



Practice of Social Science Digital Humanities Education Based on Big Data Analysis Technology

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Abstract. Data analysis technology research has gradually become the mainstream of Social Science Digital Humanities Education Practice Research, and data is one of the foundation and core of Digital Humanities project construction. At present, as a new interdisciplinary of Arts and Sciences, more and more scholars are engaged in the research of Digital Humanities. The purpose of this paper is to study the practice of Social Science Digital Humanities Education Based on big data analysis technology. It expounds and explains the social science of big data analysis technology, the background and significance of Digital Humanities, the overview of Digital Humanities, the importance and problems of social science, and the overview of big data analysis technology. Using the method of questionnaire, through the comparison and research of the practice of Social Science Digital Humanities Education, the experimental results show that the practical research of Social Science Digital Humanities education still needs to be improved.

Keywords: Big Data Analysis Technology · Social Sciences · Digital Humanities · Digital Humanities Education Practice

1 Introduction

With the continuous deepening of digital humanities research, digital humanities not only use computational tools to help humanities scholars complete simple and repetitive tasks to reduce their workload, but also provide a new perspective for traditional research [11]. Continuous talent training and output are the basis for carrying out research in the field of digital humanities, providing them with a large number of talents and support.

Humanistic education is not only to face the current dilemma of humanistic education, but the revival of traditional humanistic wisdom is not only a soul building for the Chinese nation, but also a logical starting point for the world and the future. The humanities are very different from the natural and social sciences. The humanities are concerned with the human beings who are perceptive, the experienceable life world as the research content, the lifelong growth of people as the fundamental direction, and the knowledge characteristics of value, spirituality, and classics. Saltos-Rivas R Exploring digital capabilities has become a subject of increasing interest in recent years.

Although some reviews and studies summarize significant improvements and shortcomings in the field, there are still some issues to be explored. There is little information on how to ensure the usefulness and reliability of the tools used. His research addresses this problem by designing a system. On the basis of preliminary research, it is concluded that more and more studies have appeared over the years; most of them are based on the social sciences of European high school students; they publish newspapers of poor quality; the tools used are multiple copies Questionnaires and a special study that quantified different aspects of digital competence based on participants' perspectives. Of the eight possible quality assessments, trials typically report only four (one for reliability and three for usefulness) [8]. Dagdilelis V research shows that over the past 15 years, a large-scale program to integrate digital technologies into curricula, especially teaching practice, has been improved and implemented. "Large" means that the whole system is the Greek educational system. Project management at the national level is sufficient from the outset to provide them with access to large and original quality information and data. An important part of the national program is the teacher training program, which is available to almost all teachers. To date, more than 1 million teachers have participated [4]. Digital Humanities Education should take general education as the major premise, take the humanities experimental class of culture, history and philosophy as the transcendence, take Chinese traditional classics as the main course, and take perception and body evidence as the noumenon of humanities teaching.

This paper studies the social science of big data analysis technology, the background and significance of Digital Humanities, and expounds the overview of Digital Humanities, the importance and problems of Social Sciences, the necessity of the integration of science education and humanities education, and the overview of big data analysis technology. Through the questionnaire survey, through the comparison of the needs of Social Science Digital Humanities Education Practice and the data of behavioral willingness of Social Science Digital Humanities education practice, the experimental results show that China's understanding and recognition of "Digital Humanities" is not enough, and the digital humanities education practice is not popular enough.

2 Research on the Practice of Social Science Digital Humanities Education Based on Big Data Analysis Technology

2.1 Research Background and Significance

With the rapid improvement of science and technology and the change of social environment, people's demand for information is increasing. Digital Humanities professionals have the background knowledge of the intersection of Arts and Sciences, can use the means and methods of calculation to provide new research perspectives and research paradigms for the research of traditional humanities, affect the reform direction of related disciplines, and have far-reaching significance for the reform of traditional humanities in the digital era [4]. As a new interdisciplinary field, the improvement of Digital Humanities needs a lot of talent supply. The improvement of Digital Humanities cannot be separated from the continuous injection of high-quality talents. They provide fresh blood for the improvement of Digital Humanities and are also one of the

driving forces for the continuous progress of the discipline. On the one hand, colleges and universities, Digital Humanities centers and research institutes need sufficient interdisciplinary talents in teaching and scientific research, so the improvement of Digital Humanities puts forward new demands for talent education and training. On the other hand, although the domestic research on Digital Humanities is increasing and deepening, the Digital Humanities Education in Colleges and universities is still in its infancy. This is not only a new attempt, but also a benchmark for the future research and improvement of Digital Humanities in Colleges and universities. This paper selects colleges and universities that offer Digital Humanities majors and related courses at home and abroad as the research object, focuses on the similarities and differences in the current situation of Digital Humanities Education, and then explores the improvement strategy of Digital Humanities Education in China, so as to provide reference value for the training of Digital Humanities talents [5].

2.2 Overview of Digital Humanities

Digital Humanities at present, it is generally recognized that Digital Humanities originated from Roberto busa's humanistic computing practice. It is a new frontier discipline derived from the intersection of computer technology or digital information technology and Humanities [8]. As an emerging field, Digital Humanities has become a hot topic for scholars at home and abroad, but there is no consensus on the concept expression and interpretation of "what is Digital Humanities". Digital Humanities cannot be equated with a simple digital process. Digital Humanities is a way of modeling and practice, an ontological agreement of reasoning and mimicry, and an innovation of methodology and research paradigm [9]. Digital Humanities is the intersection of Humanities and technical work. At the same time, researchers are consciously exploring the methods of Humanities and technology. However, some scholars at home and abroad believe that Digital Humanities, as a new concept, is constantly growing. It will produce different connotation concepts due to the thinking and understanding of scholars in different periods and fields from different perspectives. Therefore, at present, the academic community has not formed a unified consensus on the concept of Digital Humanities, and its concept is difficult to define clearly. A summary of the following simple definitions can be drawn from what various scholars have said. The so-called digital humanities is a new discipline research field that applies emerging digital technologies or tools such as computer technology and big data to the teaching and research of traditional humanities, promotes the transformation of thinking mode, the transformation of ideas, the innovation of research paradigm of Arts and Sciences, and the intersection and integration of disciplines.

2.3 Social Sciences

2.3.1 The Importance of Social Science

Scientificity is crucial to whether social science can become an independent science [2]. On the one hand, if social science wants to maintain its scientificity, it must have logical empiricism, falsificationism, critical realism, etc., that is, "factual rules"? Such

as the general standard of science, rigorous logical reasoning, accurate investigation and experimental scheme, etc. On the other hand, as the research object of human and human society, social science inevitably contains certain ethics and moral norms, namely “normative rules”. Therefore, the “scientificity” of social science is much more complex than the Newtonian standard of positivism. The so-called dilemma faced by social science at the scientific level is actually the result of analogy without practical significance in the strong naturalistic position. Moreover, because the scientific community has not reached a consensus on the so-called “scientific method”, the demarcation standard of scientific method and non scientific method is not mature. At the same time, the debate on scientific method must be related to the positioning of scientific goals. If the goals pursued are inconsistent, then the pursuit of consistency of methods is empty talk.

2.3.2 Problems Faced by Modern Social Science Research

Social science has been questioned by the scientific and technological circles since its inception. They are mainly embodied in the theme and object of social science research at the ontological level, and define social science at the cognitive level [10]. There are two main reasons for this: from a strong social science perspective, the nature of social science research, especially the uniqueness of research topics, is due to the openness, uncertainty and diversity of models and methods caused by gender. In terms of externality, according to the law of positivism, the common quantitative tools and research models such as observation, measurement and testing in natural science are not affected. Lack of induced behavior. However, as long as we analyze such social sciences and clarify the limitations of nature, these problems can be solved to a certain extent.

2.4 Necessity of Integration of Science Education and Humanities Education

From the perspective of educational ecology. It is impossible for any country or nation to have only science education without humanities education. Nor can there be only humanities education without science education. The improvement of a country or economy and society also needs literary, artistic and moral ideals and beliefs. The integration of scientific education and humanistic education is the need of human survival and improvement. Human survival and improvement have certain conditions. That is, it must meet certain basic needs of people. Talents can survive and improve perfectly [1]. Human needs are diverse. It is precisely because of its diversity that determines the integration trend of different aspects of education. From the perspective of human survival and improvement. People want to survive. There must be certain material needs to maintain the existence of its natural life organism. And the satisfaction of material needs is not like other creatures waiting for heaven’s gift. But rely on their own ability to create and obtain. The level of human spiritual creation and ability. It restricts the degree of civilization of a certain society and the improvement direction of individual people’s morality. It restricts the quality and satisfaction of people’s spiritual pursuit.

2.5 Big Data Analysis Technology

2.5.1 Overview of Big Data Analysis

The real meaning of data not only lies in huge data information, but also includes professional modeling and analysis of these data to tap its potential value [6]. The basic task of big data analysis is to use big data analysis technology to mine the potential value contained in the massive data with diverse types, rapid growth and real content, and use these potential values as an important basis for our decision-making. Therefore, big data analysis technology has become the core content of big data research.

2.5.2 Data Collection

Data collection is the premise of data analysis. The scope and quality of data collection are related to the quality of data analysis results. Therefore, data collection must be carried out on the basis of a full understanding of the original face of the data, including understanding the time of data generation, environment, standards and specifications, content and other factors affecting the data [7]. At the same time, the data acquisition process helps to deepen the understanding of the data, especially the abnormal changes in the data and common data problems. The collection of data needs to follow the principles of comprehensiveness, detail and accuracy. Data collection is to obtain data from the source of data. We should fully consider the conditions that may lead to abnormal data in the process of data collection, so as to trace the cause of the problem. Only by ensuring that the data we collect from the data source is accurate rather than false, can we ensure the correctness of the analysis results and avoid the impact of false data on the data analysis results.

3 Investigation and Research on the Practice of Social Science Digital Humanities Education Based on Big Data Analysis Technology

3.1 Questionnaire Design

The questionnaire designed this time attempts to understand the public's understanding and use of the practice of Digital Humanities Education, and attempts to tap the real needs of the masses for the practice of Digital Humanities Education. This survey is based on the questionnaire. According to its unique convenience, the online survey is not only convenient for respondents to fill in, but also can improve the efficiency of questionnaire collection.

3.2 Data Acquisition

In order to ensure that the respondents carefully completed the questionnaire, the reverse option was set in individual questions as a screening index. According to the response time of less than 1 min, the invalid questionnaire was eliminated, and a total of 812 valid responses were obtained. The average filling time of the respondents was 6 min. The

respondents were distributed in different parts of the country, and there were also some foreign data, which to a certain extent represented that the sample number of this survey was relatively sufficient and covered a wide range, The data source is relatively reliable and has certain reliability and validity, which can be used for further statistical analysis. The T-test formula used in this paper is as follows:

$$t = \frac{\bar{X} - \mu}{\frac{\sigma_X}{\sqrt{n}}} \quad (1)$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2} \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \quad (2)$$

Among them, formula (1) is the single population test, which is the sample mean, s is the sample standard deviation, and n is the number of samples. Equation (2) is a double population test.

4 Analysis and Research on the Practice of Social Science Digital Humanities Education Based on Big Data Analysis Technology

4.1 Demand for Social Science Digital Humanities Education Practice

In the questionnaire, the potential Digital Humanities Education Practice of respondents was investigated from the aspects of perceived usefulness and behavioral willingness of Social Sciences Digital Humanities education practice. More than 85% of the population think that Digital Humanities practice is very interesting and can learn new Dongliang, and will continue to understand and participate in Digital Humanities education practice. The specific situation is shown in Table 1 and Fig. 1.

4.2 Behavioral Willingness to Practice Social Science Digital Humanities Education

In terms of the willingness to act on the practice of Digital Humanities Education, the public generally holds a positive attitude of trying, but at the same time, they also have a hesitant and self-confident attitude, which shows that the prospect of the promotion of Digital Humanities education practice is bright. At the same time, the Digital Humanities

Table 1. Respondents' needs for digital humanities education practice

Content	Agree	Not sure	Disagree
Interesting	88.4%	10.54%	1.06%
Learn new things	86.1%	12.7%	1.20%
Continue to understand and participate in it	87.2%	11.8%	1.00%

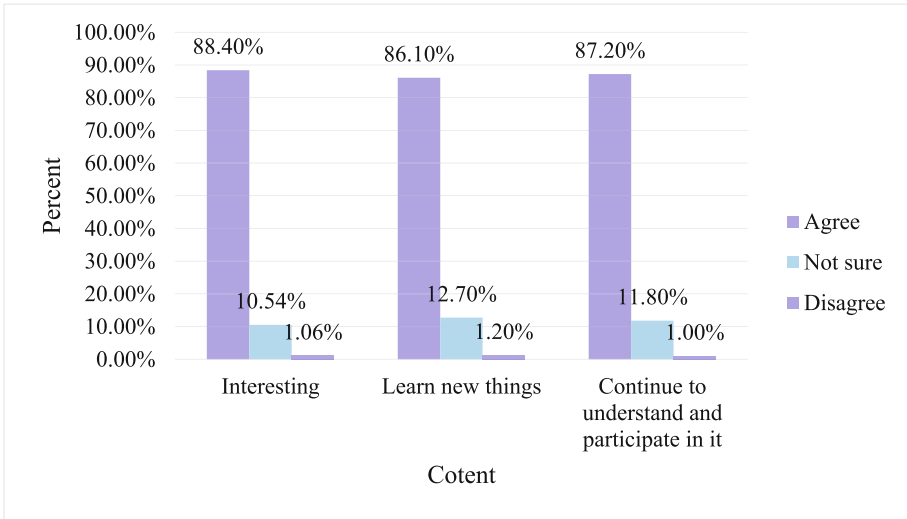


Fig. 1. Comparison diagram of the needs of digital humanities education practice situation

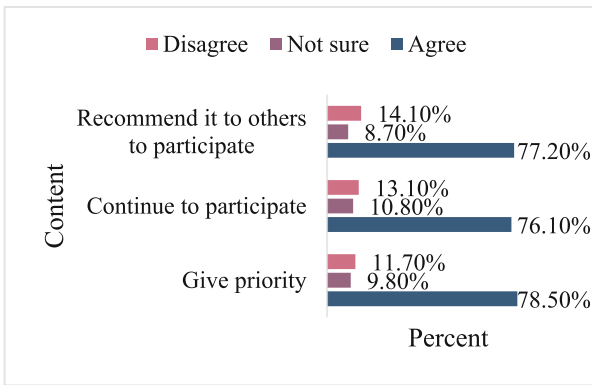


Fig. 2. Respondents' willingness to act about digital humanities education practices

center should actively publicize to reduce the gap between this emerging service and scientific research groups and the general public. More than 70% of the population said that they would choose Digital Humanities Education Practice with practical actions, but the proportion of people with hesitation also increased slightly compared with the above problems. See Fig. 2 for details.

On the whole, Chinese scholars' understanding and recognition of "Digital Humanities" is not enough. Many scholars regard "Digital Humanities" as the digitization of traditional materials, and they are not clear enough about the core idea of Digital Humanities for deep resource integration of knowledge ontology, nor do they give full play to the impact of "digital human research center" as an interdisciplinary collaborative platform on promoting academic innovation, The practice of Digital Humanities Education is

not popular enough. Therefore, the practice and improvement of Social Science Digital Humanities Education is very important.

5 Conclusions

The rapid improvement of computer network technology, big data, artificial intelligence and so on, provides a new opportunity for the combination of traditional humanities and emerging digital technology. Therefore, “Digital Humanities” is born at the right time, and the research of traditional humanities also ushers in new opportunities for improvement. “Digital Humanities” has formed a wide academic influence all over the world, and scholars from various countries have joined the wave of theoretical research and practical exploration of Digital Humanities. The research of Digital Humanities practice cannot be separated from the real and reliable data and information resources, and the practice of Digital Humanities Education plays an important role in the resource supply of Digital Humanities practice. Based on the practical exploration and research of Digital Humanities, explore and innovate new methods of traditional humanities research, establish complex knowledge networks, and mine value information. Therefore, the practice of Digital Humanities education deserves more in-depth research.

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