

Research on the Effectiveness of Ideological and Political Education in Colleges and Universities Based on Big Data Analysis

Yiyu Tan

Guangzhou College of Technology and Business, Guangdong, Guangzhou, 510000, China

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Abstract: Applying big data analysis technology to evaluate the timeliness of Ideological and political education in Colleges and universities plays a positive role in improving the effectiveness of Ideological and political education. In addition, there are still many problems in Ideological and political education in Colleges and universities, which can not meet the requirements of quality education. In this regard, it is still necessary to strengthen the reform of ideological and political education in colleges and universities and effectively improve the effectiveness of ideological and political education. This paper mainly expounds the research on the effectiveness of ideological and political education in colleges and universities based on big data analysis, and hopes to play a positive role in promoting the modernization of higher education in China.

1. Introduction

Based on big data analysis, it is a new evaluation method for the effectiveness of ideological and political education. It breaks the limitation of the traditional education evaluation system, and it is more comprehensive to understand the learning needs of students, so that the pertinence of teaching can be fully improved. However, there are many factors affecting ideological and political education in Colleges and universities, especially in the era of big data. We need to make full use of big data analysis technology to promote the reform of teaching mode and methods, and effectively improve the quality and effectiveness of Ideological and political education.

2. Overview of Big Data Analysis Technology

Data mining is the process of discovering valuable knowledge information from database. It needs the help of pattern learning, machine learning, artificial intelligence and other technologies to complete this decision support process. There are many methods to mine large data, including neural network method, association rules and regression classification, which can mine useful data information from multiple perspectives. In particular, the mining of association rules is accomplished by determining high-frequency items in a large amount of data and forming association rules in the project in two stages, thereby completing the derivation of multiple data items through one data item. There are various methods of association analysis, the most commonly used of which is the Apriori algorithm.

3. Data mining method based on association analysis

3.1 Data source acquisition

Questionnaires are distributed to the research subjects (ie students) to understand the students' evaluation of ideological and political education in colleges and universities. The questionnaire covers 45 questions such as environmental factors, teachers' factors and students' factors. The survey data are collected in Excel document format, and the questions of the questionnaire correspond to the index value of the options.

3.2 Data preprocessing

After data processing, the index value of each item is coded before the index value of each

option, so as to distinguish the index value of each topic, and finally imported into RStudio to complete the data collection. Finally, the data is converted to List and transaction format.

3.3 Data analysis

For the converted data, correlation analysis is carried out by Apriori algorithm, which includes N-order candidate item set, scanning database and counting data items. When greater than the minimum support degree, the apriori-gen operation is performed on the N-th order candidate item set, and the N-th order candidate item set repeat operation is returned, and when less than the minimum support degree, the algorithm ends.

3.4 Data mining results

Visualize the rules and group the valid rules. The rule analysis is performed on a single result, and the rule scatter analysis chart is obtained to understand the degree of elevation and combined with the questionnaire to understand the degree of relevance between the topic and the answer. Based on the evaluation of teaching effectiveness of big data analysis technology, the organic combination of individual situation and overall assessment is realized, and the deviation of education process is corrected, which is more conducive to the improvement of ideological and political education. With the help of modern information technology, the integration of students' learning results and process data, including students' mutual evaluation data and students' self-evaluation data, can carry out a comprehensive and accurate evaluation of Ideological and political education [1].

4. Countermeasure of Ideological and Political Education Reform

4.1 Establishing Big Data Awareness

Under the impetus of modern information technology, our country's higher education is also gradually transiting to the data pattern, and the technical form of Ideological and political education has changed, which is mainly due to the positive impact of big data. In developed countries abroad, big data technology penetrates more deeply into the education industry, and the application of big data is more comfortable and mature. Through multi-angle education data mining, higher education has made a qualitative leap. The application of big data in China's higher education industry is still in the exploratory stage. The way of work based on the concept of big data is of great significance to the reform of Ideological and political education. The most important thing for colleges and universities is to integrate the concept of data into the ideological and political education, constantly promote the reform of education methods and models, and achieve the ideological and political education teaching effect with half the effort. The era of big data provides an opportunity for the reform of ideological and political education in colleges and universities. Under the impetus of modern information technology, the ideological and political education concept and evaluation system of colleges and universities have been comprehensively reformed. At the same time, colleges and universities need to strengthen the construction of infrastructure such as software and hardware, further deepen the idea of data, and build an open, relaxed and harmonious data learning atmosphere for students, and enhance students' ability to use information literacy and modern information technology. So as to develop a good habit of independent learning, and constantly enrich the ideological and political knowledge structure system to achieve the desired learning effect. The application of big data has promoted the pace of data development of ideological and political education in colleges and universities. The progress of students' learning can be presented in the form of data. Comprehensive analysis of statistical learning data results is more conducive to the construction of teaching systems and the improvement of teaching quality. Ideological and political education in colleges and universities should rely on big data to actively establish a data management platform, increase the construction of ideological and political education, improve various management systems, reconstruct management structures, innovate management models, and quickly accomplish talent training goals. In this way, we will keep pace with the development

of the big data era and ensure that the advantages of big data analysis technology are maximized.

4.2 Improve the education quality system

Family, society, government and schools are all subjects of ideological and political education. They should actively participate in the evaluation of the effectiveness of ideological and political education, laying a good foundation for the effective improvement of ideological and political education. Different subjects have different cognitions and demands for ideological and political education in colleges and universities. It is necessary to further improve the organization and carry out the framework to ensure the continuous improvement of the quality of ideological and political education. The massive information of ideological and political education under the background of big data puts forward higher requirements for the improvement of ideological and political education level, reconstructs the quality system of ideological and political education, and strengthens the integration of ideological and political education to carry out the main force. Schools provide supervision and regularly assess the accomplishment of personnel training objectives. Students' main teaching activities, teachers collect students' feedback as a reference for the improvement of teaching plans, so as to continuously improve the quality of teaching. Parents' evaluation of students' learning progress is also an important evaluation index to improve the quality of education. Teachers adjust teaching methods and contents according to the actual situation. The government is responsible for macro-control, and actively provides policy support for the data construction of higher education, as well as the improvement of the ideological and political education system. The education quality system based on big data analysis technology can effectively extract and analyze all kinds of education information, and generate objective and scientific evaluation report of teaching quality, which is an important basis for improving the quality of Ideological and political education. In addition, to strengthen the quantitative study of teaching results, the content of Ideological and political education evaluation in Colleges and universities should be comprehensive, including the evaluation of teachers' teaching attitude, methods and levels. Evaluate students' attendance, progress and learning attitude. Evaluation of the overall effect and curriculum system. Educational effect has the characteristics of concealment and cumbersome form, which invisibly increases the difficulty of teaching effect evaluation. Large data analysis technology can make up for the shortcomings of traditional evaluation system, that is, through quantitative analysis of teaching results, to get more accurate and comprehensive evaluation results. Mining the data related to teachers and students, constructing the relationship model and carrying out quantitative analysis at the same time. In order to ensure the comprehensiveness and systematicness of teaching effect evaluation, the integration of big data analysis and traditional evaluation methods should be strengthened to provide valuable reference for ideological and political education reform in Colleges and universities. Quantitative research occupies a large proportion in research methods. It is based on hypothetical conditions. It is difficult to carry out the research process of statistical data processing on the research object conditions. The research results are not satisfactory. With the help of large data analysis method, information data can be extracted scientifically, and a large number of quantitative research data can be achieved, so as to provide a comprehensive and detailed amount of data for university education evaluation [2-3].

4.3 Optimizing the Information System of Ideological and Political Education

The “Internet +” mode of Ideological and political education will become the mainstream of higher education, and it will play a positive role in promoting the ideological and political education level and achieve twice the result with half the effort. And the goal of cultivating comprehensive talents in an all-round way to help China's modernization drive. At present, there are still many problems in the information system of Ideological and political education in Colleges and universities, and its role has not been fully played. We also need to build an information platform for ideological and political education, break the phenomenon of information island, and provide basic guarantee for ideological and political education reform in Colleges and universities with the help of Internet and big data analysis technology. Strengthen the construction of campus network,

give full play to the advantages of public platforms such as ideological and political education resources and management, and use modern information technology to increase the informationization of ideological and political education and realize the systematization, networking and dataization of the ideological and political education process. At the same time, improve various education systems, continuously improve the level of ideological and political education, and meet the needs of social development for talents.

4.4 Strengthen education technology integration

Strengthening the integration of educational technology in the ideological and political education of colleges and universities in the context of big data should keep pace with the development of the times, constantly improve its effectiveness and scientific level, highlight the spirit of advancing with the times, and promote the modernization of education in colleges and universities. One of the development trends of ideological and political education in colleges and universities is scientific and an inevitable requirement for the harmonious development of society. In this regard, in the process of reforming ideological and political education in colleges and universities, we should adhere to the modernized teaching concepts such as scientificization and use big data analysis technology to accelerate the pace of reform. The flipping classroom teaching mode based on the big data platform came into being. With the advantages of high efficiency and visualization, it is very popular among college teachers and students. For example, the teaching method based on Internet belongs to the mode of online self-learning course. The content of the course is practical and the resources of learning tools are abundant. It has practical significance to cultivate students' self-learning habits. The combination of Mocha and the traditional ideological and political education mode in Colleges and universities has changed the traditional ideological and political education ideas and methods, improved the education system, and gradually highlighted the characteristics of students-oriented education. Mucou achieves the efficient use of network teaching resources, especially the teaching of courses based on the international perspective, which is more conducive to cultivating students' international thinking, and ultimately realizes the continuous improvement of the quality of Ideological and political education in Colleges and universities [4].

4.5 Improving the Value of Big Data Mining

The evaluation method of Ideological and political education based on big data analysis is more conducive to the improvement of teachers' and students' information literacy, the cultivation of big data thinking, and the effective use of big data thinking. Especially the application of data mining technology, open thinking and data research methods. The change of teachers' personality and quantitative thinking is more conducive to the change of Ideological and political education responsibility concept and the improvement of educational effectiveness. Using big data analysis to evaluate the effectiveness of Ideological and political education in Colleges and universities, we should pay attention to the promotion of the value of big data mining, which can be started from the following two aspects. One is to enhance the timeliness of data processing. Based on the evaluation of ideological and political education based on big data analysis, we should pay attention to the expansion of data collection dimension and depth, continuously improve data quality, and continuously break through the bottleneck of data collection timeliness. Ideological and political education has a large amount of data, including social data and natural data. It should integrate the data of university students' learning, management, activities, etc., and process data in a timely and effective manner. The second is to collect data in multiple dimensions. The effect of ideological and political education is a combination of multiple factors, and its teaching effectiveness should be reflected in many aspects. Need to expand the data collection dimension, strengthen the practical experience summary, and explore the ideas suitable for data collection. At the same time, strengthen the integration of data collection channels, comprehensively analyze students' ideological behaviors, predict the changing trends of students' emotions, concepts and ideas, and truly understand what students think and think. In order to achieve a smooth and silent educational effect, to ensure that education is targeted and effective. The use of big data thinking mode can promote the consciousness of predicting and mining data value. Among them, forecasting, as the

core of big data application, can accurately and scientifically evaluate the effect of ideological and political education, so as to promote the development and reform of ideological and political education in colleges and universities.

4.6 Building a big data talent system

The ideological and political education in colleges and universities in the era of big data is more complicated, refined and vivid, but it cannot ignore the current problems of data abuse, technical lag, data barriers, and shortage of talents. In this regard, the ideological and political education in colleges and universities in the context of big data should strengthen data awareness, implement the big data thinking mode, improve the online education platform, comprehensive multi-disciplinary characteristics, and actively improve the big data talent system. The penetration of big data applications in college education, professional team building is indispensable. While evaluating the effectiveness of Ideological and political education, we need to strengthen the improvement of teachers' professional quality, strengthen the training of big data talents, and consolidate the application foundation of big data analysis technology. In addition, all departments of the school are required to strengthen cooperation, improve the data information platform system and optimize the top-level design of the platform with the active participation of teachers and students. Educators of computer specialty should strengthen data analysis, combine with the application feedback of Ideological and political teachers, actively build an integrated education system of technology, analysis and teaching, to ensure the effectiveness of Ideological and political education in Colleges and universities.

5. Conclusion

Using big data analysis technology to evaluate the effectiveness of Ideological and political education can not only evaluate the overall effect, but also correct the educational deviation. Integrating the relevant data of teachers and students by using the Internet and other technologies can carry out in-depth and comprehensive evaluation of higher education. In order to improve the effectiveness of education, it is necessary to strengthen the integration of the concept of data education, build a framework for the education quality system, optimize the education information system, and increase the integration of education technology, so as to promote the modernization and scientific development of education.

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