Hindawi
Wireless Communications and Mobile Computing
Volume 2023, Article ID 9825689, 1 page
https://doi.org/10.1155/2023/9825689

Retraction

Retracted: Integration of Network Teaching Resources of a Political Theory Course Based on the Collaborative Filtering Algorithm

Wireless Communications and Mobile Computing

Received 29 August 2023; Accepted 29 August 2023; Published 30 August 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] X. Liu, L. Xiao, and Z. Jing, "Integration of Network Teaching Resources of a Political Theory Course Based on the Collaborative Filtering Algorithm," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 4945598, 10 pages, 2022.

Hindawi
Wireless Communications and Mobile Computing
Volume 2022, Article ID 4945598, 10 pages
https://doi.org/10.1155/2022/4945598

Research Article

Integration of Network Teaching Resources of a Political Theory Course Based on the Collaborative Filtering Algorithm

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Received 4 May 2022; Revised 17 May 2022; Accepted 25 May 2022; Published 27 June 2022

Academic Editor: Kalidoss Rajakani

With the advent of the information age, the traditional practice teaching model presents many limitations and the popularization of the Internet makes the integration of network resources in the practice teaching of political theory courses begin to attract the attention of scholars. It has become the general trend to realize the integration of network resources in practical teaching. In view of some teachers' lack of scientific research on the goal orientation of resource integration, there are phenomena of blind accumulation of resources, complex resource structure, and aging resource content in the teaching resource integration of the political theory course. Therefore, based on the excellent performance of the collaborative filtering algorithm in similarity, this paper improves the inaccurate and unstable situation of traditional political theory course network resource integration by modifying parameters such as Pearson similarity function and optimizing the algorithm structure. Strengthening the integration and utilization of practical teaching resources is conducive to improving the effectiveness of political theory course teaching and to alleviating the current situation of serious shortage of practical teaching resources in political theory courses.

1. Introduction

The curriculum resources of the political theory course refer to all the elements and necessary implementation conditions that can be used for the course teaching in the teaching process of the political theory course and are the premise and foundation for the implementation of political theory course teaching [1]. As an important part of the political education of college students, the political theory course in colleges and universities is aimed at cultivating the builders and successors of the cause of socialism with Chinese characteristics [2]. In the context of social environmental changes, the school environment and family environment have changed and the ideological situation of college students has presented new characteristics and faced new problems and contradictions [3]. Optimizing the allocation and rational integration of political education resources is an important measure to give full play to the function of political education resources, and it is an important basis and premise for a good political theory course [4]. With the increasing emphasis on the political work in China and the continuous improvement of the discipline construction of the Marxist theory, coupled with the iterative development of new media and new technologies, political education resources have achieved good results in development. The overall situation is as follows: first, there are many kinds, among which they can be divided into different categories according to different standards.

Driven by national policies, my country has made great achievements in the construction of online education and learning resources, from the construction of national-level public service platforms for educational resources to the construction of provincial-level educational resource service platforms and even city and county-level educational resource platforms. At present, the amount of learning resources on the Internet is abundant and the educational resource platforms in many regions have reached the terabyte level of data and the amount of learning resources data is huge [5]. The popularity of the Internet brings cloud computing and big data. Both cloud computing and big data have a common basic condition, that is, the digitization of basic data, and then interact and transmit on the basis of basic data. With the rapid development of information technology, school teaching resources have basically completed

the process of resource digitization but most of them are scattered in teachers' personal computers or school servers. The emergence of a personalized recommendation system is a kind of system to solve the disadvantage of information overload. This system can help users find the products and information that they really need in the dazzling variety of products and information and plays an important role in whether the political education resources can play its function and the realization of the teaching effect of the political theory course. It is the direct embodiment of the allocation results of political education resources in the teaching content and can provide users with personalized and excellent experience.

However, the rapid growth of resources in the education platform has led to the overflow of resources and information overload, far exceeding the maximum information range that users can accept and process. The overflow of information brings troubles to users, wastes their precious study and work time, and reduces the efficiency of students' study and teachers' work [6]. The utilization of practical teaching resources of political theory courses refers to integrating the existing practical teaching resources of political theory courses into practical teaching of political theory courses, giving full play to its political education functions and realizing a society of practical teaching. [7]. The development and utilization of political theory teaching resources in colleges and universities are of positive significance to improve students' comprehensive quality [8]. The unified curriculum is highly abstract and logical, and it also has a certain lag, resulting in classroom teaching activities being usually mainly taught by teachers and students being more passive when facing the curriculum, and it is difficult to integrate the theory with practice [9]. While the Internet provides us with convenience and rich learning and resources, all kinds of resources are constantly pouring into the network. Traditionally, people are accustomed to query the required information through search engines such as Baidu or Google and can search for the information needed by individuals from massive data [10]. However, for the imprecise and unsystematic problems of how to use CFA (CFA) to integrate the teaching resources of the political theory and the situation that the traditional resource integration is not in place for the political course, due to the complexity of the political theory course and the diversity of teaching resources, the final teaching resource integration is not perfect and complete. Therefore, this paper has made the following innovations in design:

(1) Based on the superiority of the CFA, this paper will analyze the design of the model from the perspective of teaching resource integration, based on users and projects and more systematically, and comprehensively analyze the integration of teaching resources in political theory courses. In the main data sparse, on the issue of sexuality, the settings are optimized from the aspects of the implicit scoring design and the initial value of the item scoring, so as to improve the integration efficiency of collaborative filtering

(2) In addition, aiming at the problem that the similarity parameters of political theory teaching resources are difficult to obtain, which leads to the low accuracy of resource integration, by combining the theory to fuse and filter the resource elements and modifying the parameters through Pearson similarity function, the overall structure of the model is more rigorous and the integration of resources is more reasonable

The chapters of this paper are arranged as follows: the first chapter of this paper is the introduction, which discusses the background and significance of the topic selection and expounds the innovation of the article. The second chapter is the main body of this paper, which mainly puts forward innovative achievements and research ideas of this paper combined with the research results in the field of network teaching resource integration of the political theory course at home and abroad. The third chapter is the method part, which deeply discusses the application and principle of relevant algorithms and puts forward a new resource integration model based on the previous research results and the innovation of this paper. The fourth chapter of this paper mainly discusses the experimental part of the application of the algorithm. Through the results of the experiment, on the basis of sorting out the data, a resource integration model is established. The fifth chapter is the summary part, which summarizes the research achievements and shortcomings of this paper, as well as the prospect of the follow-up research.

2. Related Work

Yin believes that the teaching effectiveness of the political theory course refers to the ability to cultivate students who meet the requirements of social development and have all-round ideological and moral development. The teaching effectiveness of the political theory course can be divided into the direct effect and potential effect, which is reflected in imparting knowledge and moral cultivation to students [11]. The research of Mu and Zeng shows that if we can combine learners' characteristics and learning process, effectively analyze learners' characteristic information and learning data and distinguish and match learning resources that meet learners' individual needs from massive online learning resources [12]. Li et al. believe that facing the massive amount of online learning resource information on the Internet, users are faced with problems such as information overload and information lost and it has become an urgent need for users to quickly obtain and filter the required information in a way. At present, information filtering is mainly achieved through two information filtering methods, search and personalized recommendation [13]. Experiments by Wang et al. show that the sharing of teaching resources is set to hierarchical management. Users can upload their own private resources without sharing them or share them in their personal space, but they need to be audited by the school-level resource administrators. If they need to share them in a wider range, they need to submit them to their superiors for further audit. After the audit, they can share

the resources to the corresponding level areas [14]. Li and Li believe that the basic way to improve the teaching effectiveness of the political theory course is to establish the concept of educating people, give play to the leading role of teachers' teaching, respect the subjectivity and initiative of college students' learning, and form and improve the teaching guidance and management mechanism [15]. Ju et al. believe that the essence of the recommendation system is to recommend personalized information that may meet user preferences for users. The recommended personalized information is analyzed and mined through user data, and then, the system automatically retrieves the information. Obtained after screening [16]. Wu et al. think that in the era of flamboyant personality, the characteristics of user groups are prominent and the personalized needs of users are vividly portrayed. High-quality resources are often overwhelmed because of the large amount of resources, and resources are put on hold and wasted [17]. In the context of the huge amount of educational resource data, we will mine high-quality educational resources and recommend them to users for learning and reference. Resources will also play the greatest role. In the research of practical teaching reform, Mao et al. focus on the creation of the system. They believe that in order to do a good job in the practical teaching reform of political courses, we must strive to build a new system of practical teaching, innovate the effective mode of practical teaching, build an evaluation system for practical teaching, and form an operation mechanism with strong scientificity, standardization, and operability [18]. Wu's research found that the most widely used is the collaborative filtering recommendation algorithm, which is also the most successful technology currently used on various platforms. Among them, collaborative filtering recommendation algorithms can be divided into three more refined recommendation algorithms: model based, user based, and item based [19]. Fang et al. filter learning resources through social tags, which expand the description of resource characteristics. They can describe resources from different attributes, establish a user tag matrix for users, and then analyze learners with similar resource tags through tag matrix data to recommend resources. However, this algorithm needs to rely on perfect social tags, which is difficult to implement [20]. Wang and Hou believe that the existing online course selection system focuses on course and user management. Compared with the personalized service content, it is very few. Our students may spend a lot of unnecessary time looking for courses that they are interested in. Therefore, to improve the efficiency of elective courses for middle school students on the platform, it is necessary to analyze the historical records of students' course selection. Even the characteristics of students using this platform should be simply analyzed [21]. The research of Laishram and Padmanabhan shows that practical teaching resources are the basis and premise of the implementation of practical teaching in political theory courses. Only by developing and optimizing the combination and making full use of it can it play its due role [22].

Based on the research of the abovementioned related work, this paper determines the positive role of CFA in the field of integration of online teaching resources of the political theory, constructs a collaborative algorithm model combining various algorithms, and makes in-depth analysis and research on the acquired and collected data by using the collaborative algorithm model, so as to make more effective use of the data, mine the valuable knowledge hidden behind the data, and find out the potential problems that affect the integration of online teaching resources of the political theory.

3. Methodology

3.1. Related Theoretical Analysis and Research

3.1.1. Resource Integration of the Political Theory Course. With the quiet advent of the digital age and the iterative development of information technology, the educational objects and some educational mediators of political theory courses have also undergone unprecedented new changes. Correspondingly, the subject and mediator of political theory teaching The teaching content of Political theory should also be changed, so as to realize the organic unity of educational subject, educational object and educational mediator. Only in this way can the effectiveness of political theory teaching be enhanced and the expected effect of political theory teaching can be achieved [23]. The integration of network teaching resources of the political theory course is to screen and utilize teaching resources and create a network resource system with the characteristics of political education, so as to ensure the effectiveness of teaching and improve the quality of college students [24]. As far as the role of network resource construction in education is concerned, with the popularization of multimedia information and network technology, network education, as a brand-new mode of education, has developed rapidly all over the world. Its development has broken through the confinement of traditional pedagogy, made a qualitative leap in time and space, and realized the sharing of educational resources all over the world. With the development of educational informatization and a digital campus, network political education is highly respected by the educational circles in my country and the practical teaching network platform for political theory courses can be said to be the product of the development of network political education [25]. The practical teaching network platform for political theory courses is based on the network, with the help of computer technology, digital technology, and new media communication means, to integrate the practical teaching resources of political theory courses into the network, share resources, and realize the network of practical teaching. Educators use various network education methods to educate educated people on specific ideological concepts, political viewpoints, and moral standards. It is a brand-new online education and practice tool for practical teaching of the political theory course that educatees independently participate in online learning, independently use online practice forms, and improve the ability of integrating the theory with practice and independent exploration [26]. Figure 1 shows the basic composition of online teaching resources.

As shown in Figure 1, the abovementioned eight contents other than online courses can be summarized into material teaching resources, which have the characteristics

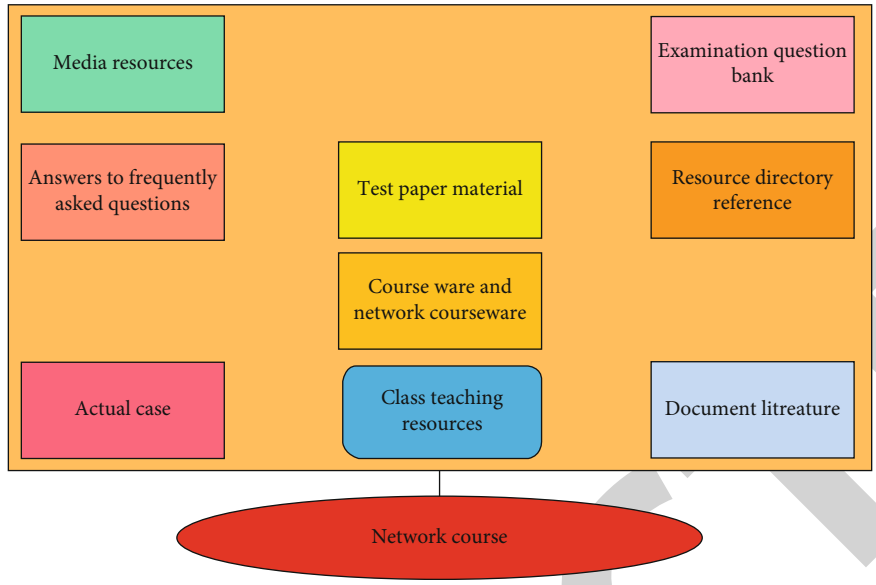

Figure 1: Basic composition of network teaching resources.

of a large amount of information, rich and diverse contents, convenient use, strong randomness, timely update, convenient change, and so on. Online courses belong to a higher-level teaching method in the content shown in the figure and can organize and integrate various material teaching resources to express the teaching content. In the online teaching of political theory courses, we can use online courses to complete teaching activities. The effects of integrating and utilizing the practical teaching resources of political theory courses are as follows: first, bring the practical teaching resources that have the value of political education but have not been discovered into the category of practical teaching resources of political theory courses in colleges and universities, make rational use of these resources, and give full play to the practical role of political education; secondly, make the existing and limited practical teaching resources of political theory courses exert the greatest benefits; and finally, under the condition of limited resources, through reasonable organization and arrangement of the use of various resources, we can save practical teaching resources as much as possible, reduce the use cost, and realize the sustainable development of practical teaching resources of the political theory course.

3.1.2. Application of the Systematic Filtering Algorithm in the Integration of Teaching Resources. At present, the most common recommendation algorithms are content-based recommendation, knowledge-based recommendation, utility-based recommendation, CFA, and combined recommendation algorithm. Collaborative filtering recommendation is to help users find interesting preferences, that is, it is necessary to find a group of users who have similar interests with this user and then recommend these users' interesting preferences to this user. Of course, it is also possible to use the same method to generate recommendation results for the content that a user does not like. The most important thing of CFA is to control the similarity. It is different from the content-based filtering method. The biggest difference is that it does not directly analyze the content but analyzes on the basis of user interest and obtains information between similar units. This paper pays attention to the project-based CFA. In practice, it is found that the user-based CFA also has some bottlenecks, especially for the problems of data sparsity and system scalability, so it is more difficult to meet the project-based CFA. Generally, in the user-based CFA, the algorithm is used to calculate the similarity between the user's rating of the item, query some nearest neighbors of the user used, and then according to the score of the nearest neighbor, to generate the highest recommendation to the user used. Figure 2 shows the basic principle of item-based CFA.

This paper establishes the user model of the corresponding user in the modeling design: the input array is usually represented as a user scoring matrix with m rows and n columns. m represents the number of users in the array, n represents the number of items in the array, and the small element R_{ij} represents the specific scoring value of the items in column i by the users in row j as follows:

$$R = \begin{pmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ r_{i1} & r_{i2} & \cdots & r_{\text{in}} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{pmatrix}. \quad (1)$$

Through the abovementioned formula, the nearest neighbors of similar users can be found, and then, through integration processing, the nearest neighbor set can be obtained, and then, further screening can be performed to obtain the similarity between the corresponding user and users other than this

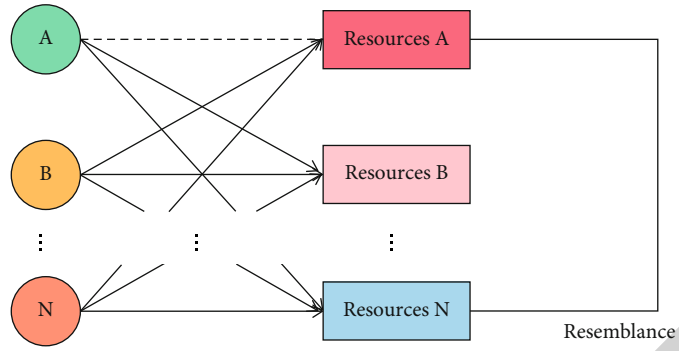

Figure 2: Basic schematic diagram of item-based CFA.

user, so as to obtain a result set of the nearest neighbors that are more similar to the user's behavior or interests. Then, according to the recommended content,

$$P_{i,d} = \bar{R}_i + \frac{\sum_{j?\mathrm{NBS}i} \mathrm{sim}(i,j) * \left(R_{j,d} - \overline{R_j}\right)}{\sum_{j?\mathrm{NBS}i} (\mathrm{sim}(i,j))}, \quad (2)$$

where $\mathrm{sim}(i,j)$ represents the similarity between the i user and the j user; in the $R_{j,d}$ formula, it is the score of the nearest neighbor user j on item d; $\bar{R}_i$ and $\overline{R_j}$ in the formula represent the average scores of the i and j users, respectively. In fact, the abovementioned formula is to find some users in the user's nearest neighbor result set, take the similarity value of the similarity between the target user and the user found in the algorithm as the weight, and then, weighted average the difference between the neighbor user's score on the item and all the scores of these neighbor users again. The highest recommended items are obtained by calculating and sorting.

3.2. Optimization of Data Sparsity in the Model. With the increase of users and resources in the system, if only a few users have scored a few resources, that is, some users only scored once or twice in the system and some items only scored once or twice in the system, the data sparsity problem will exist in the matrix formed. Regarding the implicit scoring design, when learners learn on the platform, they will invisibly leave learning process information when browsing the learning content, sharing and collecting learning resources, and reprinting topics. If we pay attention to the collection of these invisible data in the design of recommendation system, take them as the key of system recommendation, and analyze the learning needs of learners, we can predict the learning resources that learners may be interested in and really need. Therefore, when learners query or acquire teaching resources at a high frequency in a certain period of time, the corresponding correlation degree will also increase. Regarding the setting of the initial value of the project score, this is based on the number of teaching resources for political theory courses in the model. As the resources are gradually increasing, this will inevitably lead to some resources that have no user association or score. In the long run, some resources will remain. It will not be collaboratively filtered, so this article will set an initial value, which will give the resource a basic objective score, thus ensuring that all resources can be associated and trusted. Figure 3 shows the basic flow of the recommendation algorithm.

3.3. Model Algorithm Design. In the algorithm design module of the model, due to the existence of data sparsity, it cannot be avoided at all. Therefore, it needs to be handled properly. First, it should be weighted on the common score number function, because most users' choices have the characteristics of timeliness. Therefore, after a certain time, the recommended or integrated resources will be meaningless. In addition, it is also defined on the time attenuation function. Then, if the time interval between users' ratings is very small, it indicates that the similarity of these users is higher, which will make the samples coincide and weaken the similarity of users. Therefore, it is necessary to use the Pearson similarity calculation model to analyze the user's historical behavior. Let m, n represent the user and the item, respectively, and r_{ij} represent the rating value of the user i on the item j, so there are

$$\mathrm{Sim}(u,v) = \frac{\sum_{i?I}(r_{ui} - \bar{r}_u) * (r_{vi} - \bar{r}_v)}{\sqrt{\sum_{i?I}(r_{ui} - \bar{r}_u)^2 * \sqrt{?_{i?I}(r_{vi} - \bar{r}_v)^2}}}, \quad (3)$$

where I represents the set of items scored jointly by user u and user v. $\bar{r}_u, \bar{r}_v$ is the average value of the user u, v score. When the number of users and projects is large, the score matrix becomes larger but the metadata is empty. This Pearson coefficient is undefined, the similarity between users cannot be evaluated, and the recommendation is invalid.

Based on the traditional Pearson coefficient calculation similarity model, a time weighting function is introduced for scoring prediction:

$$f(t) = \frac{1}{1 + \mu \times e^t}. \quad (4)$$

The time attenuation factor is combined into the formula to obtain

$$\mathrm{Sim}(u,v) = \frac{\sum_{i?I}(r_{ui} - \bar{r}_u)(r_{vi} - \bar{r}_v) f(t_{ui} - t_{vi})}{\sqrt{\sum_{i?I}(r_{ui} - \bar{r}_u)^2 * \sqrt{\sum_{i?I}(r_{vi} - \bar{r}_v)^2}}}. \quad (5)$$

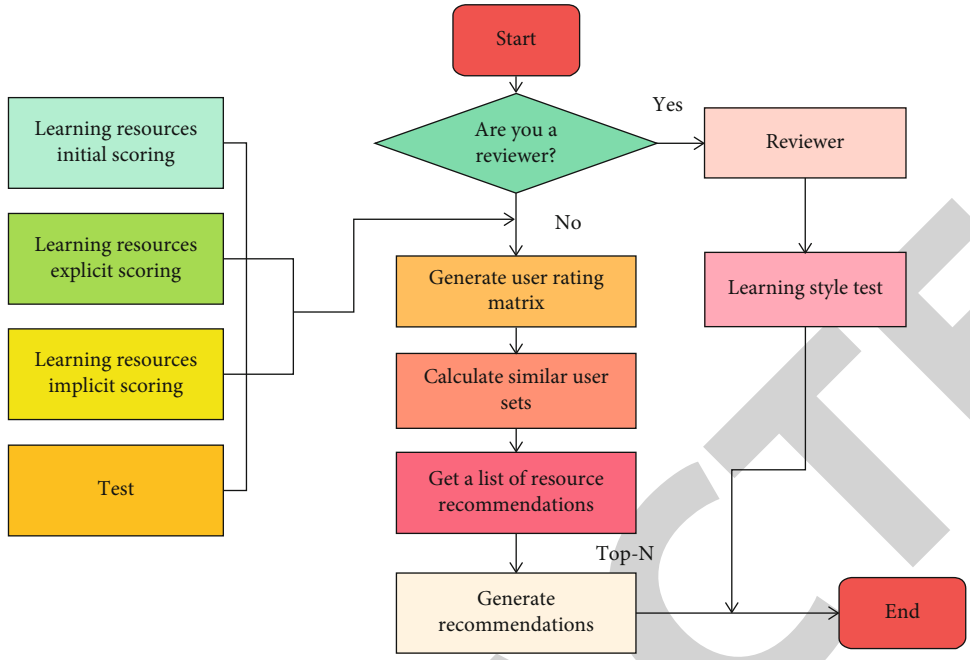

Figure 3: The basic flow of the recommendation algorithm.

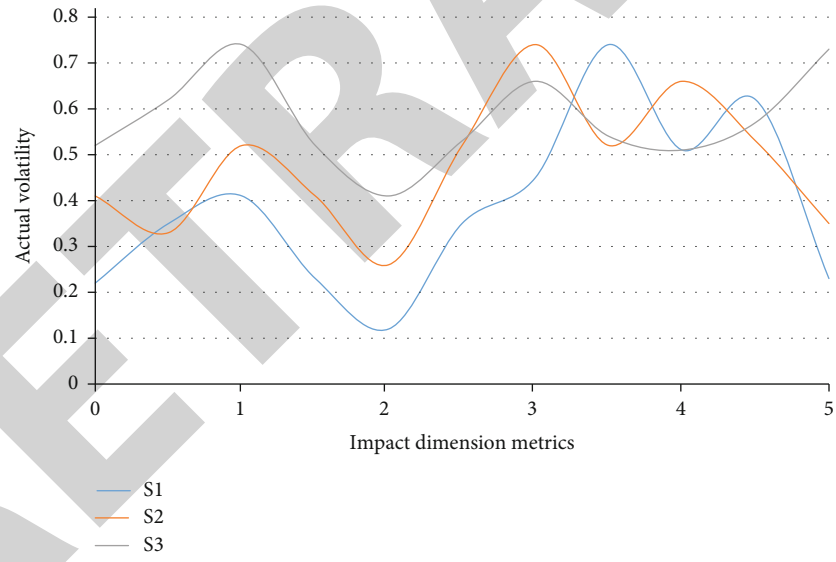

Figure 4: Fluctuation analysis of average error.

$\mu \in (0, 1)$ in the formula is called the weight factor and the value range of variable t is $t \geq 0$. That is, the longer the time interval, the smaller the attenuation function value and the greater the reduction degree of user similarity. The similarity between users can be calculated by the Jaccard formula or cosine similarity formula. Jaccard's formula is as follows:

$$W_{uv} = \frac{|N(u) \cap N(v)|}{|N(u) \cup N(v)|}. \quad (6)$$

The cosine similarity formula is

$$W_{uv} = \frac{|N(u) \cap N(v)|}{|N(u)N(v)|}. \quad (7)$$

The similarity of user u to the integrated resources of the model can be obtained by the abovementioned formula, and then, the resource integration set with the highest score is recommended to user v. First of all, let $N(u)$ represent the intended resource of user u and let $N(v)$ be the intended

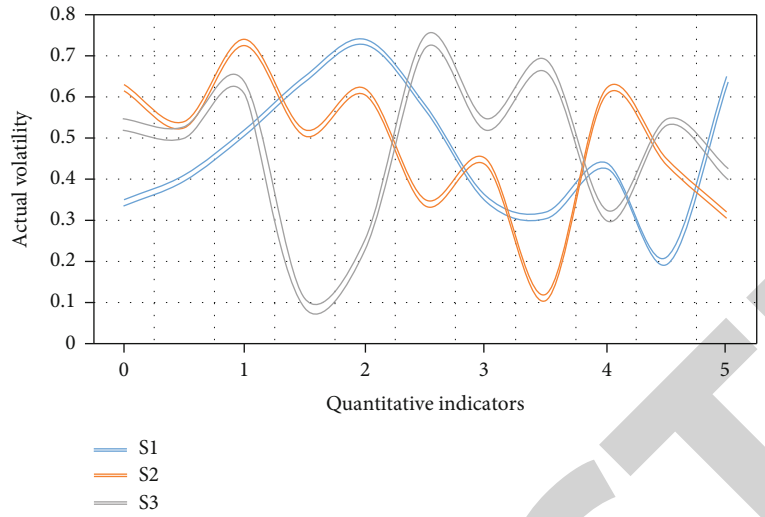

Figure 5: Analysis of the stability of resource integration.

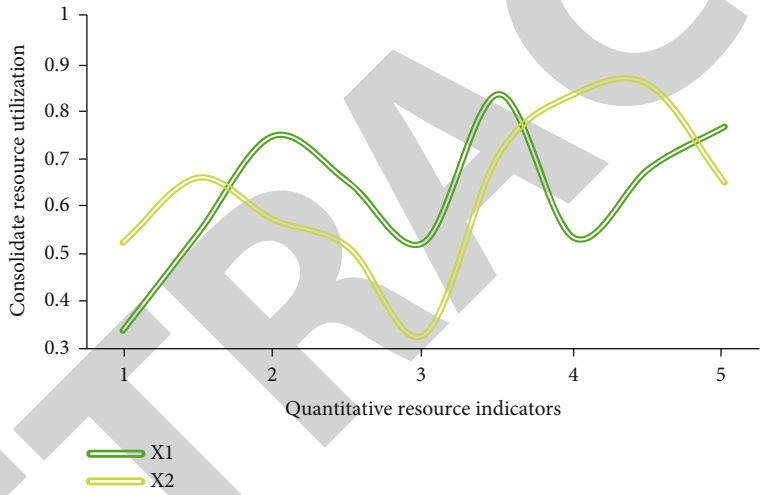

Figure 6: Analysis of the accuracy of resource integration.

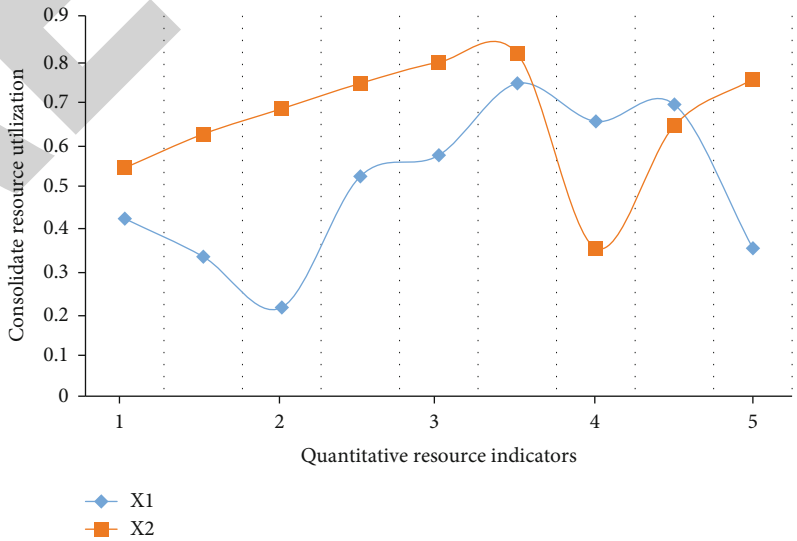

Figure 7: Analysis of resource recommendation quality on the quantitative axis.

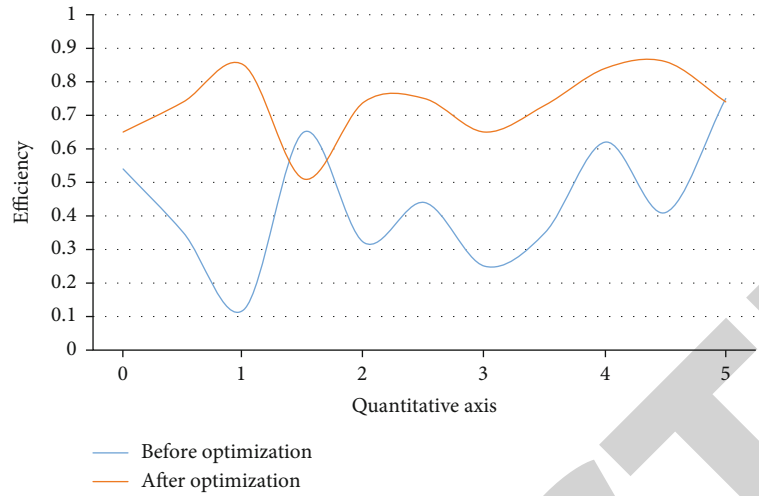

Figure 8: Comparison of resource integration efficiency before and after model optimization.

resource of user v. Therefore, it is possible to calculate the scoring formula of user u's intended resource similarity to integrated resource i as follows:

$$p(u,i) = \sum_{veS(u,K)?N(t)} W_{uv} r_{vi}. \quad (8)$$

Among them, $S(u,K)$ represents the u users who are closest to the intention of user K, $N(i)$ represents a set of users who score the integrated resource i, W_{uv} represents the calculated interest similarity between user u and user v, and r_{vi} represents the points earned by user v for rating on course resource i. To this end, it can be assumed that user u's resource score set is D_u, EM_u and user v's resource score set is D_v, EM_v, so there are

$$\mathrm{Sim}_{\mathrm{grade}}(u,v) = \frac{\sum_{i?D_u?D_v} 1/\log\left(1+|U(i)|\right)}{\sqrt{|D_u||D_v|}}, \quad (9)$$

where U_i is the set of users who have rated the resource d_i. Continuing to promote its content similarity, there are

$$\mathrm{Sim}_{\mathrm{content}}(u,v) = \frac{EM_u EM_v}{|EM_u||EM_v|}. \quad (10)$$

In summary, the mixed calculation formula can be obtained:

$$\mathrm{Sim}(u,v) = \beta \mathrm{sim}_{\mathrm{grade}}(u,\mathrm{v}) + (1-\beta)\mathrm{sim}_{\mathrm{content}}(u,v). \quad (11)$$

The coefficient β is a weighting factor determined by calculation, and it is also a coefficient of the similarity ratio, and its value range is $[0, 1]$. Therefore, using the weighting factor β to combine the two similarities, a mixed user similarity can be obtained. Obtain the similarity between the target user and all other users, select the h users with the highest similarity with the target user as the similar user group of the target user, and use collaborative filtering to recommend the target user to the target user.

4. Result Analysis and Discussion

Constructing a scientific, accurate, and practical resource integration system is the premise and foundation for correctly evaluating the successful integration of political theory courses under the background of network resources. Therefore, the principles of integrity, comparability, scientificity, and practicality should be followed when establishing the evaluation index system. This paper designs a network teaching resource integration model of the political theory course based on CFA. It will analyze the average error, resource integration stability, resource integration accuracy, resource recommendation quality, and resource integration efficiency. It is expected to test the practicability and accuracy of the model on these important indicators. Suppose that S1, S2, and S3 are the three influencing factors of the average error and the stability of resource integration, and then, the calculation and analysis of the model are shown in Figures 4 and 5.

It can be seen that for the designed model, in actual operation, the fluctuation of error tends to be stable with the increase of the number of samples. This is because there are many and complex network teaching resources in the resource integration in the design operation. Therefore, in the initial stage of using CFA, it will lead to great fluctuation, and then, due to the sharp increase of the number of samples, the resource set on the scoring matrix is in a reasonable range under the division and processing of the algorithm. At this time, after the model processing, the integrated resource set with less error will be obtained. The same is true for the stability of resource integration. Going forward in the time series, the more resources processed by the model, the more integrated resource sets will be sorted out and the better the stability of the feedback to the actual model will be. The error limit rate increased by 65.1%. Let $X1$ and $X2$ be two important dimension indicators of resource integration accuracy and resource recommendation quality, and the analysis is shown in Figures 6 and 7.

As the utilization rate of integrated resources is also a very important index, this parameter is set in the

experimental design in this paper. It can also be seen from the observation and analysis in the abovementioned figure that the integrated resources are basically in a state of great fluctuation in 3–4 dimensions. This is because they are in the connecting stage of resource integration and are greatly affected by external and internal interference, so the overall trend of the utilization rate of integrated resources will be unstable at this stage. However, due to the comprehensiveness of the model, it can be adjusted in a very short time to return to the normal level. Figure 8 shows the comparison of resource integration efficiency before and after model optimization.

In terms of resource integration, the model designed in this paper has significant advantages. On the entire long axis, the overall trend is higher than that of the resource integration model before optimization and the comprehensive optimization efficiency reaches 87.63%. Since efficiency is an extremely important factor for an integrated model of teaching resources, it is also an important guarantee for the practical application of the test model. On the premise of ensuring the accuracy, the model designed in this paper has achieved a breakthrough in the algorithm structure, and has been optimized. The overall process of the algorithm is greatly reduced and the pressure of collaborative filtering is greatly reduced, so the efficiency is significantly improved.

5. Conclusions

The arrival of the network era is both an opportunity and a challenge for political education in colleges and universities. On the one hand, we should seize the opportunity brought by the development of the times and understand the profound connotation of online teaching of political theory while mastering the technology of online teaching. On the other hand, we should actively meet the challenges and change our thinking to meet the requirements of the new era. Although CFA has the advantages of a large number of research, wide application, and mature development in many personalized recommendation algorithms, it also has well-known problems such as cold start, data sparsity, and scalability. In this paper, the Pearson similarity calculation model in the algorithm is selected for improvement and the time decay factor and the penalty of the common scoring item are added. The basic idea is first, define the time decay function. Most of the user's choices are time sensitive. After a certain time interval, the recommendation is meaningless. In this paper, the algorithm is optimized again in the model design and good results are obtained and the error limiting rate is increased by 65.1%. On the integration of resources, the model designed in this paper has obvious advantages. On the whole long axis, the overall trend is higher than that of the resource integration model before optimization and the comprehensive optimization efficiency reaches 87.63%.

Data Availability

The figures used to support the findings of this study are included in the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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