Retraction

Retraction: Research on the Reform of Ideological and Political Theory Courses in Colleges and Universities in the Big Data Era (J. Phys.: Conf. Ser. 1852 022061)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on the Reform of Ideological and Political Theory Courses in Colleges and Universities in the Big Data Era

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Abstract. The continuous progress of information technology provides favourable conditions for colleges and universities to innovate teaching methods and develop new teaching systems. Colleges and universities are important places for the generation of network information, and many of the contents contained in these network information are of great value to the teaching of ideological and political courses and campus management in universities. How to collect college campus network information, analyse and manage this information, and find hot topics from it, has a profound impact on the reform of college ideological and political courses. Based on this, this article attempts to design a system program that can be used to analyse hot topics in colleges and universities, and introduces the design from several aspects such as design goals, demand analysis, functional architecture, and module design. It can provide a certain reference for college ideological and political courses.

Keywords: Big Data; Hadoop; Hot Topic Mining

1. Introduction
The continuous advancement of information technology has provided more innovative forms for information analysis and management. With the help of various advanced Internet technologies and information storage and sharing technologies, human society has begun to enter the era of big data. At present, big data technology has been widely used in various fields of society. As a base for cultivating talents, colleges and universities will inevitably be affected by big data technology for curriculum management and teaching mode. Ideological and political theory courses in colleges and universities are one of the important courses in colleges and universities. It shoulders the important mission of ensuring that the talents cultivated by colleges and universities have strong political literacy. It must also keep up with the changes of the times and use the most cutting-edge technical means to continuously update the course content and innovate the course form. As the upsurge of curriculum reforms is set off across the country, college ideological and political courses must not only complete the transformation of traditional concepts and traditional models, but also take the initiative to explore how to build a more scientific and effective teaching model and teaching method under the background of big data. Therefore, this research is based on big data technology, taking campus hot topic mining as the starting point, proposes a campus hotspot mining system based on HADOOP that...
can be used for ideological and political theory course guidance, and carries out a detailed design of the system.

2. Big data technology

With the continuous development of society, the amount of information generated by the society has increased rapidly, and how to store and manage this information, and to dig out the necessary connotations from it, has become a key issue in contemporary information management, and big data technology has emerged. Big data itself has endless content and ever-changing forms, and its storage and processing require more high-end technical means. The tools used for data storage on the market are databases developed by major software companies, commonly used SQLServer, ORACLE, Sybase, etc. In order to quickly extract the required information from the database, each database is designed with corresponding structured points. But as society accumulates more and more data, traditional databases can no longer meet the needs of data information storage and processing. At present, big data storage technologies mainly include structured parallel storage, semi-structured NoSQL storage and unstructured distributed storage. Data information processing technology mainly adopts relatively convenient parallel processing technology. The highly recognized data information analysis technology is Hadoop developed using the Apache system structure, especially in the field of academic research and enterprises and institutions. For calculation and analysis of massive amounts of information in the database, cloud computing is currently the most efficient technology. Hadoop technology includes three components: HDFS, MapReduce, and HBase, and its operating environment is shown in Figure 1.

![Figure 1. Hadoop operating environment](image)

In Figure 1, HDFS is the basic environment for Hadoop system operation, consisting of three parts: client, data node, and master node. The master node is the key to the management of the Hadoop distributed file system. It is also the core part of configuring cluster information and naming spaces; data nodes provide specific locations for storing files, and place the data that needs to be stored in local files in the form of data blocks to complete the stored process. The data node will also send message information to the master control node in a fixed period [1-3].

Data processing usually includes load balancing calculations, parallel calculations, fault-tolerant calculations, etc., and is usually completed by the MapReduce part. It can provide an API interface, can distribute and execute large amounts of data, and is very powerful. See Figure 2 for its running process.

The main function of HBase is to build an open source distributed data with columns as the basic unit based on HDFS. After confirming that the database is relational, SQL commands can be used through the API interface to complete data storage and data management.
3. Construction of public opinion mining analysis system

3.1. System requirements analysis

The network public opinion of colleges and universities has great complexity, and it is very challenging to build an analysis system model for it. First of all, we must analyze the public opinion analysis needs of universities. Sorting out the public opinion analysis and public opinion governance needs of universities found the following characteristics: First, the public opinion information storage method must be conducive to retrieval at any time. With the continuous increase of data, its types also show diversified characteristics. In this case, to extract information at any time, it is necessary to change the traditional single information extraction channel, and add webpages, pictures, and documents to the information capture function to ensure convenience and comprehensiveness of information capture. Therefore, the system design needs to consider the information capture function of elements such as pictures and documents. Second, the processing of public opinion information must be time-saving and efficient. Public opinion may change horizontally anytime and anywhere. If the public opinion information cannot be processed in a timely and effective manner, it will be difficult to obtain the important information needed from it, which will affect the effect of public opinion analysis. Third, the results of public opinion information analysis must be accurate. Public opinion information is a powerful basis for the management department to understand the effectiveness of work. If the results of public opinion information analysis are not accurate, it will directly affect the effectiveness of campus management and further affect the stability of the campus education environment. Therefore, the system design must maximize the accuracy of the public opinion analysis results [4-6].

3.2. System function module design

After completing the public opinion analysis requirements, design and construct a network public opinion analysis model from the perspective of meeting these requirements. This model needs to have the following modules: information collection module, information processing module, public opinion analysis module, public opinion information analysis result into report generation module, etc. The above modules take their respective responsibilities and operate in coordination to complete the entire process of network public opinion analysis and processing. This model construction must be supported by big data technology to ensure the comprehensiveness and timeliness of data collection. After the above modules are running, the campus network public opinion information can be automatically collected by the system, and procedures such as analysis, processing, and report generation can be automatically completed. According to the online public opinion analysis report, you can learn about recent hot events on campus, hot topics of interest to students, etc., so as to provide more precise goals and directions for college ideological and political work. In the above design, the design functions of...
each module are as follows:

3.2.1 Information collection
This module is based on crawler technology and can grab information that appears on the Internet at any time. The microblogs used by students and the webpages they frequently browse are important targets for capturing information. First, set the URL first according to the students’ network preferences, and design the whitelist and blacklist of URLs. Then use the crawler technology to process the URL list that has been set, and the relevant information contained in it will be extracted and stored in a local file.

3.2.2 Information preprocessing
The information captured from the Internet cannot be directly analyzed. It needs to be converted from data information to text information, and then stored in the database again. This process is information preprocessing. To extract the required information on the Internet, you need to set keywords first. After the information is captured, the segmented text characters need to be converted into a single entry. Select the web page with the transformed entry as the key feature, and then use tools such as vector space model to extract text features, convert the text into a text vector, and prepare for the subsequent information analysis [7-9].

3.2.3 Public opinion analysis
The public opinion analysis module is the core part of this design, and this design system will be mainly used for public opinion analysis. After the relevant information is collected on the web page and preprocessed, public opinion analysis can identify the current topic of the student from it, and track it, and finally find out the hot topic of the student. The system can recognize student topics because it can analyze text vectors through machine learning, and then classify documents. The text vectors that appear more often are student topics. Tracking student topics is to calculate the information that is continuously collected and converted into text vectors to make judgments on the topic categories; to analyze student topic orientation refers to finding out what students are currently paying attention to from the transformed vector. The attitude of expression, etc., can be used to find out whether the students have negative emotions. On this basis, it is sorted according to the frequency of public opinion information, the size of influence, and the number of reprints, to provide a basis for ideological and political educators in colleges and universities.

3.3 System overall architecture design
On the premise of following the system design principles and goals, in order to realize the above-mentioned module functions, the model design of the campus network public opinion analysis system is shown in Figure 3:
4. Experiment data

4.1. Research object
This research takes the teaching reform of ideological and political courses in colleges and universities under the environment of big data technology as the research object, and aims to analyze how to use big data technology to deeply dig out current hot topics on campus and provide an important basis for the teaching of ideological and political courses. In this study, an experimental research method was adopted. Two classes were randomly selected as the experimental group of six classes in a certain major in a university, a total of 76 people, and two classes were randomly selected as a control group,
a total of 72 people.

4.2. Investigation method

(1) Questionnaire survey: Questionnaires were distributed to all students in the experimental group and the control group. After organizing two groups of students for video learning, the questionnaire was issued again to investigate their learning situation.

(2) Teaching experiment: In order to make up for the limitations of the questionnaire survey, this research also designed a teaching experiment. Choose an excellent ideological and political class teacher, and use traditional teaching methods in the control group to complete the teaching tasks. In addition to receiving necessary classroom teaching guidance, the experimental group mainly uses the system platform for learning. A week later, the two groups of learning effects were compared, and the advantages and disadvantages of the two teaching methods were summarized.

In order to ensure the accuracy of the results obtained in the teaching experiment, two classes are counted once. After all the experimental procedures are completed, professionals will evaluate the learning effects of the two groups of students and draw conclusions on this basis.

5. Experimental discussion

The analysis of teaching experiment data showed that the students' interest in ideological and political courses in the experimental group increased significantly by 13.7%, and the proportions of students who had no interest at all and were generally interested in this subject decreased by 5.4% and 7.2%, respectively. Compared with the reference group, the proportion of students who are very interested in ideological and political classes is 9.8% higher, while the proportion of students who have no interest at all and are generally interested is 18.8% lower. The detailed statistics are shown in the figure below:

![Figure 4. The influence of ideological and political courses teaching on students' interest](image-url)

From the above statistics, it can be seen that the use of big data technology to mine hot topics can greatly arouse students' interest in ideological and political courses, and it is one of the effective ways to reform the ideological and political courses. With the help of the online platform, students can pay attention to hot topics in real time, express their opinions and opinions in time, and have a more profound thinking about social public opinion. In studying ideological and political courses in this way, students learn by watching videos. Compared with traditional teaching methods, students obviously prefer this new form, and the learning effect is naturally guaranteed [10].
6. Conclusions
In the future, the speed of social development will become faster and faster. Not only will the amount of public opinion information be greater, but its importance will also become more prominent. Colleges and universities how to grasp the key content hidden in the public opinion information, and use this as a basis to better complete the teaching of ideological and political courses, and to better complete the education work is an important topic. Big data technology creates more ways and methods to capture public opinion information for colleges and universities. Colleges and universities should use this as an opportunity to continuously explore and innovate public opinion information mining and capture technologies to better complete the task of talent training and promote the transformation of colleges and universities education as soon as possible.

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