

The Effects of Big Data on Ideological Education in Universities

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Abstract. The advent of the big data era changes our living, working, and thinking significantly. Also, it brings a new perspective of understanding and processing for the ideological education in universities. By analyzing the big data derived from university students, we can accurately and comprehensively investigate the students' ideological situations and conduct activities, accurately predict the ideological dynamics and behavior trending, and carry out a precise mode of ideological education in universities, so as to improve the pertinence, perspective and effectiveness of the ideological education.

Introduction

In recent years, ideological education in universities has considerable innovation and developments in the theoretical aspect, and its practice also achieves much effectiveness. However, with the development of worldwide information technology, in particular the rapid development of the data sources such as cloud computing, smart phones, internet, all of these open up an innovative field of information technology, and create an unprecedented big data era. The advent of big data era greatly changes the living and thinking of human being. Meanwhile, the environment and the methodology of ideological education in universities also will undergo major changes. In this situation, new requirements for the ideological education are presented. Nevertheless, such requirements open up a new direction for the ideological education. Therefore, actively adapting to the big data era not only could inject new vigor into the ideological education in universities, but also can improve the pertinence, perspective and effectiveness of the ideological education. The ideological education should be in accordance with the big data era and be innovated and explored according to the inherent characteristics of big data technologies.

Characteristics of Big Data Era

Human society is inseparable from the data. Human beings explore and recognize the objective world and understand the nature through the data in order to grasp the objective laws of things. The collection and process of the data become an intermediate of recognition and construction of world. However, the conventional technologies used in the data acquisition and data storage are not powerful enough, and the data to be processed by conventional methods is relatively very small. With the rise of information technology, especially the use of cloud computing technology enables data collected huge volume and diverse types, the traditional methods have been unable to adapt to the development of information technology (e.g., mass data). Therefore, the technologies for rapidly capturing, storing, and analyzing the big data are born in time.

The volume of big data is not only far beyond the imagination of people, but also it rapidly grows geometrically with the proceeding of people's daily activities. From the initial TB level, the big data has risen to the PB level, and the volume continuously increases and refreshes the record every day. At the same time, information from different fields, such as image, video, audio, text, are of various types and of complex structural heterogeneities. There are a lot of structured and unstructured data in the data set which results in the difficulty of data processing, so it is difficult to handle this problem with a

single model or method. Because of this, usage of modern information technologies, cloud computing and other ways, makes the data processing capability extremely powerful. Facing a broad array of data, they appear to be ease to handle within a very short period of time required for processing data. Furthermore, they can often accurately reflect the objective laws of things, discover new knowledge, and create new value [1]. Naturally, the value they produce is quite different from that also using the traditional small data. Big data has undoubtedly become the wealth of information with huge quantities and varieties [2].

The Effect of Big Data on the Way of Thinking

The essential of big data is mirrored survival, which characterizes the true relationship of the real material world [3]. Negroponte predicted in "Being Digital" that the digital changed the ways of human life. The big data as a digital product confirms this point. The big data greatly changes the way of learning, working, and entertainment, which makes the mankind really enter the post-information age, so as to promote the mankind's viewing the world and grasping the world. In the big data era, everyone seems to be a network, of which the pieces of daily life are all associated with a network. Everyone learns through a variety of online educational websites or online video platform; communicates with his/her friends and colleagues by telephone, QQ, e-mail, etc.; searches through Baidu, Google, and other engines; publishes the thoughts and feelings to the daily life through microblog, WeChat and other platforms. We are dependent on the information technologies and we enjoy it and never tired.

Our apparently insignificant daily activities already have been stored by intelligent devices and network operators. So our daily activities are transformed into vast amounts of data, based on which the professional and technical persons of data processing can easily grasp the true interests, internal thoughts, and state of life. Big data technologies make our daily lives completely exposed, so that our ideological views and values have nowhere to hide. Our spiritual world presents with a most real state. Subjective spiritual world in small data era is difficult to be collected; that is, the subjective spiritual world cannot be comprehensively and truly grasped, not to mention the accurate and in-depth analysis. However, all of these problems can be solved easily in the era of big data. The development of big data provides a realistic technical support to realize the whole world, including the objective world and the subjective world. This makes us obtain a true and rich data on spiritual world as well as the objective world. We can clearly grasp the people's state of mind and behaviors through modern information technologies, and thus we can promote the further researches and study the human subjective world through combination of qualitative and quantitative analysis. Big data provides a novel way to help us change the perception and understanding of the way the world for the development of human's knowledge and transform the world [4], push the development of understanding human revolutionary, and results in the major changes of our thinking.

Effect of Big Data on Ideological Education Methodology in Universities

The traditional way of ideological education is constructed on a small data base which provided methodological support for the ideological education achievements. However, the big data develops rapidly and changes the ideological education in the aspects of objects, environment, and methods, causing a revolutionary change for the ways of thinking and working for university ideological education. In small data era, university ideological education is performed using a sample survey of the locality. Such an investigation conducts preliminary survey and the survey design itself has a subjective mark so that the analysis process also has a subjective tendency and the survey results do not reflect the real situation and true nature difficulties by the investigators. Even if we assume that the survey design is totally idealistic and the objective state of college students surveyed in the process, but it is still possible to disguise their own thoughts in some degree, so that our findings may lose objectivity. Needless to say, the survey itself is based on a small number of samples, and the collected scope is extremely limited. Since the lack of a comprehensive and entire survey data, the conclusion

based on the survey cannot reflect a true situation of mind, mental status, hobbies, and orientation of university students accurately and comprehensively. And the effectiveness of ideological education in universities will inevitably be affected.

In big data era, everything in the world can be expressed as data. As such, the big data technology, as a novel carrier for recording the university students' lives, can comprehensively grasp the overall status of university students. First, the recording and the storage of the data are processed without any subjective tendencies. The data recording is prior to the survey and study which means that the aim of the data collection and storage is not clear by the specific use of these data. Second, these data of the everyday life records of university students are transformed from the true thought of university students which conceals the truth. The big data technologies combining with the full range of cloud storage record all aspects of individual student life, and the students themselves are unaware of the stored procedure, and it is impossible for students to disguise their thinking and behaviors in everyday life. Therefore, the data recorded big data can accurately reflect the real situation of the individual student. Again, the traditional use of data is easily replaced with overall and comprehensive data. The processing is no longer limited to a certain part of the data and thus the survey results are more complete. After analyzing and inferring based on the overall and comprehensive data, we can get the survey findings more objective, representative, and scientific.

To this end, the big data is not only a technology but also is "a methodology." [6]. As is well known, qualitative and quantitative analyses are two basic scientific research methods in the modern science. Qualitative research focuses on the quality of things which is the fundamental of the study, while quantitative research emphasizes on the amount of things which deepens the understanding to the world. As pointed out by Marx, a science is truly developed only when it can be used mathematics [7]. The in-depth development of any one discipline is inseparable from quantitative research. The center of ideological education is around the "human", but in the traditional ideological education, it is difficult to quantify the human sense of morality and the moral emotion, especially in small numbers of data samples. In that stage, the ideological education is only discussed by quality, so it is difficult to accurately grasp the real ideological situation of students. That causes that its effectiveness is greatly affected. In the big data era, "big data creates an unprecedented quantifiable dimension" [8], so we can observe and understand the students from the massive data of words and realize their true thinking and moral emotion. By applying big data technologies, the traditional moral thoughts and feelings which are difficultly quantified can be accurately assessed and then the degree of the ideological and moral development can be grasped, so that the validity of ideological education can be further improved.

Moreover, applications of big data can accurately predict the future to help the precise implementation in ideological education. Traditional ideological education researches rely on the accumulation of personal experience and incomplete student information, and cannot grasp the true ideology of students, let alone to predict its future status along with the effective operations. Thus, ideological education commitment cannot accurately grasp the behavior trends of students so that the results are not satisfactory and ideological education in universities often caught in a passive status. The fact that people's behavior is of relative stability and is dominated by ideology since the past and present behaviors will inevitably affect their future behavior patterns. Prediction is the core of big data [9]. It is also an advantage of the big data. By applying big data technologies, the mind status and the behavior trend of the individuals can be predicted in present. The practical ideological education can be performed in advance, so that it can transform from passive to active aspect in order to enhance the prospective education. Due to its application, the big data technologies can make the ideological education more personalized.

Big data is an important tool for ideological education in universities, and it has become a core competency [10]. Universities should make full use of this important technology. It is worth noting that the big data can predict precisely the students' thinking and behavior trends in some degree, but it lacks the autonomy. Therefore, the use of big data should not be absolute in the university education.

Conclusions

Big data opens up a new era and it penetrates lots of aspects of our social life. The big data changes the way we live, work and think, and it also provides a new perspective method to help us understand the world. Meanwhile, the big data provides a new cognition and working method and new requirements for the ideological education in universities. By applying the big data technologies, we can fully grasp the moral conditions of college students and predict precisely their future ethical behaviors, which results in the improvement of the effectiveness of ideological education in universities. Moreover, the big data provides a new opportunity to the innovation of our ideological education.

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