

The Exploration of College Computer Teaching Reform Based on the Background of Big Data

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Abstract: In the background of big data, college computer teaching is facing new opportunities and challenges. In order to achieve effective reform of computer teaching in colleges and universities, it is necessary to reform traditional teaching mode effectively, combine big data technology with computer teaching organically, and cultivate students' computational thinking and innovation ability effectively, so as to promote their healthy growth. At present, there are still some problems in computer teaching in many colleges and universities, which restricts the development of computer teaching in colleges and universities to a large extent. In this regard, this paper will start from the following aspects, elaborated on the college computer teaching reform path based on big data, in order to be able to provide some necessary references for relevant educators.

Keywords: Big data; University computer; Teaching reform; Strategy inquiry

Fund Project:

Education Project of Industry-University Cooperation System of Ministry of Education:

Project number :220606434022717

Project Name: Research on major construction and talent training mechanism of Big Data featuring multi-disciplinary crossing

Project number :220504392261203

Project Name: Research on Artificial Intelligence Education Model Based on Innovation and Entrepreneurship

Tai 'an Science and Technology Innovation Development Project (Policy guidance)

Name: Sign Language translation and communication system based on dynamic gesture recognition Project number: 2022GX047

With the rapid development of information technology, big data, as a brand new resource, not only changes people's way of life, but also brings great influence to people's work and life. With the rapid development of Internet technology and the advent of the era of big data, the computer major in Chinese universities has also developed rapidly, and higher requirements have been put forward for personnel training. If the college wants to improve the comprehensive quality and professional skills of the computer major students, we must carry on the teaching reform to meet the needs of social development. In teaching, teachers should constantly update the teaching concept, grasp the development law of the big data era, and constantly promote the reform process of college computer teaching.

1. The necessity of college computer teaching reform in the era of big data

The advent of the big data era has put forward higher requirements for computer teaching in colleges and universities. On the one hand, with the advent of information and networking era, big data technology develops rapidly and is applied more and more widely in various industries. On the other hand, with the deepening of the reform of education system, colleges and universities have higher and higher requirements for talent training. With the extensive application of information technology and Internet technology in various industries, the traditional teaching model has been unable to meet the demand for talents in today's social development. As an important way to cultivate high-quality talents, computer teaching in colleges and universities must reform its teaching mode to meet the requirements of the big data era. At present, Chinese universities are actively exploring the new ideas and methods of computer teaching reform. From the current situation of educational resources, most universities in our country have opened computer majors at

present. According to the Ministry of Education, there were 2,388 institutions of higher learning in China by the end of 2022. The vast majority of the 2,388 universities offer computer majors. In recent years, with the wide application and rapid development of Internet technology in various fields, college computer teaching has made remarkable progress. But the shortage of computer professional talent is still serious from the whole educational resources. So colleges and universities should actively explore new ideas and new methods to promote the reform of computer teaching. With the rapid development of social economy and the continuous improvement of scientific and technological level, people's application of computer technology is more and more extensive. In order to better adapt to the requirements of The Times, colleges and universities should combine the current situation and students' employment situation actively explore a new model to promote the reform of computer teaching. In this way, students can not only improve their interest and enthusiasm in learning, broaden their scope of knowledge, improve their competitiveness in employment, and promote their all-round development.

2. College computer teaching reform strategies based on Big data background

2.1 Improve students' interest in learning

With the advent of the era of big data, students are exposed to more abundant information. In this era, students should take learning computer technology as their development direction. Therefore, computer teachers in colleges and universities should also start from themselves to improve students' interest in learning computer technology. First of all, college teachers should conduct in-depth analysis on the requirements of computer technology in the era of big data, understand the degree of students' mastery of computer technology and the size of knowledge reserve, and understand students' interest in computer technology, so as to formulate teaching programs in line with the actual situation. Secondly, teachers can enhance students' interest in computer technology by carrying out colorful and diversified teaching activities. For example, multimedia equipment can be used to play some videos about the direction of the development of information technology in the era of big data and the status of the application of information technology in our country, but also encourage students to combine their knowledge with real life.

2.2 Enhance the diversity of teaching methods

Due to the coming of the background of big data, computer teaching in colleges and universities must change the traditional teaching methods, adopt a variety of different teaching methods, and integrate the new technology into the classroom teaching. In the traditional computer teaching, teachers usually adopt the infusing teaching method, which is easy to cause the loss of students' interest in learning, but also not conducive to the cultivation of students' innovative ability. In order to effectively improve students' learning interest and ability, teachers must change traditional teaching methods, let students actively participate in learning activities in class, and use multimedia equipment to show students some interesting and vivid courseware and videos. Through multimedia equipment display computer theory knowledge and practical operation of the course content, so that students can more intuitively understand the process of computer operation of the important difficult points and easily confused knowledge. At the same time, multimedia equipment should be used to enable students to interact with teachers, so as to better solve the difficult problems encountered by students in learning. This teaching method can not only improve students' learning interest and ability, but also stimulate their innovative thinking.

2.3 Effectively cultivate students' data literacy

Data literacy is the requirement of computer teaching in the era of big data. Therefore, teachers should fully realize the importance of cultivating students' data literacy when carrying out computer teaching. First, teachers should let students understand what requirements the era of big data puts forward for students, and then let students put these requirements into concrete practice. Secondly, teachers can cultivate students' data literacy through classroom teaching and extracurricular activities. For example, they can introduce the knowledge of data statistics and statistics to students in class. In this way, students can understand the importance of data statistics. At the same time, examples from real life can be introduced into classroom teaching, for example, data analysis cases can be introduced when explaining data analysis. Finally, teachers should also provide students with rich practical opportunities, so that they can apply what they have learned to real life. For example, after learning statistics, teachers can lead students to supermarkets, hospitals and other places to conduct some investigation activities. In this process, teachers should let students record and organize data, so as to cultivate students' data literacy in this way.

2.4 Change the traditional teaching mode

In the traditional computer teaching model, teachers often directly impart theoretical knowledge to students in class, and then let students consolidate the learning content through practice. This teaching model is more suitable for the explanation of theoretical

knowledge, but it has higher requirements for practical operation, so in the background of big data, College computer teaching needs to innovate the traditional teaching mode. First of all, teachers should change their role positioning and regard students as the subject of the class. Instead of blindly explaining theoretical knowledge to students, teachers should guide students to learn independently through experiments and other ways. Secondly, teachers should make personalized teaching plans according to students' learning situation and progress. If students are not very familiar with a certain knowledge point, teachers can prepare relevant content for students in advance in the pre-class preview. In addition, teachers can also establish study groups to realize the interaction and communication between students. For example, in computer teaching, a study group can be established, and a part of the group can be arranged in the pre-class preview to discuss, communicate and share learning resources, etc. In class, teachers can also develop targeted and effective teaching plans according to the results of discussion among students. Finally, teachers should track and guide students in time after class to find out the problems in their learning process and solve them. Through such a personalized teaching method can make students really participate in the teaching, and also can cultivate more excellent and comprehensive talents, so that teachers can also get more sense of achievement.

2.5 Establish a sound assessment system

In the traditional college computer teaching, the establishment of examination system is not perfect, which greatly affects the progress and quality of computer teaching reform. The assessment system mainly includes two parts: the final examination and the regular score. However, in practical teaching, the role of the final examination is not very important, because students do well in the final examination does not mean that they can get better results. In the context of big data, colleges and universities should establish a sound assessment system, which should include ordinary performance into the assessment system. The so-called ordinary grades mainly include homework in class, homework after class, practical operation and other contents. It is necessary to record and analyze students' ordinary performance, and judge students' knowledge mastery in the ordinary learning process. In this way, problems existing in students' learning can be found out better, and effective measures can be taken to help students solve problems in time. Improve students' comprehensive ability in learning.

To sum up: In short, under the background of the era of big data, the reform of computer teaching in colleges and universities is imperative. Teachers should set up the correct teaching concept, take big data technology as the entry point, reform the traditional computer teaching mode, and provide more excellent computer professionals for the society through the reasonable professional quality and professional skills training of computer students in colleges and universities. At the same time, teachers should formulate reasonable training plans and objectives according to the needs of social development and the actual situation of students, and constantly innovate the computer education model and teaching methods through big data technology, so as to provide students with more high-quality computer education services.

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