Exploration on the Reform of Ideological and Political Education in Colleges and Universities in the Age of Big Data

Qiong Qianchao

The College of Arts and Sciences, Yunnan Normal University, Kunming, Yunnan, 650222, China

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Abstract: The arrival of big data era has provided an important opportunity for the reform of ideological and political education in colleges and universities, and promoted the effectiveness, pertinence, timeliness and diversity of teaching methods in ideological and political education. However, because big data is a double-edged sword, the reform of ideological and political courses in colleges and universities is also faced with challenges such as large class teaching, privacy threats, content lags and old-fashioned traditional teaching methods. This requires us to seize the opportunity to meet the challenge, make full use of big data, take effective measures, and constantly promote the reform of ideological and political education in colleges and universities. Based on the author's learning and practical experience, this paper first analyzed the opportunities and challenges faced by college ideological and political education in the era of big data, and then put forward the new paths for ideological and political education in colleges and universities.

1. Introduction

The word "big data" is translated from the English word "Big Data". Mc Kinsey, the world's leading consulting firm, was the first to propose the era of "big data". It said: "data has penetrated into every industry and business function and has become an important factor in production.". The era of big data is a "digital era" based on the mining, application and innovation of large-scale data. "This is a revolution," said Gary King, a professor of sociology at Harvard University. "The huge data resources have led to a quantitative process in all fields, in academia, in business and in government, in all fields." Big data, with its massive and complex information attributes and high-end and cutting-edge technical features, is changing people's way of thinking and reform path of observing, analyzing and grasping the world in an all-round way and becoming the source for people to acquire new knowledge and create new value[1]. Faced with the advent of the era of big data, ideological and political education in colleges and universities is also facing profound changes, so how to use big data technology to innovate ideological and political education in colleges and universities has become a new topic at present.

2. New Opportunities for Ideological and Political Education in Colleges and Universities in the Era of Big Data

In the context of big data, people will increasingly make important decisions based on data and analysis rather than experience and intuition. The ideological and political education in colleges and universities can seize this opportunity, through the construction of an integrated data platform, the collection of teachers and students in the public network platform and thematic network questionnaire survey presented by the public data, so that ideological and political education work can be positive quantification and problems appear. As the age of big data describes it: "data is like a magical diamond mine that continues to be given its prime value when it is discovered." Ideological and political education in colleges and universities also faces such opportunities. These opportunities can be summarized in the following three aspects: The first is to obtain the dynamic state of students' thoughts and behaviors in real time according to data analysis. According to the dynamic information database, through the capture and analysis of thought and behavior data, students' thought and behavior dynamics, value orientation and social hot and difficult points are

presented in a visual way, and students' recent or current social hot spots and ideological problems are presented in charts, curves and various compositions. The second is to overcome the inferential defect based on experience or intuition, to realize the data analysis of "whole sample" and the whole "accurate description", so that the decision-making of ideological and political education work has scientific and empirical support; Third, give full play to individualized education and teaching, and enhance the pertinence and effectiveness of ideological and political education. According to the problems presented by the data analysis, the students' groups or individuals should be given targeted education, such as offering special lectures, integrating classroom teaching, individual conversation tutoring, etc., and teachers' teaching should include videos, pictures, charts, etc. In this way, teachers and students can interact with each other on and off line, so as to enhance the effectiveness of ideological and political education.

3. New Challenges to Ideological and Political Education in Colleges and Universities in the Era of Big Data

In the face of the profound changes caused by big data, how to use big data to promote the innovation of education and teaching and improve the quality of education and teaching in colleges and universities has some practical challenges and obstacles, which are mainly reflected in the following three aspects: The first is the insufficient understanding of the importance of big data. At present, colleges and universities are dominated by traditional classroom teaching and examination results, and lack dynamic grasp of teaching quality and the immediate presentation of students' ideological and behavioral state[2]. Some teachers or managers lack the understanding of the importance and function of big data, and are difficult to adapt to the new changes brought about by the era of big data. Second, the education policy, evaluation system and other incentive policies and systems are not clear, lack of all kinds of resources support, and the application of big data teaching subjective power is not strong; Thirdly, Construction of data collection system platform, unclear boundary between open data and personal privacy data, difficult derivation of data analysis technology and algorithm formula, ability and quality of data mining personnel and insufficient financial investment in hardware and software data collection, etc, these factors are directly related to big data practice and application in ideological and political education in colleges and universities[3].

4. New Paths for Ideological and Political Education in Colleges and Universities in the Era of Big Data

4.1 Establish a systematic "database" of ideological and political education and build a "chain of ideological and political education" in colleges and universities.

Data is the basic resource for scientific analysis and exploration. Objective and dynamic data are needed as the basis of empirical analysis and scientific conclusion to understand the real characteristics of students' thoughts and behaviors, their values tendency and their mental health status. In this regard, the University of Electronic Science and Technology has started to collect data on ideological and political education from two aspects: First, build big data education research center, building integrated information collection platform, through the library, office, studies ministry, the dormitory administrator center, counseling center, cooperate with the different functional departments, such as logistics services, to establish a systemic online data collection platform, within the scope of the laws and regulations permit and individual authorization, gathering all kinds of data in the open network public space; Second, through the offline ideological and political education class teachers, counselors and other organizations, thematic network questionnaire survey, network learning and communication and other targeted data collection, to achieve students' behavior ideas, speech expression of data, and through these two ways, we can effectively realize the construction of "information database" platform of ideological and political education. The value of big data lies in the practical application of finding problems and making

decisions. How to use the "database" of ideological and political education is an innovative and challenging practical problem. University of electronic science and technology based on the idea of education, based in large data center of education, collaborative studies ministry, Marxism education institute and other departments, according to different requirements to establish project team, such as data acquisition team, data analysis, data application team, set up the functions of the "platform construction - functional department - teachers or counselors - project data analysis - visualization - education countermeasures" in the "chain of ideological and political education" : First, information is collected through the establishment of data platform. Secondly, functional departments, teachers and counselors carry out online and offline activities, and then the project team presents the problems visually according to the algorithm. Finally, develop scientific and effective countermeasure[4].

4.2 Develop the "power generating formula" for ideological and political education, conduct "accurate portrait" for students, and carry out personalized ideological and political education.

Following the ideological characteristics of educatees is the law of effective development of ideological and political education. Compared with each university, the age, number and professional background of students are relatively sTable. According to the relatively sTable mass data and different customization needs, the data analysis methods and models of ideological and political education that are suiTable for the characteristics of each university can be created. Through the methods of problem demand, semantic mining, data visualization and so on, the University of Electronic Science and Technology creates a "power generating formula" to analyze the students' thinking and behavior, which can quickly incorporate database information into the "power generation formula" for analysis. The realization of the problems of students' groups or special individuals, including the social hot spots which students pay close attention to recently, the confusion of thought, the academic achievement, the quality evaluation and so on, can realize the systematic "student portrait". According to the problems and tendencies analyzed by the data, this paper aims at a student group or individual, adopts the methods of special topic discussion, interview, psychological consultation, film and television broadcast, etc., so as to carry out individualized targeted ideological and political education activities.

4.3 Establish three teams of big data technology, analysis and education for ideological and political education in colleges and universities, and construct an open, forward-looking and comprehensive teaching aid system for ideological and political education in colleges and universities.

The professional team is the key to the implementation of big data integration, problem analysis and practical application. Compared with the traditional classroom teaching which takes knowledge imparting and examination results as evaluation criteria, big data realizes the quality and goal of ideological and political education in colleges and universities more comprehensively through the process and dynamic comprehensive evaluation indexes, such as network essays, social hot spot comments, and students' comprehensive score evaluation. For this reason, the University of Electronic Science and Technology has set up three teams: The big data technology team is responsible for the top-level design and dynamic collection of the campus data platform construction[5]. Meanwhile, it uses data mining to form the ranking list of social hot spots or students' concerns and automatically generates PPT lecture notes. Big data analysis team is mainly computer teachers according to needs, using different algorithms, formulas to obtain the problem or the correlation between different information; The teaching application feedback team includes ideological and political education theory course teachers, counselors, etc. The three teams build up big data era of ideological and political education main body strength, according to the data analysis of the present problems, seek the Internet related resources in open way, such as university of theme lectures, the library resources at home and abroad, to analysis the problems existing in the students education and forward-looking way hot spots, achieve targeted classroom education teaching. To improve the information technology application, philosophy, social science, natural science and

other knowledge of the ideological and political education theory course teachers in colleges and universities in a comprehensive way, so as to realize the timely solution and guidance of students' concerns, and to construct a new teaching aid system of "technology - analysis - teaching".

5. Summary

The era of big data has brought disruptive changes to our way of production, life, study and work. Big data is not only information, but also an inexhaustible resource. There are some problems in the current ideological and political teaching in colleges and universities, such as unitary teaching methods, disjointed teaching contents, obsolete teaching ideas and poor teaching effects. Therefore, it is necessary to make full use of the technical support, advanced concepts, data resources and scientific methods provided by the era of big data to carry out the reform of ideological and political education in colleges and universities. However, the era of big data not only provides important opportunities for the reform of ideological and political education in colleges and universities, but also poses severe challenges. The arrival of the era of big data has indeed provided an important opportunity for the reform of ideological and political education in colleges and universities, but it has also posed a great challenge to the teaching of ideological and political education in colleges and universities. In any case, the emergence of big data technology revolution has its inherent inevitability. Therefore, the ideological and political course teaching reform in colleges and universities must not turn a blind eye to this, but should actively face the arrival of the era of big data and seize the opportunity to meet the challenges.

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