

Research Article

Matching Teaching Content and Strategy of Practical Document Writing and Processing Courses Based on Wisdom Education

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Received 28 April 2022; Revised 9 June 2022; Accepted 2 August 2022; Published 19 August 2022

Academic Editor: Mian Ahmad Jan

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Writing ability is an important carrier to measure the comprehensive quality of college students, but the current situation of practical document writing and document processing courses in higher vocational colleges is worrying. In terms of school management, managers of higher vocational colleges try their best to meet the teaching and training needs of professional courses, but few managers pay attention to the course of practical writing and document processing. Therefore, in view of this phenomenon, this paper aims to study the matching of teaching contents and strategies of practical document writing and document processing courses under the background of wisdom education. This paper proposes a support vector machine algorithm based on artificial intelligence and a collaborative filtering recommendation algorithm based on cloud computing. Smart education is education informatization, which refers to the process of comprehensively and deeply using modern information technology in the field of education to promote the reform and development of education. Its technical characteristics are digitization, networking, intelligence, and multimedia. The experimental results of this paper show that under the new smart classroom teaching mode, 21 students are very satisfied, accounting for 46.7%, and 12 students are satisfied, accounting for 26.6%. Only 4 students were dissatisfied, representing a percentage of 8.9%. This fully shows that the teaching mode of the new smart classroom is more popular with students and is more conducive to the improvement of students' learning efficiency. Therefore, the research on the background of wisdom is very meaningful.

1. Introduction

The rapid development of information technology has had an important impact on the educational model, and the new educational model has provided new methods for the education of practical document writing and document handling courses. Before teaching, students can use the Internet to watch teaching videos to gain a preliminary understanding of the knowledge. In the classroom, through the interaction between teachers and students, problems are discovered and solved, the understanding and deepening of knowledge are expanded, and students can master better knowledge.

Colleges and universities generally have practical writing courses, but there is no sufficient guidance for practical writing guidance. Separation of textbooks from reality,

disregard of student benchmarks, and traditional pedagogy are the three main problems. Therefore, the education of applied writing in colleges and universities is particularly important, and the reform of practical instrument writing must be promoted.

The innovation of this paper is as follows: (1) the basic characteristics of smart education are openness, sharing, interaction, collaboration, and ubiquity. This paper promotes the modernization of education with educational informatization, and it uses information technology to change the traditional model. Therefore, this paper is researched in the context of wisdom education. (2) This paper expounds the support vector machine algorithm based on artificial intelligence and the collaborative filtering recommendation algorithm based on cloud computing. Through experiments, this paper finds that the teaching of

practical document writing and document processing under the background of wisdom education is more conducive to the improvement of students' learning efficiency.

2. Related Work

With the discovery of science and technology in recent years, smart education has gradually appeared in people's lives. The purpose of Heo research is to explore the influencing factors of intelligent learning and determine the structural relationship between the variables related to intelligent learning. To this end, he conducted experiments with 50 students from general high schools and fishery and marine-related high schools. He used structural formula modeling and multigroup structural formula modeling to analyze the data, he found an overall structural model based on external variables, and he discussed the significance of smart education in the field of fisheries and marine education. However, the scholar did not explain what the significance of wisdom education in the field of fisheries and marine education is [1]. Rodic-Trmcic B found that smart healthcare is an emerging concept that relies on the synergy of various engineering concepts and smart technological innovations applicable to healthcare. He expects its demand for smart healthcare engineers to grow. He introduced a method for designing a smart medical engineering education curriculum. Through the course's key themes, students gain new skills and knowledge of emerging technologies in smart healthcare. The results showed positive implications for both the learning process and a positive learning experience. However, the scholar did not explain the specific use of wisdom education [2]. Mohammed found that data analytics have become an important part of the Internet of Things (IoT), and they can be used in educational institutions, enterprises, and more. After emerging technologies such as personal computers, tablets, and even smartphones have transformed educational systems and improved teaching methods, he believes that text analytics is overused in smart education. He collects feedback from students on teaching methods and classifies each feedback as positive or negative, which will help lecturers optimize teaching methods. Although the scholar proposes that text analysis is overused, there is no example of how it is overused [3]. Hassabis found that the fields of neuroscience and artificial intelligence (AI) have a long and intertwined history. Recently, however, the exchanges and cooperation between these two fields have become less and less. He believes that a better understanding of biological brains plays a crucial role in building intelligent machines. He investigates the historical interaction between the fields of artificial intelligence and neuroscience and highlights current advances in artificial intelligence. These advances are inspired by research on neural computing in humans and other animals. Although Hassabis believes that neuroscience and artificial intelligence are inextricably linked, he does not introduce the relationship between the two [4]. Having discovered that wireless sensor networks (WSNs) usually consist of a large number of small, low-power, and inexpensive sensor nodes distributed over a large area. A WSN can be thought of as a large distributed

database where users can make some queries and react and push information or alerts when events are detected. Designing effective and efficient event detection techniques to cope with limited WSN resources is the goal of Havea's research. In his research, he focuses on decentralized event detection, where sensor nodes collaboratively detect events using artificial intelligence, data fusion, and distributed pattern recognition executed locally in a WSN. Having conducted experiments without data representation of the detection results [5]. Caviglione found that modern malware uses advanced techniques to hide static and dynamic analysis tools. To achieve stealth when attacking mobile devices, an efficient approach is to exchange data locally using a covert channel built by two interconnected applications. Since this process is tightly coupled with the hidden methods used, its detection is a challenging task. He aims to use two detection methods based on artificial intelligence tools to spot malware secretly exchanging data. To verify their effectiveness, he has implemented and tested seven covert channels with the measurement framework using Android devices. However, Caviglione did not describe the results of this trial [6].

3. Support Vector Machine Algorithm and Collaborative Filtering Recommendation Algorithm

3.1. Collaborative Filtering Recommendation Algorithm Based on Cloud Computing. This paper takes universities as the unit to build a private cloud platform unique to universities, which is the first realization strategy to choose self-sufficiency and self-innovation. However, according to the realization of the cloud computing university network education platform, the existing resources such as network education and education are rapidly integrated, and the number of teachers and students increases rapidly [7]. With the continuous innovation and development of network technology, education network has become an inevitable trend of education and teaching, and smart education has become an inevitable direction of education development. In the actual situation, many educators are actively adopting advanced technology to design smart education, to promote the modernization of education. In the construction of smart education, cloud computing is an important technical support and plays a large role in the design of smart education. This is to connect the university's private education cloud platform, which breaks the objective barriers that students encountered in online education in the past, lowers the threshold for admission to prestigious schools, and promotes cooperation and promotion between teachers and students [8]. It integrates highly educational resources and concepts as much as possible. The schematic diagram of the "cloud" plan for online education in colleges and universities is shown in Figure 1.

As shown in Figure 1, in the context of smart education, the information load of smart teaching is very large, the content is very diverse, the types are very complex, and the distribution is uneven. It is difficult to

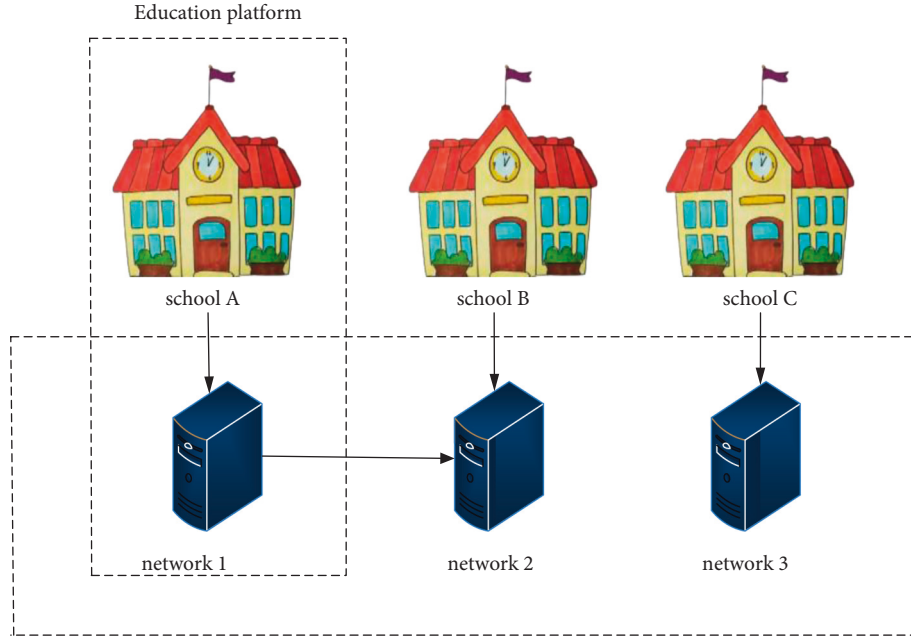


FIGURE 1: Schematic diagram of the “cloud” plan for online education in colleges and universities.

select the information people’s needs [9]. Although wisdom teaching is different from general teaching, the responsibilities in terms of the quality of information and services provided to students have not changed. In this paper, the correct selection and evaluation are recommended to users, so that the information of high-quality value can be used 100% [10].

Collaborative filtering recommendation algorithm is the earliest and more famous recommendation algorithm. The main functions are prediction and recommendation. The algorithm discovers the user’s preferences by mining the user’s historical behavior data, divides the users into groups based on different preferences, and recommends products with similar tastes. This allows courses to be recommended based on the needs of students and teachers. Filtering recommendations can meet the necessary needs of various personalized services. In fact, this project is mainly aimed at the individual user’s hobby for the use of his own information, to establish a very rich information and content service system for him [11].

If there are two sets of change vectors (a_1, a_2, \dots, a_n) and (b_1, b_2, \dots, b_n) , the two sets of values are calculated, and the averages obtained are A and B , respectively. Then, the sum of squares of the variables of these two groups is mainly S_A and S_B ; then, the calculation formula of the Pearson correlation coefficient is

$$r = \frac{1}{n-1} \sum_{i=1}^n \left(\frac{A_i - \bar{A}}{S_A} \right) \cdot \left(\frac{B_i - \bar{B}}{S_B} \right). \quad (1)$$

Assuming that the two users i and j themselves both evaluate and score the user u , then the similar values in them are represented by $R_{i,d}$, and the similarity between the two users is represented by $\text{sim}(i, j)$. It is then calculated by Pearson’s formula as

$$\text{sim}(i, j) = \frac{\sum_{d \in U} (R_{i,d} - \bar{R}_i)(R_{j,d} - \bar{R}_j)}{\sqrt{\sum_{d \in U} (R_{i,d} - \bar{R}_i)^2 (R_{j,d} - \bar{R}_j)^2}} \quad (2)$$

The item-based algorithm prefers to calculate the similarity between items. There are several ways to calculate the similarity: cosine-based similarity calculation is shown in

$$\text{sim}(i, j) = \cos(p_i, p_j) = \frac{p_i \cdot p_j}{\|p_i\| \|p_j\|} \quad (3)$$

The numerator is the inner product of the two vectors p_i and p_j , that is, the multiplication of the numbers in the same position of the two vectors. Based on the correlation-based similarity calculation, the Pearson-r correlation between two vectors is calculated as

$$\text{sim}(i, j) = \frac{\sum_{u \in U} (R_{u,i} - R_i)(R_{u,j} - R_j)}{\sqrt{\sum_{u \in U} (R_{u,i} - R_i)^2 (R_{u,j} - R_j)^2}} \quad (4)$$

When calculating the similarity of the cosine itself, it does not include the evaluation and scoring of each customer for this situation, so the level of the score is naturally uncontrollable. Then, the advantage of this method is that it can minimize the nonuniform effect of this score [12].

After the relationship between users and items is accurately described by an association matrix, the recommendation algorithm will evaluate the similarity between every two users (i.e., every two rows) in the matrix. The rows in the matrix can represent a user’s interest vector value for all items [13]. The correlation matrix method is a commonly used systematic comprehensive evaluation method. It mainly uses the matrix form to express the relationship between the evaluation indicators of each alternative and

their importance and value evaluation of the specific indicators. The similarity between users can be calculated using cosine similarity as

$$\begin{aligned} s(a, b) &= \cos(a, b) \\ &= \frac{ab}{\|a\|\|b\|}. \end{aligned} \quad (5)$$

Among them, a and b represent the calculated interest vectors composed of 0 and 1 for the two users, respectively. After the similarity calculation between users is completed, the recommendation algorithm will measure the user's preference for item i . The calculation formula is as shown in

$$p(a, i) = \sum S_{ab} r_{bi}. \quad (6)$$

Among them, r_{bi} represents user y 's preference for item i , and S_{ab} represents the similarity between users a and b .

3.2. AI-Based Support Vector Machine Algorithm. Neural networks have entered a period of rapid development, and linear weighted summation networks and nonlinear adaptive networks have appeared one after another. With the development of related theories, neural networks are also used in various fields [14]. Artificial neural networks (ANNs) are also referred to simply as neural networks (NNs) or as connection models. It is an algorithmic mathematical model that imitates the behavioral characteristics of an animal neural networks and performs distributed parallel information processing. Such networks depend on the complexity of the system. It achieves the purpose of processing information by adjusting the interconnected relationship between a large number of internal nodes.

Sigmoid function is a common sigmoid function, which is widely used in many fields. Since this function is mono-increasing, its inverse function is also mono-increasing, so it is often used as the neuron function of a neural network. The sigmoid function is also called the logistic function, which is used for the output of the hidden layer neurons, and the value range is (0, 1). It can map a real number to the interval (0,1) and can be used for binary classification. The sigmoid function is in the form of

$$b = \frac{1}{e^{-z} + 1}. \quad (7)$$

If z is used as the input of the function, the sigmoid function image is shown in Figure 2.

As shown in Figure 2, there are various types of neural networks using sigmoid functions as neurons in this paper, such as Helmholtz machines and deep belief networks [15]. Usually, this paper uses the statistical probability method to represent the network state. To represent the hidden state of the layer neurons, the neuron inference process is shown in Figure 3.

As shown in Figure 3, it can be seen that the neural network signal is inferred between neurons. The upper layer neuron s_j will affect the state of the lower layer

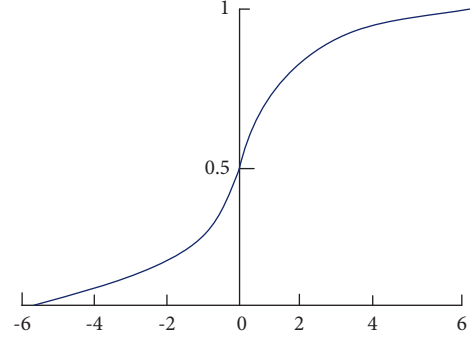


FIGURE 2: Image of the sigmoid function.

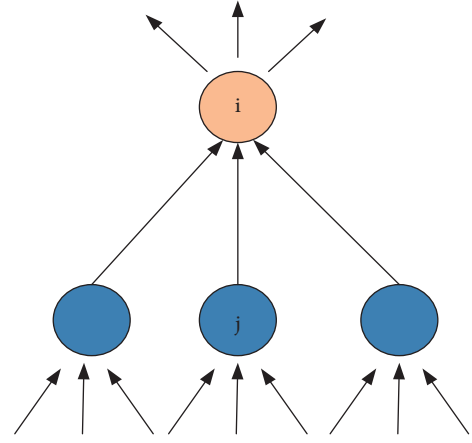


FIGURE 3: Sigmoid neuron inference mode.

neuron s_i . Combined with formula (7), the state of s_i can be expressed as

$$\begin{aligned} p_i &= p(s_i = 1) \\ &= \frac{1}{1 + \exp(-\sum_j s_j w_{ij})}. \end{aligned} \quad (8)$$

In the single-layer inference structure, gradient descent is an iterative method that can be used to solve least squares problems (both linear and nonlinear). It is solving the model parameters of the machine learning algorithm. That is, in regard to unconstrained optimization problems, gradient descent is one of the most commonly used methods, and the weight of the gradient descent learning method is

$$\Delta w_{ij} = \varepsilon s_j (s_i - p_i). \quad (9)$$

In the formula, p_i represents the inferred probability; s_i and s_j represent the 0 and 1 values in turn; and ε represents the learning rate of the model.

With formula (9), one can derive the logistic regression model. The model is a classification model in machine learning, and the logistic regression model can find the most suitable fitting parameters for the sigmoid function when solving classification or prediction problems. It can be based on this model combined with gradient descent or ascent two algorithms to get accurate results [16].

Support vector machine regression algorithms are often used for data regression prediction similar to classification algorithms. However, this is a harder problem than classification and is an important area of multivariate statistical analysis. The basic idea is based on limited observational data. It establishes a functional relationship that reflects the output and input relationship, and this functional relationship is persistent [17]. One of the roles of support vector machines is classification. According to the task of classification, it can be divided into one classification, two-classification, and multi-classification. For multiclass classification problems, it can be decomposed into several two-class classification problems in several ways.

Since the fitted curve is generally not a real curve formula, there will inevitably be errors, but the error should be controlled within a certain allowable range. Therefore, the insensitive loss function is defined, it can ignore the error of the true value within a certain upper and lower range, and its solution is characterized by the minimization of the function. It can ensure the sparsity of dual variables, the existence of global minimum solutions, and the optimization of reliable generalization bounds, and its mathematical expression is

$$\begin{aligned} L(a, b, f) &= |b - f(a)|_\varepsilon \\ &= \max(0, |b - f(a)| - \varepsilon), \end{aligned} \quad (10)$$

where ε is a small positive number, and the insensitive loss function can also be represented graphically. The so-called insensitive loss is to allow a certain range of error between the predicted value and the real value, and the difference between the constructed fitting function and the real value must be limited within this range [18].

To improve the generalization ability, it is necessary to maximize this region, so that the probability of unknown points falling into this region is maximized. Then, the regression problem is transformed into the following optimization problem, which is

$$\min \frac{1}{2} \|W\|^2 = \|W\|^2 + 1. \quad (11)$$

Lagrange multipliers are introduced to transform the constrained optimization problem into an unconstrained optimization problem as formula (12). The main idea is to introduce a new parameter (i.e., Lagrange multiplier) to link the constraint function with the original function. It can be matched with formula equations with the same number of variables, to obtain the solution of each variable that obtains the extremum of the original function.

$$\frac{\partial L}{\partial y} = \sum_{i=1}^n (\alpha_i^* - \alpha_i), \quad (12)$$

where α_i^* and α_i are Lagrange multipliers, and α is the penalty coefficient.

Transform a low-dimensional nonlinear problem into a high-dimensional linear problem, as shown in Figure 4.

As shown in Figure 4, the optimization problem is transformed into

$$s \cdot t \sum_{i=1}^n (\alpha_i - \alpha_i^*) = 0. \quad (13)$$

Therefore, the optimal nonlinear regression function can be obtained as

$$f(a) = \sum_{i=1}^n (\alpha_i - \alpha_i^*) K(a_i \cdot a) + b. \quad (14)$$

It can be seen that only the samples corresponding to AA will play a role in the establishment of the model, and such samples are called support vector (SV). SV is further divided into boundary support vector and nonboundary support vector or standard support vector [19].

When building a model, the prediction results that need to be obtained are called target values, each target value has its corresponding eigenvalues, and these eigenvalues are generally multidimensional [20]. The selection of features will also affect the establishment of the model. As far as people's research on kernel functions is concerned, there is still no good method to select a suitable kernel function, and which kernel function to use is completely determined by experience for a specific problem [21]. Commonly used kernel functions generally include the following: the polynomial kernel function is formula (15). The polynomial kernel function is based on the theory of pattern recognition, and its low-dimensional space is linearly inseparable patterns. It is possible to achieve linear separability by nonlinear mapping in high-dimensional feature space.

$$K(a_i, a_j) = (a_i^T a_j + 1)^d, \quad (15)$$

where (a_i, a_j) is the order of the polynomial kernel function.

The radial basis kernel function is

$$K(a_i, a_j) = \exp\left(-\left(\frac{\|a_i - a_j\|^d}{2\sigma^2}\right)\right). \quad (16)$$

As far as people's research on kernel functions is concerned, there is still no good method to choose a suitable kernel function.

3.3. Boltzmann Machine Algorithm. Boltzmann machines are essentially Hopfield networks obtained through random generation, which solve hard learning problems by learning the inherent representation of the data. Because the sample distribution follows a Boltzmann distribution, known as a Boltzmann machine, all hidden layer neurons move freely. Boltzmann machine is the earliest neural network that can learn internal expressions and express and solve complex combinatorial optimization problems. The structural model of the Boltzmann machine and the structural model of the restricted Boltzmann machine are shown in Figure 5.

As shown in Figure 5, to simplify the model, scholars have processed the conventional BM and converted it into a restricted BM, in which there is no correlation between the visible layer and the hidden layer. The joint energy of the restricted Boltzmann machine is

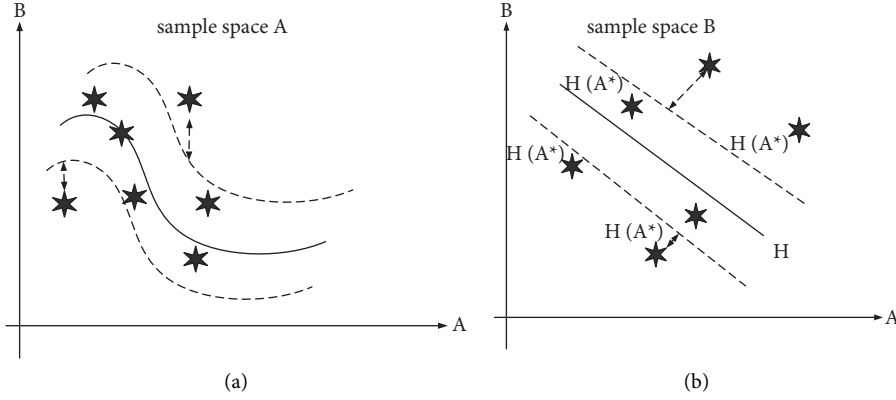


FIGURE 4: Nonlinear mapping of sample space A to feature space B. (a) Nonlinear mapping of sample space A. (b) Nonlinear mapping of feature space B.

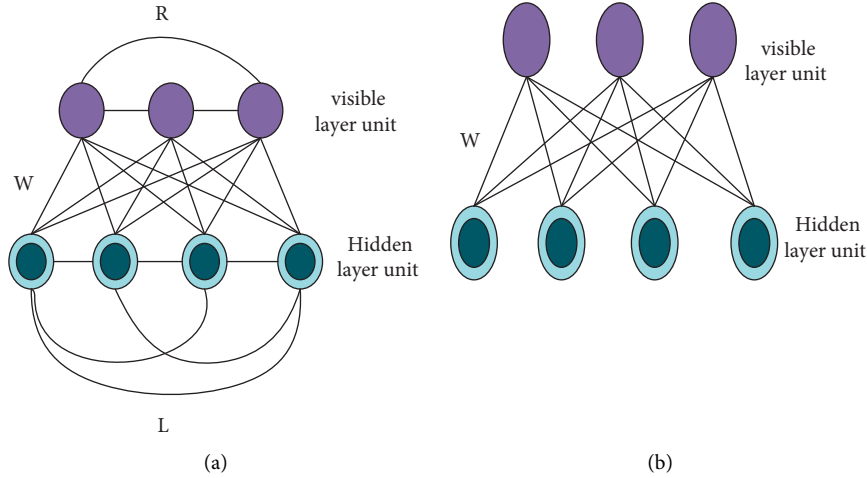


FIGURE 5: Boltzmann machine structural model and restricted Boltzmann machine structural model. (a) Boltzmann machine structural model. (b) Restricted Boltzmann machine structural model.

$$E(v, h) = - \sum_{i,j} v_i h_j w_{ij}. \quad (17)$$

Among them, i and j represent the number of neurons in the visible layer and the neurons in the hidden layer, respectively. Assigning values to i and j , substitute them into formula (10). As far as the Boltzmann machine is concerned, its energy is essentially the result of multiplying the corresponding state vectors and weight matrices of all neurons in the hidden layer and the visible layer, which can be further expressed as $\sum_{i \in \text{visible}} a_i v_i$. At the same time, adding preferences for the hidden layer and the visible layer aims to prevent improper fitting due to the overemphasis of the observed data, and then formula (10) can be expressed as

$$E(v, h) = - \sum_{i \in \text{visible}} a_i v_i - \sum_{j \in \text{hidden}} b_j h_j - \sum_{i,j} v_i h_j w_{ij}. \quad (18)$$

Among them, w_{ij} represents the connection weight of the hidden layer and the visible layer, and a_i and b_j represent their preference values, respectively. In practical application, the visible layer unit v_i will not determine the value interval according to the neuron function.

Among them, v and h are the visible layer state vector and the hidden layer state vector, respectively, and then formula (19) can be obtained according to formula (10).

$$Z = \sum_h \sum_v e^{-E(v,h)}. \quad (19)$$

There is no relationship between the visible layers and between the hidden layers, so given the visible layer data, the hidden layers are conditionally independent and vice versa.

If the state of the visible layer is known in the hidden layer, the following formula can be used to obtain the probability of any unit presenting the active state as

$$p(h_j = 1 | v) = \sigma \left(y_j + \sum_i v_i w_{ij} \right). \quad (20)$$

Given the state of the hidden layer, the probability that a unit of the visible layer is in the active state is

$$p(h_j = 1|t) = \sigma\left(x_j + \sum_i t_i w_{ij}\right). \quad (21)$$

It can be noticed from formula (12) and formula (13) that if the weight and neuron in a certain layer have a large inner product, the neuron derived based on it has a higher probability of being activated.

When dealing with high-dimensional data, the performance of the single-layer structure is not ideal. Therefore, this paper believes that the effective processing of high-dimensional data can be achieved by adjusting the Boltzmann machine with a multilayer structure, so a deep belief network with a multilayer structure is created. In this section, we will discuss the network in detail, especially its related pre-training methods. The deep belief network structure composed of multilayer Boltzmann machine is shown in Figure 6.

As shown in Figure 6, the multilayer restricted Boltzmann machine is trained through two stages of positive and negative inference. In the previous stage, the network actually operates in a constrained environment, and the operation process is affected by the input data of the visible layer. In the latter stage, the constraints are lifted, the network runs in a free state, there is no environmental input, and the hidden layer realizes state adjustment through continuous inference.

3.4. Current Situation of Practical Document Writing and Document Processing Course Teaching. At present, many higher vocational colleges ignore the cultivation of students' basic writing ability and only emphasize the cultivation and training of professional skills, without realizing the importance of basic writing abilities. Some higher vocational colleges even canceled practical writing and document processing writing courses. And those colleges and universities that insist on setting up practical instrument writing and document processing writing courses do not treat practical instrument writing and document processing writing courses as important subjects. It only takes it as an elective. Due to the lack of attention paid to practical instrument writing and official document processing writing courses in higher vocational colleges, it also directly affects the teaching attitude of teachers of practical document writing and official document processing writing courses in this course. It ultimately affects the enthusiasm of students to study this course.

3.4.1. Not Paying Enough Attention to the Cultivation of Basic Writing Ability. Since ancient times, China has attached great importance to the writing application of practical document writing and official document processing. With the development of the times and the progress of society, the application of practical document writing and document processing in people's daily life has become more popular and extensive. For students in higher vocational colleges, it is an indispensable basic element to have superb practical writing and document processing, writing ability, and level,

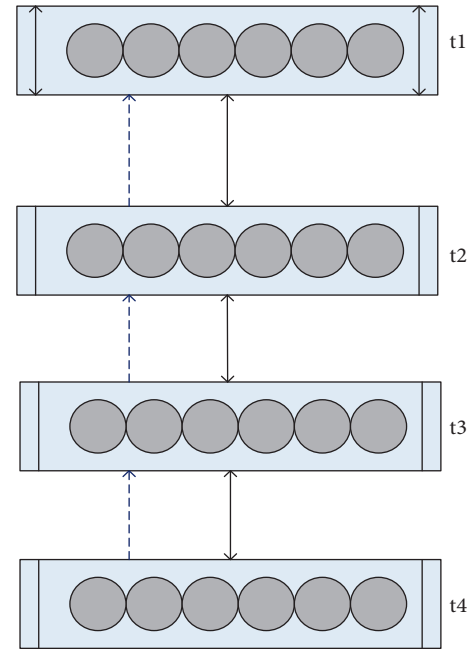


FIGURE 6: Deep belief network composed of multilayer restricted Boltzmann machines.

which is related to their future career development and social competitiveness.

3.4.2. Students Lack Enthusiasm for Practical Document Writing and Document Handling Writing. In most vocational colleges, students generally have misunderstandings about practical document writing and document handling writing courses. They mistakenly believe that practical document writing and document handling writing are "skills" that can be learned without much effort. And they think the course is too boring and uninteresting to study. In addition, because most of the teachers of practical instrument writing and document processing writing courses are not professional enough in practical document writing and document processing writing courses, they do not have a deep grasp of the knowledge and practice of practical document writing and document processing writing. They lack practical experience in the work of enterprises, institutions, and administrative agencies, and often can only simply follow the script in the teaching process of practical document writing and official document processing writing.

3.4.3. The Current Teaching Materials Lack Pertinence and Operability. Therefore far, there is no unified normative teaching material for practical document writing and official document processing. For example, college students need to make a resume when applying for a job. In addition to the traditional applied writing styles of managing documents, abstracts, presentations, plans, reports, dissertations, etc., they have a lot more to learn that is hard to see in today's textbooks and education on general practical writing and document handling.

3.5. Effective Teaching Strategies for Practical Document Writing and Document Handling

3.5.1. *Restarting the Open Space of the Literature.* In the current university literature education, to reopen the literary space, it is possible to focus on a variety of activities, for example, guiding students to read ancient and modern classical literature. Reading classical literature is the most basic work of literature education, so it is best for colleges and universities to establish a stable literature website and establish an effective platform for students to learn and communicate. In particular, the literature website has a large capacity and is updated quickly, so it is easier for more students to participate.

3.5.2. *Resource-Centered Teaching Design.* Learning resources are the sum total of all supporting learning elements, such as support systems, teaching materials, environments, and people. Educational design based on learning resources is the educational design of learning resources, and learning resources are designed by analyzing the elements of education purpose, learner's learning action, and so on. Modern educational technology uses information technology as a material support to improve and update teaching methods, thereby more effectively stimulating students' interest in learning and increasing their enthusiasm for learning.

3.5.3. *Advocating the Smart Classroom Teaching Mode to Improve Students' Interest in Learning.* With the advent of the Internet, great changes have occurred in people's lives, work, and studies. In recent years, the Internet, as a new vocabulary, has been closely integrated with the life of various industries, creating a new scene. The advent of the Internet era has brought great opportunities to education. At a macro level, Internet + can further break the boundaries of time and space, and realize universal learning at any time. With the advent of a new generation of new technologies such as big data and learning analytics, student learning has become more personalized and intelligent.

3.6. *Smart Classroom Teaching Mode under the Background of Internet Education.* The network + education model has also had a great impact on the previous education model. On a micro-level, the Internet has brought about large changes in the curriculum teaching and learning methods, and evaluation methods in school education. "Internet +" has brought great opportunities to education, but also brought great difficulties. It can be said to be a double-edged sword. What people have to do is to promote strengths and avoid weaknesses, seek advantages and avoid disadvantages, and try to play its positive role as much as possible and reduce its negative role. The smart classroom teaching mode is shown in Figure 7.

As shown in Figure 7, the realization of the intelligent classroom education model cannot be realized without the support of various intelligent technologies. Intelligent learning technology refers to the large amount of learning

data generated by teachers and students in the educational process, such as big data, learning analysis, artificial intelligence, Internet of Things, and cloud computing. The most important advantage of the smart classroom is that teachers and parents can pay attention to the students' learning status throughout the whole process, check for deficiencies, make up for omissions, and improve marks efficiently. Before the class, it learns one step faster. Compared with traditional teaching, the smart classroom receives teachers' preview materials in advance before class, and the learning is more active. More importantly, teachers can know students' weak points of knowledge through preview and teach students according to their aptitude. In previous classrooms, these learning trajectories could not be captured for technical reasons.

4. Experiments and Analysis of Traditional Classroom Teaching and Classroom Teaching Based on Wisdom Education

4.1. *Experiments and Analysis of Traditional Classroom Teaching.* This study takes students in a certain class of a university studying practical document writing and document processing in the 2020 class as the research object, with a total of 45 students. Due to the lack of experimental comparison conditions, this study divides the course into two parts for comparison. This course runs for 10 weeks in total, with traditional lecture-style teaching for the first 5 weeks and smart classroom teaching for the last 5 weeks. A comparative study was carried out in the early and late stages of the course.

This paper conducts a survey on students' extracurricular study time, as shown in Table 1.

As shown in Table 1, only 5 people have extracurricular studies for more than 4 hours, accounting for only 11.2%. On the whole, the students in this class spend less extracurricular time in database courses, which is not conducive to the consolidation, absorption, and internalization of the knowledge they have learned every week. If it does not understand it in class, people do not spend time practicing after class, and database knowledge focuses on operation. It is not enough just to listen to the teacher's lectures in class, and it is necessary to spend time on practical operations after class.

This paper investigates the main learning styles of students in their student courses, as shown in Figure 8.

As shown in Figure 8, the main learning methods of students in class are about 80% of class listening and about 40% of cooperative learning, ranking second. The proportion of independent learning and blended learning is less than 20%. The data show that in the existing database courses, students' learning methods are relatively simple, and the main source of knowledge is listening to lectures in class. Teachers often regard the teaching process as a process in which students cooperate with teachers to complete the lesson plan, ignoring the existence of students as the subject of learning to a certain extent. Because teachers ignore the analysis of students' situation before class, the teaching quality is very low.

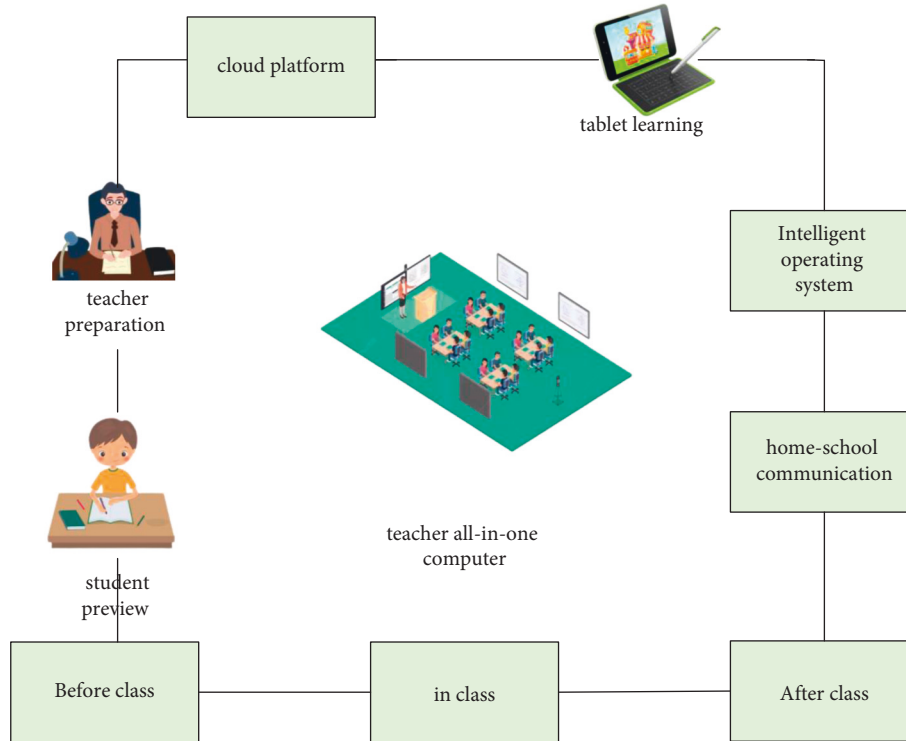


FIGURE 7: Smarter classroom teaching mode.

TABLE 1: Students’ extracurricular study time.

	Number of people	Percentage
≤1 hour	10	22.2
1–2 hours	15	33.3
2–3 hours	8	17.8
3–4 hours	7	15.5
>4 hours	5	11.2

This paper conducts a survey on the satisfaction of students receiving traditional teaching, as shown in Table 2.

As shown in Table 2, overall, students’ affirmation of teachers’ teaching situation reflects the serious and responsible teaching of teachers. However, the data show that the students in this class are less satisfied with the existing learning methods and are in a passive state. This state of learning is not conducive to improving students’ ability to analyze and solve problems. Learning but not using, it is difficult to achieve the course teaching objectives for students’ expectations. Therefore, it is urgent to change the way students learn.

4.2. Experiment and Analysis of Classroom Teaching Based on Smart Education. This paper also investigates the degree of satisfaction with the teaching of practical document writing and document processing courses under the teaching mode of smart classroom, as shown in Table 3.

As shown in Table 3, the smart teaching mode can improve students’ learning enthusiasm and interest.

However, there are also some students who do not care about their own changes, and even they have no idea and are content with the status quo. Nearly 40% of the students believed that the smart classroom helped them discover new problems and reunderstand themselves. And on this basis, they changed their way of thinking about problems and exercised their thinking ability. In the survey of the previous courses, it is known that most students lack self-control in the study and cannot restrain themselves.

This paper investigates and analyzes the advantages of the new teaching model and its influencing factors, as shown in Table 4.

As shown in Table 4, compared with the courses in the previous classrooms, the advantages of the new teaching mode based on smart classrooms are obvious. According to the survey, 26.6% of students believe that learning resources based on smart classrooms can be easily obtained, and 24.4% of students believe that preparation before class and practice time and place after class are more flexible. In addition, nearly 26.6% of students believe that smart-phones are used for learning. The method is novel, convenient, and easy to learn. Smart learning based on a smart classroom gives full play to students’ autonomy, cultivates their ability to learn independently, and urges students to learn.

4.3. Influence of Cloud Computing on Course Teaching Strategies. Smart education aims to explore the scope and method of cloud computing in the field of education,

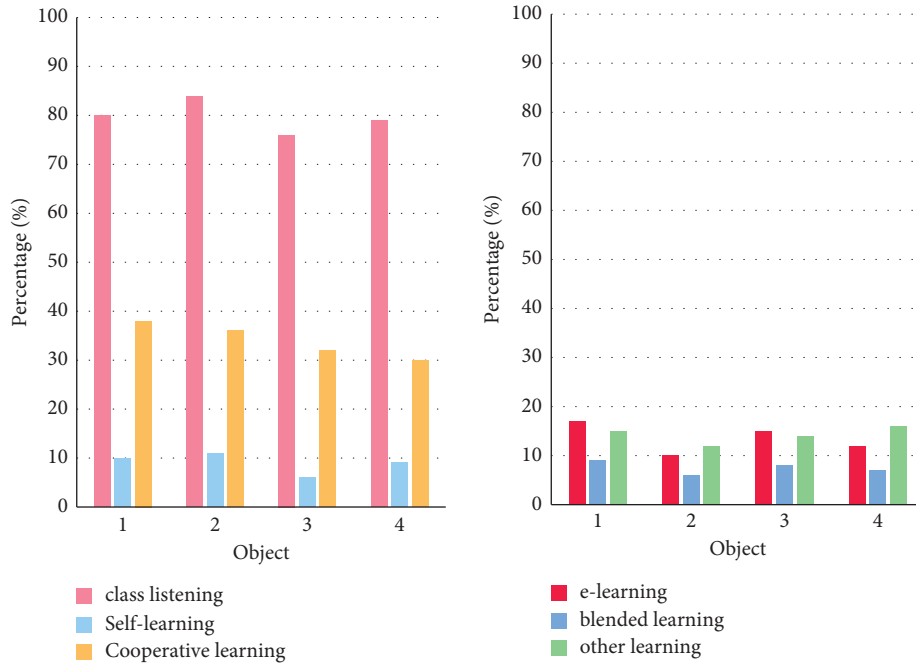


FIGURE 8: Primary learning styles of students' student courses.

TABLE 2: Satisfaction with the teaching of practical document writing and document processing under the traditional teaching mode.

Satisfaction level	Number of people	Percentage	Effective percentage
Very satisfied	3	6.7	6.7
Satisfied	7	15.5	15.5
Generally satisfied	18	40	40
Dissatisfied	12	26.6	26.6
Very dissatisfied	5	11.2	11.2

TABLE 3: Satisfaction with the teaching of practical document writing and document handling under the teaching mode of smart classroom.

Satisfaction level	Number of people	Percentage	Effective percentage
Very satisfied	21	46.7	46.7
Satisfied	12	26.6	26.6
Generally satisfied	8	17.8	17.8
Dissatisfied	4	8.9	8.9
Very dissatisfied	0	0	0

TABLE 4: Advantages of the new teaching model and its influencing factors.

Satisfaction level	Number of people	Percentage	Effective percentage
Not limited by time and place	11	24.4	24.4
Easy access to learning resources	12	26.6	26.6
Convenient	10	22.4	22.4
Encourage students to learn independently	12	26.6	26.6

maximize the use of educational resources, and design and manage the original educational resources in combination with previous educational theories. The advantages of cloud computing are shown in Figure 9.

As shown in Figure 9, cloud computing has the following advantages.

4.3.1. *Low Software Cost.* Whether it is a public cloud, private cloud, or hybrid cloud, it is a service process that reduces complexity and simplifies.

No matter how many cloud users are there, they can use various services in the cloud at the same time. Cloud software upgrades, and software maintenance can replace

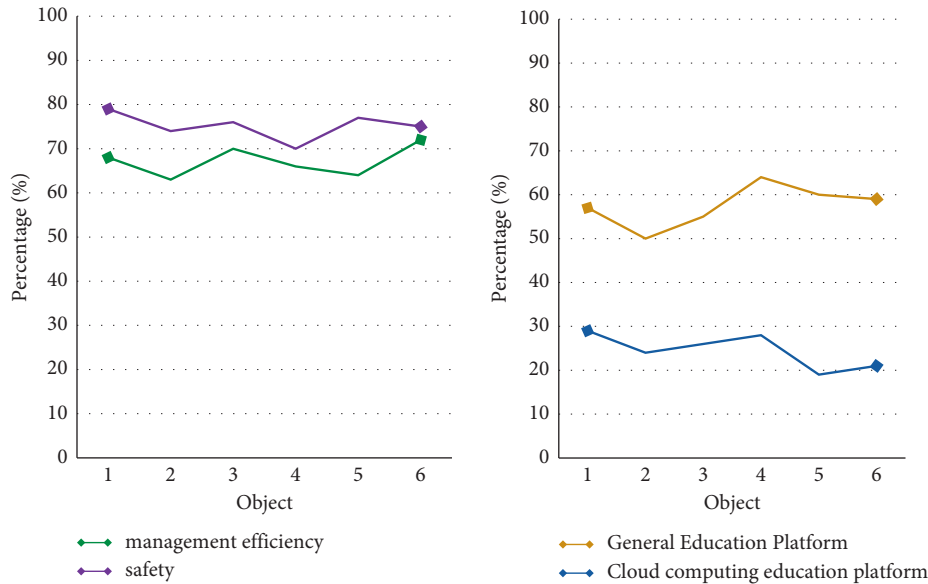


FIGURE 9: Advantages of cloud computing.

the upgrade operations of thousands of users on the local machine. This greatly saves costs.

4.3.2. High Operating Efficiency for Users. It can provide teachers and students with learning opportunities. Cloud computing often combines resources from schools and around the world to enable learners to learn faster and more accurately. As a learning tool, another important function of this system is that learners can choose learning resources according to their own learning progress.

4.3.3. High Security. Cloud computing-based college education platforms do not need to consider the current general cloud computing security issues, and cloud computing eliminates the general security issues in traditional online education. On the other hand, the cloud computing education platform uses a relatively single group, so it is possible to simply implement the cloud computing platform’s restriction management to users. On the other hand, the architecture and design of cloud platforms also fully consider related issues such as security policies.

5. Conclusion

Practical document writing and document processing are commonly used communication tools for people to send information and handle official business and daily business, and some practical documents can also serve as an important basis for social life and interpersonal communication. Excellent writing ability is an important factor reflecting the comprehensive quality of college students, which can improve the core competitiveness of students in future jobs. However, the traditional teaching mode cannot meet the needs of students, which is not conducive to the development of students. Therefore, this paper analyzes the teaching

of practical document writing and document processing under the background of wisdom education and provides relevant strategies. This article describes the advantages and importance of smart education. In the method part, based on artificial intelligence, a support vector machine and a cloud computing-based collaborative filtering recommendation algorithm are proposed. This paper filters and classifies the knowledge that students need. It can contribute to the improvement of learning efficiency. In the experimental part, the paper surveys the students. It is divided into traditional mode teaching and teaching based on smarter classroom and makes a comparative analysis. This paper finds that teaching based on a smarter classroom is more popular with students, and the learning efficiency is also higher. Therefore, if teachers want to improve teaching quality and teaching efficiency, they should combine cloud computing to create smart classrooms that students love.

Data Availability

The data underlying the results presented in the study are included within the manuscript.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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