

Research Article

Optimizing Language Teachers' Competencies Based on Big Data Technology

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Using big data technology to promote the maturity and application of human analysis is the key to establish and maintain the competitive advantage of the school. Modern teachers must have the quality and ability to adapt to their work, that is, professional ability, in order to improve the teaching quality more pertinently. In order to effectively promote teachers' professional growth, this paper proposes a Chinese teachers' Ability Optimization Model Based on big data technology. Chinese teachers should take the initiative to meet the mission and challenges given by the times, strengthen Chinese teaching ability through the promotion of microability of information technology, explore the changes of learning and teaching style under the environment of information technology, and improve the ability of Chinese teachers. The research on the ability optimization of Chinese teachers based on big data technology in this paper can help schools optimize the training plan system by using the winning power model, that is, the training plan system can be improved from three aspects: determining the training objectives and contents and selecting the training methods. Teachers must improve their abilities through continuous learning, so as to promote education more actively and cultivate more talents for the country.

1. Introduction

With the development of big data technology, data not only contain information but also contain laws and connections, and the essence of the problem is explored by mining the laws and connections hidden in the data through big data [1]. China's education reform began to take teachers as the main body of education reform, bringing the key factor of teachers to an unprecedented level [2]. Big data is a large collection of data from which one can extract valuable contents with the help of certain technical means, and this feature of big data technology has received attention and importance from many aspects [3]. The competitiveness of training institutions comes from two aspects, hard and soft power, and the core in soft power is teachers and training products, the core staff of education and training institutions themselves, and training teachers are the most important resources of schools [4]. Some scholars in the process of communication with some in-service teachers found that,

with regard to the measurement of teachers' professional development, teachers just copy the specific measures proposed by experts to promote their own professional development, which is effective but lacks relevance [5].

With the development of educational reform, the issue of teacher specialization has become the focus of attention, and language teachers have become the center of attention in the issue of teacher specialization because of the importance of the subject they teach [6]. As the grassroots workers of students' ideological and political education, language teachers are an extremely important force indispensable to ensure the continuous, healthy, and rapid development of colleges and universities, and language teachers are in an important position and play a great role in students' ideological and political education [7]. The application of cloud computing, big data, artificial intelligence, and other technologies in the field of education is deepening in the information era, and teachers should learn to use new technological means to explore the new era of education and

teaching methods and improve teachers' competence in teaching and education [8]. Therefore, modern continuing teacher education needs to change the traditional concept of teacher quality, keep up with the times, and draw on new theories, i.e., teacher competency theory, to guide its own development, and it needs to integrate the concept of teacher competency training throughout its future development, focusing on the formation and improvement of teacher competency from beginning to end.

On the other hand, it is difficult for intelligence workers to filter out information with high value density from the massive information swamp [9]. Curriculum reform has always been a major concern in education, and the professional development of teachers has become the core issue of educational reform in order to promote the comprehensive and individual development of students [10]. The traditional construction of competency models also has some problems to be solved, and nowadays, the widespread use of the Internet and big data has made it possible to find solutions to some of the problems that arise in the construction of competency models. In the field of education, more and more educators have started to apply big data technologies in the process of educational evaluation. The scientific construction of job competency optimization model, fully exploit the value of job competency evaluation results analysis related to business data, provide quantitative basis for training planning, staff training expenditure, personnel postmatching and other work, and continuously promote the job competency evaluation work to the direction of refinement.

The innovative points of this paper are as follows.

- (1) In terms of the choice of perspective, most of the current internal teacher training focuses on traditional training, etc., while the perspective of this paper starts from the competency theory that attaches importance to the intrinsic invisible qualities and long-term development of employees and has many generic competencies with the dual attributes of both teachers and trainers in a general sense.
- (2) For highly skilled personnel in language education, a competency model with both practical and theoretical significance is proposed, and then the competency theory is combined with talent training practice in an attempt to explore the practical application of competency theory in language education talent training.
- (3) The training demand analysis based on big data technology, the design of the competency optimization model, and the analysis of the content of the optimization model are carried out, highlighting the application of demand analysis and effect evaluation, improving the relevance and effectiveness of training, and providing reference for personnel development in schools.

This paper puts forward a Chinese teachers' Ability Optimization Model Based on big data technology. The study is divided into four parts. The first part expounds the

teachers' problems in the context of the development of big data technology. The second part expounds the ability optimization of Chinese teachers based on big data technology. The competency optimization model is constructed. Part 3 analyzes the application of big data technology in the ability optimization of Chinese teachers. Through the analysis of association rule mining process, the application of regression method in competency optimization is analyzed step by step. Finally, the full text is summarized. The research on the ability optimization of Chinese teachers based on big data technology in this paper can help schools optimize the training plan system by using the winning power model, that is, the training plan system can be improved from three aspects: determining the training objectives and contents and selecting the training methods.

2. Optimization of Chinese Teachers' Competency Based on Big Data Technology

2.1. Constructing Competency Optimization Model.

Training evaluation is an important tool for closed-loop management mechanisms to promote the quality of the workforce, the efficiency of employment allocation, and the improvement of human resource management. Traditional training needs analysis only unilaterally emphasizes that training should meet the needs of the school but ignore the needs of school employees as the achievers of school goals, often resulting in a disconnect between the content of school training and the actual needs of employees. In order to effectively solve the current problems of teaching evaluation, corresponding optimization measures need to be formulated in conjunction with big data technology. The content of the competency optimization model is shown in Figure 1.

First, we define what a good teacher is through interviews with good teachers, etc., and then combine the Competency Factor Checklist and conduct interviews with good teachers to arrive at the criteria for good teachers. The systemic principle can ensure that the training is comprehensive, all-rounded, can meet the training needs of employees as well as the development needs of employees at different stages, and can also reflect the people-oriented purpose of the school. For the system, assuming X is the set of data samples, x is the number of X , C is the attribute category variable, n is the total number of categories, and x_i is the number of samples contained in the c_i category, then the probability that any sample belongs to c_i is given by:

$$p_i = \frac{x_i}{x}. \quad (1)$$

The supervisor trainer then uses the data collected during this process to determine the level of certification (full, partial, and none), followed by communication with the participant that the existing support process varies with whether the individual is fully or partially certified as shown in Figure 2.

Data decomposition reads the segmented chunks of data part by part into memory for processing and eventually merges the entire processing results, thus overcoming the memory bottleneck problem and also improving the

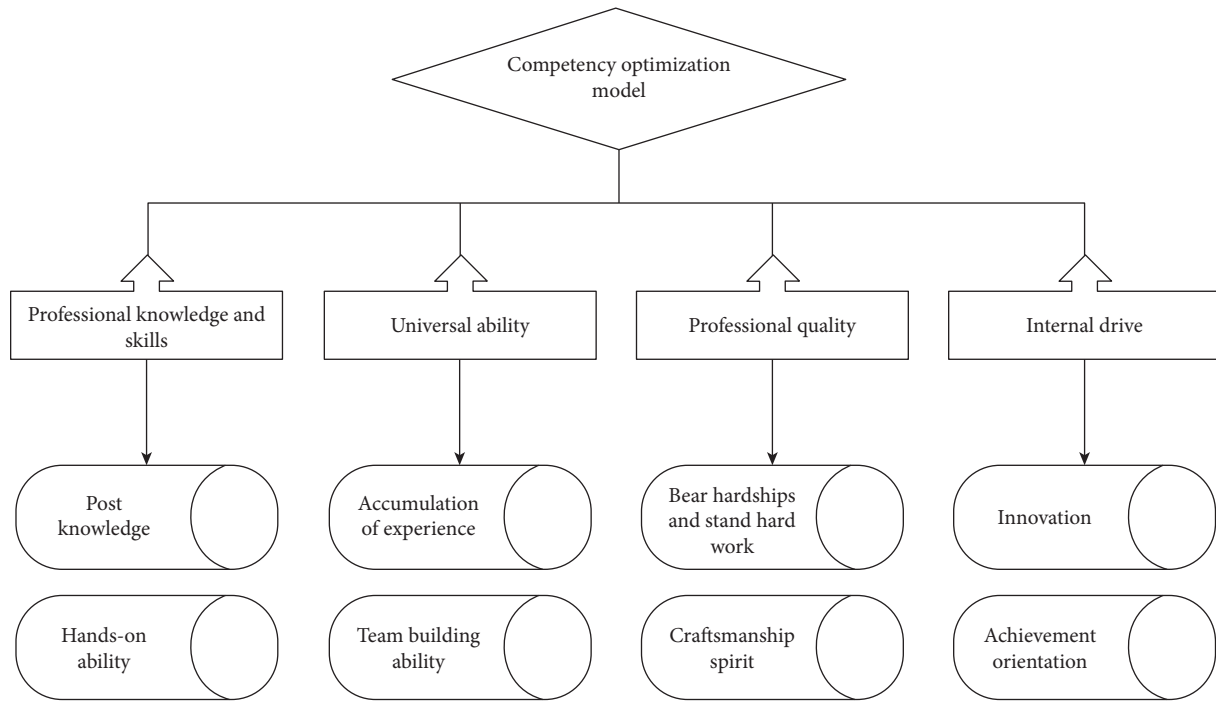


FIGURE 1: Content of competency optimization model.

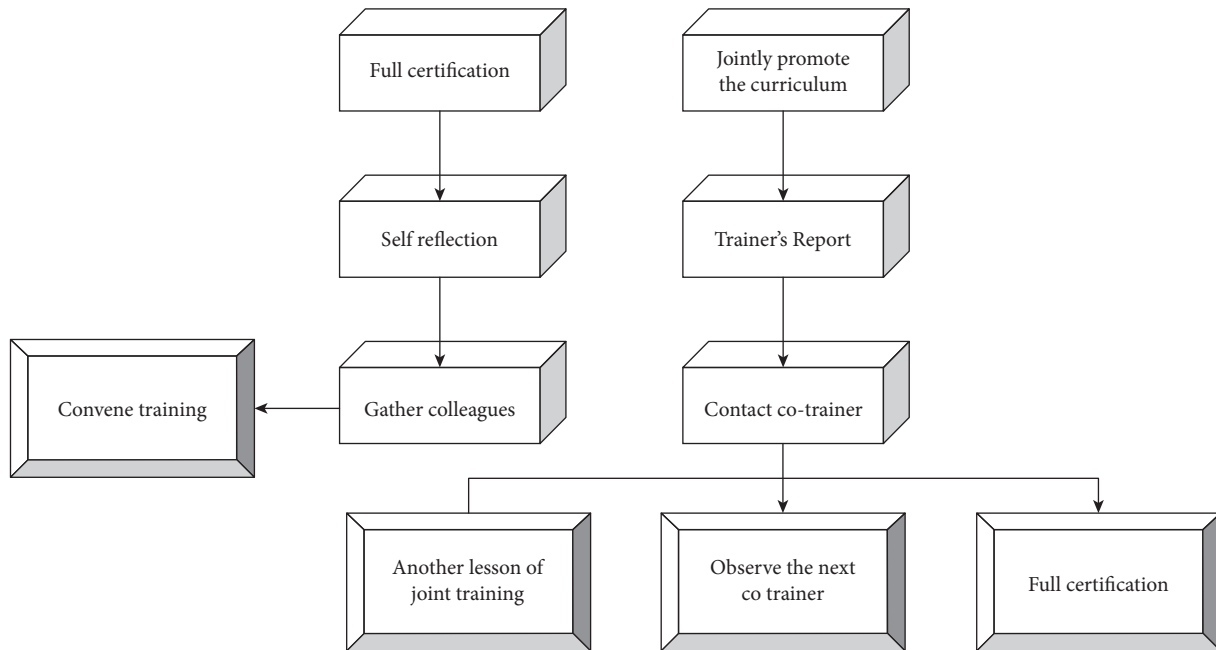


FIGURE 2: Existing support process.

efficiency of mining large-scale data sets. The purpose of competency-based training is to help highly skilled people improve their ability to acquire high performance to complete their jobs, and these competencies have a significant causal relationship with employees' job performance. To conduct comparative analysis of factor data with different magnitudes at the same time, they need to be normalized. The value of i factor j in all samples is given by:

$$Z_{i,j} = \frac{X_{i,j} - \mu_j}{\sigma_j}, \tag{2}$$

σ_j —The standard deviation of j th factor

μ_j —Mean value of i th factor;

Through the combination of big data technology and Internet technology, more education evaluation participants

are attracted, so that any person involved in it has his evaluation perspective and position, thus effectively enhancing the authenticity and completeness of evaluation data, and also making the teaching evaluation indexes possess stronger perfection. The absolute value function of factor coefficients in the regression equation is added to the model as a penalty term to make some regression coefficients smaller, and the coefficients of factors with small absolute values that are not strong enough to explain the dependent variable can be directly changed to 0 through regression. The expression of LASSO method can be written as follows:

$$\bar{\beta} = \operatorname{argmin} \left\{ \|Y - X\beta\|^2 + \lambda \sum_{j=1}^p |\beta_j| \right\}. \quad (3)$$

Second, outstanding teachers were selected as research samples based on school performance standards and teaching effectiveness. The principle of combining theory with practice means that the teaching of theoretical knowledge should be closely combined with the reality of production and life. Enable students to understand and master knowledge in the connection between theory and practice and cultivate students' ability to apply knowledge in practice through teaching practice. The goal of specialized course teaching is to prepare students for employment, so it is particularly important to implement this principle in specialized course teaching. The principle of combining theory and practice focuses on practice and operation emphasizes staff participation and cooperation and enables staff to experience the connotation and essence of theory in practice, which is conducive to solving practical problems in school development.

According to the level of abstraction of data in the rules, association rules can be divided into single-level association and multi-level association. The single-level association rules do not consider the realistic data of the attributes with the hierarchical nature but simply describe the data attributes. Let the genus Y nature has m different values, then the information entropy of Y is given by:

$$E(Y) = \sum_{j=1}^m \frac{x_{1j} + x_{2j} + \cdots + x_{nj}}{x}. \quad (4)$$

Competency-based training content contains not only superficial competencies such as job knowledge and related skills but also implicit competencies such as personal traits, internal motivation, and social roles, etc. Therefore, appropriate training methods must be selected according to the nature and characteristics of the training content to achieve better training effects and promote the achievement of training objectives. Build a teaching evaluation information processing system based on big data technology. It can not only effectively cover the teaching level and related factors but also find valuable information from the massive data information that has never been obtained before. Data mining is an important major course in the major of economic management in colleges and universities. It aims to train students to apply data mining processing and optimization analysis technology to practical problems in

operation management and decision-making process, especially new problems in management decision-making in big data environment. The course is highly practical. The data mining technology changes rapidly, and the data mining model continues to evolve and improve. It has a great advantage in solving the multicollinearity problem, i.e., adding an I_2 penalty to the least squares regression, which is expressed as follows:

$$\bar{\beta} = \operatorname{argmin} \left\{ \|Y - X\beta\|^2 + \lambda \sum_{j=1}^p \beta_j^2 \right\}. \quad (5)$$

Finally, we organize the information, extract the competency characteristics and construct behavioral descriptions of each competency characteristic. Schools not only need to train employees' professional skills but also need to cultivate employees' personality quality. Only by combining professional skills training and employees' personality quality training, we can improve employees' quality comprehensively, explore employees' potential, and better meet the development needs of schools. Competency-based training is to analyze the competencies of employees in specific positions, identify the key competencies that can influence employees to complete their work with high performance, and implement training in a targeted manner. The integrated application of big data technology, Internet technology, and cloud computing technology makes the process of collecting, analyzing, and processing large amounts of data and information easier and also facilitates the mining of data values to support educational decision-making and solve problems that arise in the teaching and learning process. The database is logically divided into several disjoint blocks, one chunk at a time is considered separately, and all frequency sets are generated for it, then the generated frequency sets are combined and used to generate all possible frequency sets, and finally, the support of these item sets is calculated.

2.2. Analysis of Optimization Model Content. In order to more fully understand and subsequently use the model effectively, it is important to dissect the content of the model. The teacher evaluation results to student achievement, on the other hand, is a higher level multilayer correlation rule, and the teacher evaluation factors include many aspects other than lecture quality. The teacher competency factors are divided into three dimensions: professional, pedagogical, and creative. The content of teacher competency factors is shown in Figure 3.

First, the professional dimension is reflected in the ability to consciously and proactively perform the work that teachers are expected to do, to complete teaching tasks conscientiously and responsibly, and to be patient and responsible for the students they teach. The association rule does not imply correlation or causation in a sense; sometimes, it is necessary to identify whether different items are related or there is a causal relationship between them. With the further development of social understanding, association rules have been extended to include types of correlation

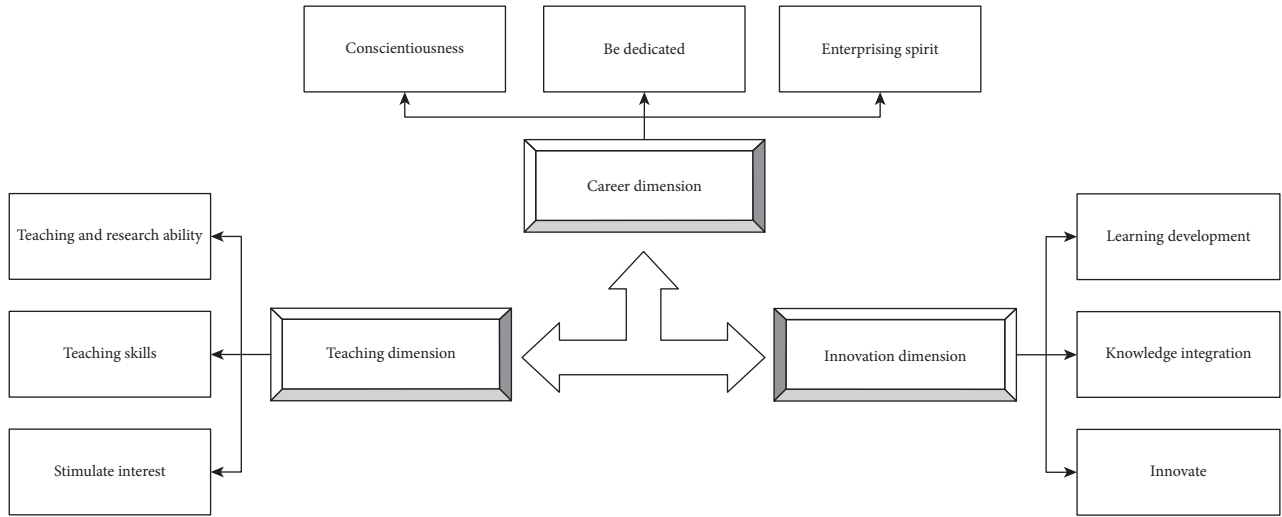


FIGURE 3: Elements of teacher competency.

analysis, added constraints, maximum patterns, and frequent closed sets. The purpose of association rules is to find the relationship between items in a dataset. By calculating the information gain of each attribute, it is considered that the attribute with high information gain is a good attribute, and the attribute with the highest information gain is selected as the division standard for each division. Repeat this process until a perfect training example is generated. The association rule algorithm calculates the information gain of each attribute, and the attribute with the highest information gain is selected as the test attribute for a given S . The information gain from attribute Y is.

$$\text{Gain} = I(x_1, x_2, \dots, x_n) - E(Y). \quad (6)$$

Schools invest a lot of human and material resources to carry out training work and inevitably hope to train a group of talents who can meet the job requirements as soon as possible, to obtain the desired effect and produce benefits, to develop the corresponding training assessment system and standards, and to strictly implement them, which is necessary to ensure the quality of training. We use an n -dimensional random variable to represent X with a weighting factor of A_j , that is, the weighted sum of n basis vectors to represent X .

$$X = \sum_{i=1}^n \partial_i \phi_i. \quad (7)$$

Rough sets can handle incomplete, inconsistent, and imprecise information and can analyze and reason about the data, uncovering hidden knowledge and patterns, and thus discovering potential patterns. The key issue to be dealt with in the discovery phase is to identify the competency model appropriate for the school, to recognize the school's development strategy and goals, and to focus on the core competencies rather than on every possible behavior. The error is propagated in the reverse direction by continuously updating the weights and the bias of the prediction error of

the performance network. For the output layer node j , the error E_{rrj} is calculated as follows.

$$E_{rrj} = O_j(1 - O_j)(T_j - O_j), \quad (8)$$

T_j —Based on the known target value of the given training sample

O_j —Actual output of j

The results of the evaluation are used as data input (demand source) for training and provide a reference basis for the focus of the next training, which is used to guide the allocation of training funds and the preparation of training planning and programs. In the rule set, classification is first performed, which means that the associated rules generated by the same set, and its subsets are found as a class. Then, in each class, the base rule is formed by the rule with the least number of antecedent elements, and the redundant rules in this class are eliminated by the definition of simple redundancy and strict redundancy. Then, the least number of antecedent elements is found to eliminate the redundant rules in each class in a loop.

Second, the teaching dimension is reflected in the ability to continue to explore the discipline knowledge in addition to completing its own teaching tasks through continuous research and study. To improve the quality of teaching, first, we need to establish a competency model for teachers and select appropriate dimensions and subitems. On this basis, we combine the explanations of the terms in the competency dictionary, set up corresponding questions for each dimension and subitem, adapt the previous measurement questionnaire with good validity and reliability, select an appropriate sample for the survey, and organize and score the result data. Use various tools and methods of job analysis to clarify the specific requirements of the job and refine the criteria for identifying good employees and employees with average work. Select a valid sample, i.e., select the excellent group and the general group according to the performance criteria that have been determined. Again, the data on the

competency characteristics of the validated sample are obtained. The propagation error is reflected by updating the weights and biases. The formula for updating the weights is as follows:

$$\begin{aligned}\Delta w_{ij} &= (l)E_{rrj}O_i, \\ w_{ij} &= w_{ij} + \Delta w_{ij},\end{aligned}\quad (9)$$

Δw_{ij} —The change of w_{ij} .

Finally, the innovation dimension is reflected in breaking the inherent mindset, unlocking the rigidity of thinking, improving teaching methods, and improving teaching styles to make them more appealing to students. Thus, the need for language education personnel to be trained depends on the gap between the level of competency they already have on the job and the competency required for the position, and if the gap is large, such employees cannot be identified as training candidates. The Expert Panel Discussion method is where a panel of good leaders, HR management and researchers discuss the tasks, responsibilities and performance standards of the position as well as the competency characteristic behaviors and characteristics expected from good leaders to reach a final conclusion. The upper and lower approximations formed by equivalence classes are used in rough set theory to describe the roughness of the set. A second sample was reselected and data were again collected using the behavioral event interview method to examine whether the competency model that had been developed was applicable to the rest of the sample. The teacher's lecture quality on student achievement is a refined single-level association rule, which represents the effect of teacher's lecture quality on student achievement.

3. Analysis on the Application of Big Data Technology in the Optimization of Chinese Teachers' Competence

3.1. Analysis of Association Rule Mining Process. The optimization model of teacher competency elements in basic education training institutions first needs to extract the competency elements by combining the questionnaire and interview results. The frequency statistics of the elements are then calculated to find the overall weight of each element. The final optimization model containing each element is formed. However, the original association rule mining process is to calculate the support and confidence of all rules in the data and then delete the rules that do not meet the support or confidence threshold. The maximum available size of the program is set to demonstrate that the data mining algorithm can mine association rules in large-scale datasets in a much smaller memory space. The CPU versus GC activity of the system is shown in Figure 4.

The purpose of competency-based modeling of language education personnel training needs is to identify the gap between the existing competency level of highly skilled personnel and the desired level. In such an approach, the computational task is onerous, as the number of rules extracted from the dataset is exponential, which becomes

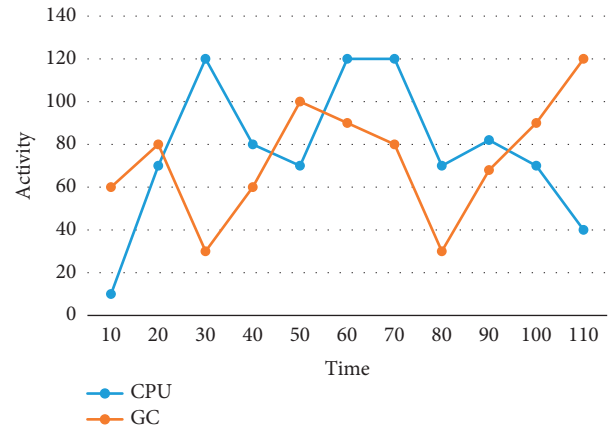


FIGURE 4: Comparison of CPU and GC activities.

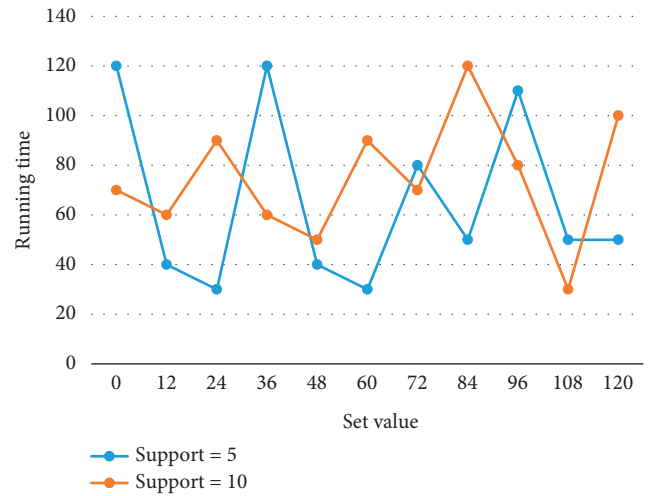


FIGURE 5: Running time of the system with different durations.

infeasible in many cases due to the high cost. The use of association rule mining can increase the motivation of employees to participate in training and also give full play to their initiative in training activities to achieve the purpose of self-improvement and career development of employees. The statistical experimental time also does not include the time that the discovered itemsets are written to disk to accurately count the execution time of each algorithm. The support level is set to 5 and 10, and each algorithm is executed five times under each support level, and the average of the execution time is recorded statistically, as shown in Figure 5.

First, all nodes that satisfy the support degree, i.e., frequent itemsets, are identified in the full set of items, and these nodes that satisfy the support degree are arranged in the order of corresponding items to form an ordered set of nodes. Due to the introduction of data decomposition technology, the frequent itemsets or candidate frequent itemsets of each segmented block are generated independently, so the chunked data processing task can be assigned to different processors in the cluster for completion, providing a good mechanism for developing parallel mining

algorithms. These data can reflect the usual work attitude, work status, future development potential, and competency of employees. By collecting these data, a database is formed, which constitutes the underlying architecture of the data resource processing framework. At the same time, the architecture is usually built for specific organizations and job positions, which vary by organization, position, and position level, and such a competency profile architecture is more restricted by scenarios. So association rules are generated from frequent itemsets, which are sets of items that satisfy the support threshold, and increase the confidence requirement of these itemsets. The size of the dataset is changed, and the size of the storage space is fixed to test the effect of the size of the dataset on the clustering algorithm, and the results are shown in Figure 6.

Second, association rules are generated from these frequent itemsets, and all the rules with high confidence are extracted from the generated frequent itemsets. In a single-level association rule, all the variables are not taken into account that the real data have many different levels, while in a multi-level association rule, the multi-level nature of the data has been fully considered. However, these smaller data blocks contain only part of the information of the original large-scale data set, and what is found is only a local set of frequent items. Association rules created from different reflection degrees of mining information are called various levels or staggered association rules. With the help of deterministic systems, we can effectively mine multi-level association rules by using the progress of ideas. High-level rules increase good judgment. Rules at a low idea level may not always remain valuable. Therefore, we need an algorithm that can simplify a large number of attributes, that is, find the most relevant attributes according to the decision task, get rid of the redundant information, but can guarantee that the original information is not lost. Manual statistical analysis has disadvantages such as error-prone, high workload, and low efficiency, and some schools have not yet developed intelligent statistical analysis tools, and the development of tools needs to have clear application requirements. Therefore, these local candidate frequent itemsets generally need to be written to disk, freeing up memory space for frequent itemset discovery for the next data block. The IP of the datanode node is obtained from the configuration file, so each node must be a static IP address. The specific configuration table for the IP of this system is shown in Table 1.

Finally, after the construction of the transaction rule tree on the rule chain is completed, what is extracted is all the item sequences, which correspond to all the paths of the transaction rule tree model, and then the item sequences are computed to find out all the associated rules. When all the data blocks are processed, the original large-scale data set needs to be scanned again to count the candidate frequent item sets in the disk and select the real global frequent item sets. The job competency evaluation data can be divided into unit level, professional level, shift level, and individual level according to their application needs, but research interviews have not yet been conducted to collect the application needs of training and evaluation managers at each level. Therefore, operating only on the set of attributes related to decision-

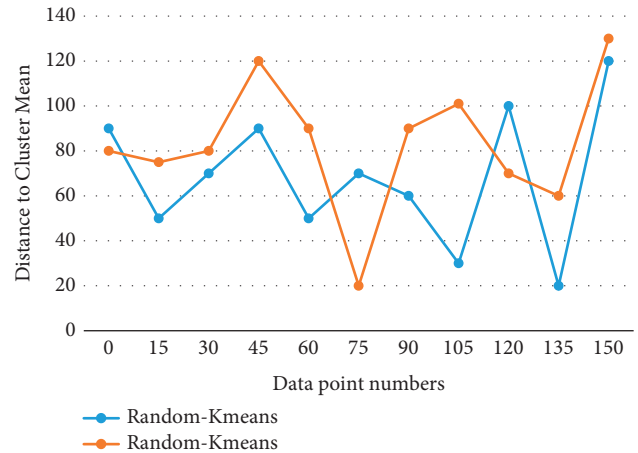


FIGURE 6: Quality scene of each cluster when the real data set is increasing.

TABLE 1: IP specific configuration table.

Machine name	Masker	Slave 1	Slave 2	Slave 3
IP address	145.152.3.81	145.152.3.34	145.152.3.25	145.152.3.31
Attribute	Namenode	Datanode	Datanode	Datanode

making tasks can effectively reduce the number of rules, simplify them, and improve the accuracy of knowledge.

3.2. Application Analysis of Stepwise Regression Method in Competency Optimization. The use of big data for processing brings great benefits to traditional competency models. The application of stepwise regression in competency optimization requires finding the optimal regression equation to become a necessity to improve the effect and maintain stability, selecting the equation factors that have a significant relationship to the dependent variable, and eliminating all insignificant factors from the equation. All information is updated quickly and needs to be processed in real time; if a specific point in time is missed, this information will no longer have value, and the stepwise regression method can meet this requirement, which can reduce the hindrance in the data collection process and ensure the accuracy and value of the information. In order to compare the performance of the test algorithms DISK-MINE, DRBFP-MINE and stepwise regression method for large-scale datasets, experiments were conducted using the composition of 1500 different items generated bars records, and the comparison results are shown in Figure 7.

First of all, starting from an initial factor, the regression equation of the factors was introduced in order from the largest to the smallest according to the significance of the relationship. The development of any discipline will not stand still, and along with the development of learning, the teacher's knowledge of the subject of instruction is bound to keep pace with the times. Assuming that the position of the items in the maximum frequent set is fixed, when a certain

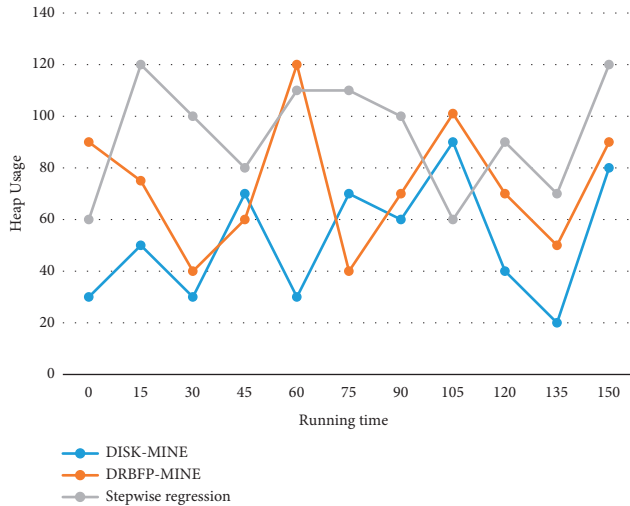


FIGURE 7: Performance comparison and analysis of large-scale dataset algorithms.

item i_k is the root node to establish a chain of 5 rules, i_k is placed in the first position of the maximum frequent set, and the rest of the items are rearranged according to their own sequential positions, and the items in each position correspond to the corresponding level of nodes in the rule chain. In essence, the value of any node is the set of intersection of the node values of the nodes passed on the path from the root node to the node, so as long as the root node is determined, and know the node values of all nodes, you can find the value of any one node in the transaction tree, the value of the node can be the empty set. The basic idea is to eliminate as many candidate frequent itemsets as possible at an early stage, and the eliminated ones belong to the candidate frequent itemsets that are actually impossible to generate frequent itemsets, in order to reduce the number of analysis discriminations and operations. The breast cancer dataset is preprocessed, and the files of different sizes are obtained by backup. The size of each file is about 120 M and contains 1.5 million transaction records. Three datasets D_1 to D_3 are defined, and their specific settings are described in Table 2.

Second, when the introduced independent variables became insignificant for various reasons, the initial factors were removed from the regression equation. Rough sets were first used to deal with outliers, default values, etc. in the original data source. An important reason why rough sets can be used for data mining and knowledge discovery is that they themselves provide an attribute reduction algorithm for the data set. For the five competencies of using media and technology, assessing teaching effectiveness, active learning, professional knowledge, consolidation and transfer of skills, and inspiring student thinking. The decision table (information system table) is then created, and the attribute parsimony algorithm is used to parse the data attributes and knowledge discovery in the decision table. The reason is that the database is repeatedly scanned, and each time the support of a subset of items is calculated, it is necessary to traverse each thing record in the database, which increases

TABLE 2: Data set size based on association rules mining.

Data set	D_1	D_2	D_3
Average number of items	26	39	57
Number of data files	8	14	17
Transaction record number	10076	14200	11600



FIGURE 8: Comparison of clustering time between positive constraints and negative constraints.

the overhead of the system. Therefore, the attribute is removed from the decision table first, and then the classification result of the decision table is observed to be changed. From there, these transactions can be removed, so that the number of transactions to be scanned can be reduced in the next scan. In order to investigate the effect of the number of equivalent partial constraints on the quality of clustering results and the efficiency of clustering, a comparison of the clustering time for positive and negative constraints is shown in Figure 8 below.

Finally, the factors are introduced and eliminated in the stepwise regression by making a test to ensure that the factors included in the regression equation are significant until all significant factors are included in the regression equation before new factors are introduced. Among a series of training forms of continuing education, junior high school teachers are least satisfied with the academic improvement, which reflects the fact that the previous academic education is bound to have a deficiency that has not yet been overcome. If there is a large change in the classification ability of the decision table after this attribute is removed, it means that the more important the attribute is to the classification ability of the decision table; on the contrary, if there is a small or almost no change, it means that the less important the attribute is to the classification ability of the decision table. It works by using the concepts and definitions of rough set theory itself to investigate whether each attribute in the information system is necessary to arrive at the smallest set of attributes that affects the decision, i.e., minimal parsimony. The division-based approach requires scanning the original data set twice (once for decomposition and once for counting the set of candidate frequent items), which requires writing to and reading from a large number of candidate frequent item sets and still requires more disks. Therefore, by dividing the database into many small

segments, each segment will be used as a small database, and only one scan of the database is needed to find out the frequent item sets within each segment by calculating the support, which must be stored to determine the true frequent item sets later.

4. Conclusion

This research on the ability optimization of Chinese teachers based on big data technology can help schools optimize the training plan system by using the winning power model, that is, they can improve the training plan system from three aspects: determining training objectives and contents and selecting training methods. Teachers must improve their abilities through continuous learning, so as to promote education more actively and cultivate more talents for the country. In terms of perspective selection, most of the current internal teacher training focuses on traditional training, while the perspective of this paper starts from the competency theory that attaches importance to the internal intangible quality and long-term development of employees and has many general abilities, with the dual attributes of teachers and trainers. Aiming at the highly skilled talents in the field of language education, this paper puts forward a competency model with practical and theoretical significance and combines the competency theory with the practice of talent training, trying to explore the practical application of the competency theory in the talent training of language education. The training demand analysis based on big data technology; the design of competency optimization model and the analysis of the content of the optimization model are carried out. The application of demand analysis and effect evaluation is highlighted, which improves the relevance and effectiveness of training, and provides a reference for the talent development of the school.

Data Availability

The data used to support the findings of this study are available 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.

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