, the average rendering frame rate statistics are obtained. The frame rate of rendering using the rendering optimization method is significantly improved.

It can be seen from Table 5 that the arrangement of the school's professional skills classes and professional theory classes is not the same, but in general, the class hours of
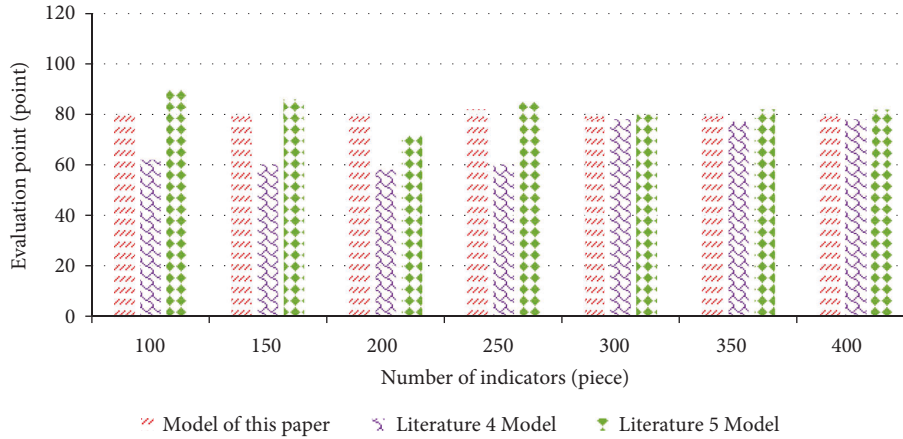
Figure 2: Comparison of the number of attributes and classification performance after reduction.

Table 3: Edge computing server configuration information table.

Browser	Rendering engine	Browser version	The operating system	System version
Edge	Trident	95.0.1020.40	Windows	Windows 11
Chrome	WebKit	95.0.4638.54	Windows	Windows 10
Firefox	Gecko	86.0	Windows	Windows 10
Safari	WebKit	11	MacOs	10.12.6
QQ browser	Chromium + Trident	10	Windows	Windows 10

Figure 3: The survey of students' satisfaction with the training objectives.

Table 4: Comparison of school hours between elective courses and compulsory courses.

Optional course hour	The percentage	Compulsory course hours	The percentage
160	5.19	2090	94.81
0	0	3080	100
0	0	3080	100

professional skills classes are higher than the class hours of professional theory classes. In the questionnaire survey of "The Most Lack of Knowledge and Skills During the Internship," it can be seen from the survey results in Figure 4 that nearly 70% of the students believe that the basic theoretical knowledge of teaching and the teaching methods in the five major areas are relatively lacking, which

are all majors. 13.68% of the students think that the content of professional skills in theoretical courses is relatively lacking, which shows that the proportion of teaching hours of teaching basic theories and teaching methods in the five major areas can be appropriately increased.

At present, there are still significant differences in quantity and quality of preschool education resources between urban and rural areas and between regions. Taking the student-teacher ratio as an example, since 2013, the student-teacher ratio in various regions has been changing in a better direction for five consecutive years, and the difference between regions has narrowed significantly as shown in Figure 5. However, although the difference has narrowed, the gap between the eastern region and the central and western regions is still relatively large. In 2017, the student-teacher ratio of kindergartens in the eastern region was 16.41 : 1, which was at a good level, while the student-teacher ratios of kindergartens in the central and western regions were 21.18 : 1 and 21.10 : 1, respectively, and the eastern region was significantly better than the central and western regions; the imbalance between regions has not been broken.

This chapter uses some statistical analysis methods to analyze some characteristics of preschool education. Relevant data were obtained in the form of questionnaires. Through descriptive analysis of the data, this paper introduces the basic information of the data to describe and analyze the students' network use and online learning behavior. This paper analyzes the differences and introduces the differences of different characteristics on E-learning behavior. Through correlation analysis, this paper
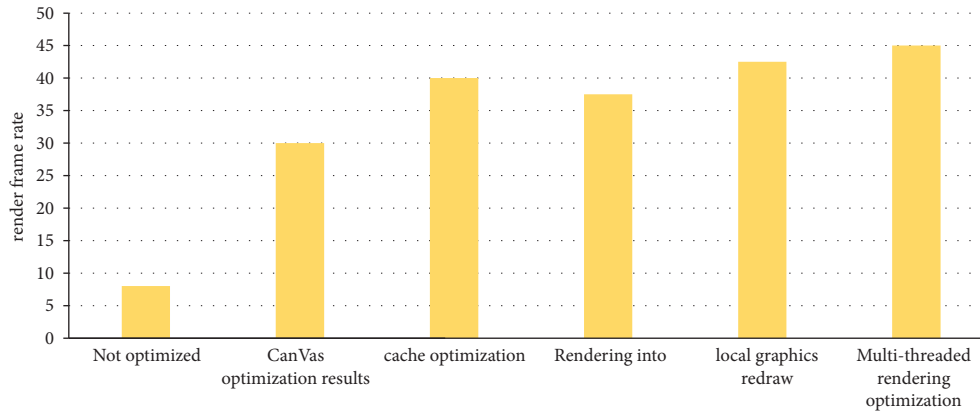
FIGURE 4: Rendering frame rate comparison results of five optimization methods.

TABLE 5: Basic information of professional theory courses and professional skill courses in the three schools.

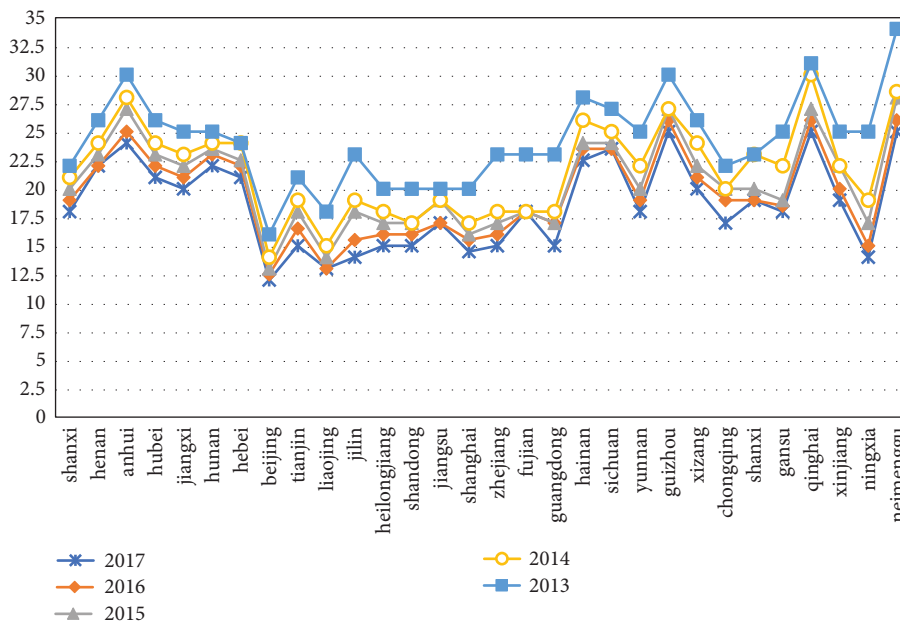| Professional theory class hours	The proportion	In professional skill class	The proportion
850	27.60	986	32.01
444	14.45	890	28.90
470	15.23	842	27.34

FIGURE 5: Proportion of kindergarten teachers and students nationwide (number of kindergarten children divided by number of full-time teachers) (2013–2017).

introduces the relationship between various factors in E-learning behavior.

5. Conclusion

The preschool education resource platform introduces edge learning and data mining technology, which can improve the utilization efficiency of preschool education resources. Edge learning and data mining technology are introduced into the early childhood education resource platform to improve the utilization efficiency of early childhood education resources.

Edge learning can process video data, image data, and ordinary text data, further improve the data organization and discovery ability of the preschool education resource platform, and output the results to the display to realize children's visual data processing and operation service education. Edge learning is also one of the important technologies of the current computer, which can improve the service processing efficiency of big data platform and ensure the processing speed and automation level of the preschool education resource platform. Edge learning is one of the key technologies in data analysis of preschool

education resources. At present, convolutional neural networks can be used to build big data analysis and recommendation models and dynamically update and process algorithms to ensure that the algorithms can accurately process preschool teaching resources. We need to improve the accuracy of the application of preschool education resources.

Data Availability

The labeled data set used to support the findings of this study is available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

Acknowledgments

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