

## Application of Big Data Statistical Analysis Method in Computer Teaching Management

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**Abstract:** With the arrival of the era of big data, the demand for high-quality talents in the field of computer mutually beneficial network is becoming more and more urgent. As an important base for the training of computer talents in colleges and universities, computer majors in colleges and universities bear the important task of transporting high-quality computer talents for the society. Because of the strong practical characteristics of computer specialty, the proportion of practical teaching is large. Therefore, colleges and universities should rely on the background of the big data era and constantly deepen the reform of practical teaching of computer majors, so as to improve the quality of personnel training for computer majors in colleges and universities. Based on big data technology, this paper focuses on the reform of practical training teaching for computer majors in colleges and universities.

### 1. Computer Program Training Reform is of Great Significance in the Big Data Era

In the era of big data, the main data of colleges and universities are influenced by computer technology and network technology, and the reform of practical teaching is put on the agenda, and many changes in teaching conditions provide good conditions for the reform of computer education. In the practical training of computer major in colleges and universities, because of the limitation of practical teaching equipment and practical conditions in colleges and universities, the practical training of computer professionals can not guarantee the effectiveness of practice. The cultivation of students and the students' understanding of practical education are also restricted, which greatly affects the improvement of students' computer application ability.

The success of large-scale computer system provides good scientific and technological support for college computer students. On the basis of cloud data technology, computer education and education platform are designed to enable students to be independent of education and training and participate in professional training of computer skills. Training platform, free of time and space for education and training; In order to promote the students' personal development and meet the demand of the professional market for the technical ability of the students majoring in computer science in colleges and universities, under the condition of large amount of data, the students with high technical level of computer science in colleges and universities are changing the traditional teaching methods. Improve students' professional and technical ability, and lay the foundation for employment and entrepreneurship in the future. At the same time, further enhance the ability of computer science research, improve the consciousness of innovative thinking, meet the needs of high-quality computer skills when the social talent market is formed, improve the efficiency of computer skills training in schools, and universities as a whole, meet the needs of a large number of talents.



Figure 1 Big data era

## 2. The Problems in the Practical Teaching of Computer Major in Colleges and Universities in the Era of Big Data

The purpose of practical teaching of computer major in colleges and universities is to improve students' computer practice ability, help students to absorb professional computer knowledge better, and aim to guide students to construct their own perfect computer knowledge system in the era of big data, and comprehensively improve the level of computer technology ability. But at present, under the background of big data era, there are still many problems to be solved in the practical teaching of computer major in colleges and universities[1]. The concrete performance is that the teachers of computer major in colleges and universities are not proficient in big data technology, and the development of teaching training projects related to big data needs to be further strengthened. At the same time, in the process of practical teaching, under the influence of traditional teaching ideas, students do not use big data related technical knowledge to improve their practical ability in practical training projects. In practical teaching, most of the knowledge has a simple understanding of computer professional knowledge based on big data technology. In addition, based on the rapid development of the current big data technology, all kinds of information products and technologies emerge in endlessly, which provides a very convenient condition for the practical teaching of computer majors in colleges and universities[2]. In fact, in the process of practical training teaching, affected by many factors, the application of practical training teaching to these products and technologies is limited, which results in the unsatisfactory practical training teaching effect of computer majors in colleges and universities, which seriously restricts the development of students. Under the background of big data, computer training teaching in colleges and universities can not meet the needs of social posts, which is also a key consideration in the reform of practical teaching[3].

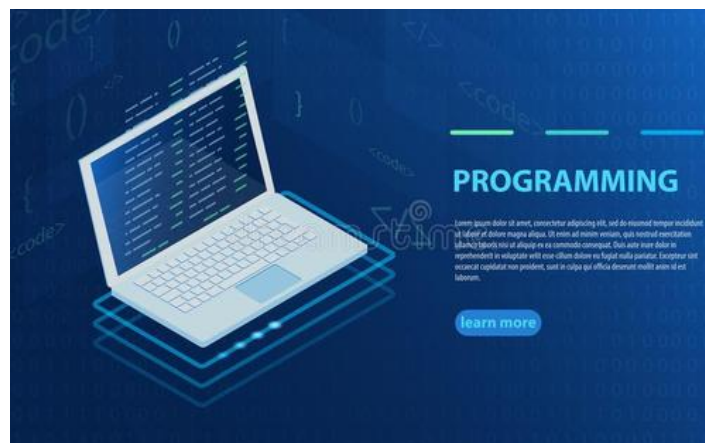


Figure 2 Big data era

## 3. Measures to Reform the Practical Training Teaching of Computer Specialty in Colleges

## **and Universities in the Age of Big Data**

### **3.1. Improving Students' Comprehensive Practical Ability**

In the era of big data, computer major in colleges and universities should pay attention to cultivating students' ability of data resource processing in practical teaching, which is the technical ability that the social employment market urgently needs computer talents to master under the background of big data era[4]. Therefore, in the practical teaching of computer training, we should pay attention to setting up practical training courses on data collection and analysis, storage management, accurate search, platform development and cloud computing, so as to enhance students' ability to deal with big data. In the process of practical teaching, we should focus on cultivating students' practical operation ability, let students deeply understand the theoretical knowledge of computer major in the operation of practical training projects, and improve students' ability to use computer technology to process and analyze data[5]. In order to meet the big data era talent market for computer professionals. For example, in the process of practical teaching, teachers can arrange students to choose large-scale network service industry for independent technical simulation operation practice training based on the big data knowledge of "Hadoop» course ", so that students can combine computer theory knowledge with practical operation to improve students' comprehensive practical ability.



Figure 3 Big data era

### **3.2. Developing Innovative Entrepreneurship Among Students**

In order to promote the cultivation of talents in colleges and universities, the state puts forward the slogan of innovation and entrepreneurship, and promotes the reform of teaching in colleges and universities. Under the background of big data era, the reform of practical teaching of computer major in colleges and universities should follow the guidance of the national innovation and entrepreneurship policy to cultivate students' innovative and entrepreneurial ability, at the same time, it is necessary to change the educational concept of computer major in colleges and universities, relying on the advanced technology of big data era, and cultivate the national high level new computer talents. The practical teaching of computer major should focus on stimulating students' subjective initiative, adhere to the student-oriented teaching concept, and create more project training opportunities for students. Through the establishment of a school-enterprise cooperation platform to provide students with Internet, finance, Internet of things, e-commerce, new retail, cloud computing, social media and other fields of enterprise training projects, so that students have the right to choose independently, through computer professional theoretical knowledge and practical training, Cultivate students' innovative entrepreneurial ability and teamwork ability, and improve students' comprehensive application ability of big data technology in computer major in the process of project training.

### **3.3. Improving the System of Practical Teaching**

The reform of practical teaching of computer major in colleges and universities should focus on perfecting the practical teaching system. Based on the background of the big data era, a multi-dimensional computer training teaching system is constructed, and an open practical training teaching platform is established to clarify the direction of talent training for computer majors in colleges and universities. Colleges and universities should deeply understand the specific needs of social posts related to computer majors, make use of cloud computing and big data technology to fully meet the technical requirements of different industries and posts for computer professionals, and set up computer training projects in order to improve the technical level and professional quality of computer majors in colleges and universities, and improve the overall teaching effect of computer majors in colleges and universities. Among them, the practical training system should cover the relevant practical training teaching projects about big data technology. Such as cloud computing involves virtualization technology, cloud services technology and cloud storage technology. At the same time, it should also include the Hadoops+HDFS technology, data mining and big data analysis and model construction, which are mainly involved in big data. Through carrying out these practical teaching projects which meet the needs of social posts, students can constantly improve their technical ability, enrich the computer knowledge system, and lay a solid foundation for the future development of students.

#### **4. Development Background of Big Data Technology and Network Teaching Platform**

In the 1980s, In The Third Wave, futurist Elvin Toffler predicted the rapid development and wide application of big data technology. In recent years, Influenced by big data technology, The United Nations has developed a "global pulse" program for big data development, This paper expounds the opportunities and challenges faced by countries in the application of big data technology, reflects the high attention of the international community to big data technology. Our country through the formulation of "big data standardization white paper" and other national plans, Integrating big data into government, business and public goods, so as to further tap and stimulate the application and development potential of big data technology. The large-scale open network curriculum has attracted much attention since 2012 as a new educational model. Based on OCW platform video playback, The existing network teaching platform has added the functions of assignment assignment, teaching interaction and online evaluation. With the introduction of video courses in foreign universities by Netease, China's network teaching platform is gradually on the right track, Network teaching is applied to computer teaching in undergraduate colleges. The computer teaching in undergraduate colleges not only has the informationization and the dataization teaching thought and the discipline characteristic, and has rich network teaching resources and student groups. Network teaching platform as a distribution center and display window of teaching resources, Same roots as big data, With a unique advantage in technology integration, With a lot of data, It is convenient to use big data technology to quantitatively improve the teaching effect. This study takes the application of "Superstar Learning Link" as an example, Establish big data analysis and processing system, Visual report forms through teaching quality assessment algorithm, and provide reference for the improvement of computer teaching quality in undergraduate colleges.

#### **5. Conclusion**

To sum up, the quality of computer professionals training in colleges and universities in the big data era is an important part to ensure the continuous improvement of social science and technology level. Therefore, the computer major in colleges and universities should, in combination with the characteristics of strong practicality of the subject, deepen the reform of practical training teaching for computer majors, focus on cultivating students' computer practice ability and technical level in big data, develop students' innovative thinking, improve the quality of personnel training for computer majors in colleges and universities, and transport more high-quality computer talents to the society.

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