

Clustering and Mining Algorithm of Factor Structure Data of Physical Education Teachers' Teaching Behavior Based on Internet Information Retrieval Algorithm

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Abstract: Integrating visual word list and Rocchio algorithm, constructs an implicit relevance feedback retrieval model in semantic space, and judges information retrieval preference. User demand mining is introduced, Jensen-Shannon divergence is used to calculate the relative entropy distance between the probability distributions of document sets, and similarity matching is calculated to complete interactive information retrieval. Teaching ability is gradually formed by teachers in long-term teaching practice, and is stably and comprehensively reflected in teaching viewpoints, teaching methods, teaching skills, teaching style and so on. The weight analysis of each index in the evaluation index system was carried out by using the analytic hierarchy process, and the selection of the evaluation subject was completed through the third round of expert questionnaires, and the evaluation criteria were formulated in combination with the opinions of tutors and some expert teachers.

Keywords: Clustering and Mining Algorithm, Factor Structure Data, Physical Education, Information Retrieval Algorithm

1. INTRODUCTION

So far, scholars at home and abroad have made great achievements in the research on the teaching ability that physical education teachers should have. Most researchers are not the same in the selection of teaching ability evaluation indicators and the construction of the system [1], and the degree of real-time needs to be strengthened and improved. Compared with the past, today's Internet information has undergone earth-shaking changes, and the capacity of information is exponential, showing an increasing trend [2]. There are countless websites about travel on the Internet. Whenever a user searches for relevant travel information through a search engine, the results returned by the search are a large number of advertisements and travel advice [3].

Semantic information retrieval [4] (referred to as "semantic retrieval"), as the latest mainstream technology of information retrieval technology, is based on natural language processing technology [5], and through neural network model [6], it trains the language that the computer can understand and recognize. From the semantic point of view, the recall and precision of the document are improved. It is also the fundamental requirement of college ideological and political education work, and an important criterion to measure the ability of colleges and universities to respond to online public opinion [7].

In the basic network construction stage, the construction goal of this stage is to build the Internet network within the school to ensure basic network communication requirements, such as the deployment of wired and wireless networks in various areas of the campus. The second stage: the construction of departmental informatization [8]. The goal of this stage is to build an informatization platform that meets the needs of each functional department. Through the analysis and mining of the big data platform, each individual student can be profiled, and their learning, life, Psychological and other aspects can be comprehensively profiled, and at the same time, the entire

student group can be classified, analyzed and profiled, and the student data can be displayed intuitively [9].

By establishing a student behavior analysis system, the system can be used in the evaluation of poor students. Cluster analysis, frequent pattern mining and so on [10]. Among them, the cluster analysis technology is mainly used to discover the internal structure of the data. The object set is divided into multiple categories (clusters) according to the similarity, so that the similarity between objects in the same category is larger, and the similarity between objects in different categories is higher [11]. Smaller, senior middle school physical education teachers are facing huge challenges, and the current teaching ability can no longer meet the needs of reform [12].

By constructing a scientific and reasonable evaluation system for the teaching ability of physical education teachers in senior middle schools, an objective and fair evaluation of the teaching ability of physical education teachers in senior middle schools in Henan Province has been carried out [13]. Most researchers are not the same in the selection of teaching ability evaluation indicators and the construction of the system, and the real-time degree still needs to be strengthened and improved [14].

Only a comprehensive and systematic evaluation of the teaching ability of physical education teachers. Ability directly affects a person's ability to quickly and successfully complete a certain task. Physical education ability refers to the synthesis of individual psychological characteristics that meet the requirements of physical education activities and affect the quality of teaching. Physical education ability is composed of a series of factors. Regarding the problem of information retrieval, experts in related fields have obtained some research results. Reference [15] proposes an information retrieval algorithm for monitoring network hybrid intrusion under big data. The genetic algorithm is used to optimize the selection

of feature sets to form an optimized feature set and build a redundant information elimination model [16].

There are many researches on retrieval algorithms abroad, and there are many research results. At present, the relatively mature retrieval algorithms include PageRank algorithm, HITS algorithm, word frequency, position weighting algorithm [4], DirectHit algorithm [17], Alexa [618 and so on. The most influential ones are PageRank algorithm and HITS algorithm. Boolean model [19] is the simplest method in information retrieval, and the model is based on set theory and Boolean algebra. It relies on the use of boolean operators. Boolean models are characterized by binary logic, i.e. 0 or 1, correlated or not.

2. THE PROPOSED METHODOLOGY

2.1 The Internet Information Retrieval Algorithms

When users use search engines, they are most concerned about the accuracy of search results. When a user searches, the search engine will only match the webpage content related to the search item, and return the sorted results to the user, without considering the real needs of the user.

Therefore, this section proposes a secondary ranking based on the user interest model, which is to establish a user interest model for each user. The key to the relevance feedback of interactive information search results is to complete the evaluation according to the characteristics of eye movement visual behavior. The visual theory stipulates that the retrieval results that attract users and are viewed by users for a long time can be clicked by users, and visual behavior is a necessary condition for users to click and browse information. The consumption of the campus card system card can generate more than 60,000 transaction records per day, and the educational administration system generates as many as 300,000 student grade records per semester. as many as ten thousand.

Before using the clustering results to assist the application in related fields, it is first necessary to evaluate the clustering results to determine whether they conform to the inherent distribution characteristics of the data, that is, to verify the validity of the clustering results. Because only reasonable and effective clustering results can provide correct decision support. When a user browses a page, if they encounter content that they are interested in, they will perform various operations on the page, such as: printing, copying, and adding the content to favorites. When users perform these operations, they are actually interacting with the search system. These interactive behaviors can be regarded as implicit feedback information of users. The product needs to use the information records of students swiping ID cards to analyze students' participation in organizational activities. The software can detect the information of students with low activity frequency, and then send emails to remind or guide the condolences to these students with low activity rate.

2.2 The Factor Structure of Physical Education Teachers' Teaching Behavior

General factors of physical education teaching ability. It generally refers to the perceptual knowledge about teaching and learning accumulated by teachers in the long-term teaching process and the behavioral way of dealing with teaching problems. In the idea, the whole is decomposed into various parts and various aspects, and the feedback algorithm based on semantic space is used to realize the extraction of

user retrieval interest features. Firstly, the user's gaze point coordinates and gaze time are obtained through eye movement data, and the eye movement information is processed visually.

From April to May 2016, the author conducted a survey on the current situation of teaching ability evaluation among senior middle school physical education managers and physical education teachers in Henan Province. 150 questionnaires were distributed, and 126 valid questionnaires were recovered, of which 119 were selected with teaching ability evaluation plan. Counting, sorting and analyzing the questionnaires. Most experts focus on the following points in the selection of indicators: first, the ability to implement teaching; second, the ability of physical education teachers to control the classroom; third, the ability to design teaching links; Fourth, teaching summary ability; fifth, teaching evaluation ability. However, compared with traditional data processing methods, data mining methods are more effective for data processing, because general mathematical statistics methods cannot analyze massive data, Therefore, the analysis and mining of massive data must be realized by more effective processing methods.

According to the requirements of the teaching syllabus and teaching plan, the ability to formulate scientific and feasible annual teaching plans, semester teaching plans, unit teaching plans and class-hour teaching plans based on the physical and mental conditions of students and the actual situation of the school. The purpose of physical education teaching ability evaluation should be a combination of reward and punishment and development. Through the implementation of curriculum reform, most physical education teachers have a new understanding of the purpose of evaluation. The survey found that: 86.5% of senior middle school physical education teachers think that evaluation is to promote the development of physical education teachers' teaching ability. Based on the above information, a fixation point influence area can be obtained, and the size of the influence area is proportional to fixation time.

2.3 The Clustering and Mining Algorithm of Factoa

In order to obtain a more accurate user retrieval preference, the relevant information is reordered, and the reordering process can be regarded as the process of forming a visual word list of user retrieval intentions [8], as shown in Figure 1. If there are M related areas, the initial visual word list of each related area is. At present, the big data platform architecture with mature technology system includes resource layer, perception layer, service layer, portal layer and application layer. This platform architecture can be applied to all In the big data application, the architecture in Figure 4.1 is formed after the resource layer is refined to the service layer, which involves basic resources. Cluster analysis divides the data object collection into several classes composed of similar objects, but this is not its ultimate purpose ; Through further analysis and interpretation of the clustering results, we hope to obtain more meaningful information.

Common methods are described in the introduction, such as analyzing the distribution characteristics of each cluster with respect to attribute values, or the distribution of data in each cluster. Although these methods have explained the clustering results to a certain extent. The most important thing in the evaluation system is the evaluation index. The quality of the evaluation index directly affects the validity of the evaluation system, thereby affecting the authenticity and reliability of the evaluation results of physical education teachers. sex. The

indicators in the evaluation index system are a system that is both interrelated and mutually restrictive, so when selecting evaluation indicators, scientific rationality should be followed, not only to truly understand the teaching ability of senior middle school physical education teachers.

3. CONCLUSION

In order to effectively improve the accuracy of interactive information retrieval and provide users with a better service experience, this study proposes a new interactive information retrieval algorithm based on the theory of human eye gaze behavior. Physical education teachers should combine teaching with scientific research if they want to be top-notch in teaching. In the pursuit of teaching art, teachers have the courage to carry out teaching reform experiments and summarize their own teaching methods in a timely manner. In order to effectively improve the accuracy of interactive information retrieval and provide users with a better service experience, this study combines the theory of human eye gaze behavior to propose A new interactive information retrieval algorithm.

4. REFERENCES

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