Application of Computer Big Data in Internet Learning

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Abstract. In recent years, big data technology has been developed rapidly. While big data technology has been successfully applied in many industries, it has also completely changed the traditional education and teaching mode. Using big data technology for internet teaching is a mainstream trend at present, which makes up for many deficiencies in traditional teaching. As the current Internet teaching technology is still not perfect, this paper establishes the application research of computer big data in Internet learning. This paper makes an in-depth study on the current Internet learning. Through the survey, it can be seen that the popularity rate of Internet learning is very high, and the teaching effect has been affirmed in many aspects. However, because the technology is still in the initial stage of application, there are still many technical shortcomings, such as the information data security is not high, the teaching platform performance is not stable, the platform student management is not scientific and so on. For this reason, this paper gives the relevant suggestions for these deficiencies, as well as optimization and improvement measures. Moreover, through the in-depth study on the application form and application process of Internet learning, this paper believes that Internet learning is the major trend in the future teaching reform and development, and more attention should be paid to the students' experience and the optimization and upgrading of related technologies in the process of reform and development.

Keywords: Big Data Technology, Internet Learning, Network Teaching, Reform in Education

1. Introduction

With the advent of big data era, many teachers begin to use online learning teaching methods. Many enterprises and schools have also developed various learning systems, examination systems and live broadcast systems. It has changed the traditional teaching mode, established a new learning system, provided students with rich learning resources and broadened their horizons [1-3]. At the same time, the Internet can also automatically recommend students' favorite learning content, greatly improving students' learning efficiency. For example, big data can record the content that students often browse. When students browse next time, they can recommend relevant content, so that students can easily master the learning progress [4-6].

In addition, big data can also use its own digital technology advantages to record students' learning...
time, filter effective knowledge points, automatically recommend and store learning knowledge points, and memorize students' learning key browsing pages through data mining. Actively promote and promote students' learning effect from multi-level and multi angle [7-8]. It not only ensures the learning quality of students, but also ensures the learning progress of students [9-10].

This paper makes an in-depth investigation on the current development of Internet learning, and finds that although Internet teaching has been widely used in China, there are still many defects. The main reasons are the running in problems during the transition period of teaching mode, and the related technical problems of Internet learning, which lead to the existence of data security risks in the existing internet teaching platform, and the teaching effect cannot be effectively controlled, thus affecting the final teaching quality. In view of these deficiencies, this paper puts forward the optimization and improvement measures. This measure covers the change of teaching concept, the optimization of teaching mode, and the related technical support of teaching platform construction. In the survey results of the main problems existing in the current Internet teaching, it also further verifies the necessity of the suggestions proposed in this paper. Combined with a number of survey results, this paper analyzes that in order to popularize high-quality Internet teaching, in addition to the construction of infrastructure, we should also pay attention to the development of software and the effect of students' learning experience.

2. Big Data and its Advantages in Internet Learning

2.1 Connotation of Big Data

The application of computer makes big data occupy people's world gradually. Big data is a new information processing mode that adapts to the rapid growth, massive and diversified information assets, and has strong decision-making ability, process optimization ability and insight and discovery ability. The actual development of big data mainly includes three technologies. (1) Distributed computing framework: This is a simplified programming model in the meta computing environment, users can use their own language to calculate reduce functions and map functions; (2) distributed file system: an important way to store data with cloud computing big data, which has strong operability and reliability; (3) Real time stream processing technology: This is a technology focusing on data form and real-time, which can process real-time data stream architecture at any time.

2.2 Advantages of Big Data in Internet Learning

In Internet learning, big data can quickly accumulate a large number of learning habits and learning resources in a short time. Using advanced Internet big data application technology, we can actively mine effective learning data, filter out useless data, automatically recommend similar effective courses, and accumulate Internet learning resources. All of these can effectively improve the effectiveness and effectiveness of students' online learning in the first time, which cannot be solved and realized by traditional learning methods.

3. Research on the Development of Internet Learning

In terms of learning channels, the Internet-based education platform presents the characteristics of diversified development, such as subscribing to online courses, borrowing media, and realizing the real-time push of knowledge points. In online learning, the existence of computers, wechat, QQ and other social platforms, as well as the emergence of various apps, greatly promote the real-time and dynamic learning and communication. Compared with other teaching modes, the biggest advantage of online learning is that it breaks through the limitation of time and space. Students can search and analyze data on the network platform, search the corresponding learning resources according to their hobbies and needs, and formulate learning strategies suitable for them.

This survey is conducted in the form of questionnaire survey and field interview, through the survey of 60 teaching losers and 500 students. A total of 560 questionnaires were distributed and 551 were recovered. The effective recovery rate was 98.3%. The survey results are shown in Table 1.
According to the survey results in Table 1, using the Internet for teaching is a popular way, and the teaching effect can meet the needs of most educational institutions. For students, students generally believe that internet teaching improves their learning efficiency and learning enthusiasm. This paper analyzes that the internet teaching effectively complements the shortcomings of the traditional teaching mode, and has a positive role in improving the quality of teaching.

**Table 1. Survey and statistics of Internet Teaching Practice**

| Investigation items / schools | Proportion | Investigation items | Proportion |
|------------------------------|------------|---------------------|------------|
| Using the Internet for teaching | 100%       | Improve learning efficiency | 95%        |
| They are satisfied with the teaching effect | 94%       | Improve the learning effect | 98%        |
| It plays a good auxiliary role in teaching | 93%       | Enhance the enthusiasm of learning | 91%        |

4. Discussion

4.1 Analysis of the Advantages and Disadvantages of Big Data in Online Learning

4.1.1 Advantages of Big Data. There are a large number of databases in big data, specifically refers to new processing methods, high-speed, massive and different data. With the development of the Internet era, the traditional way of profit has changed; people pay more attention to the Internet. In the era of big data, many industries in China begin to pay attention to data analysis. The center of big data is data. Before learning big data technology, we must understand the nature of big data.

4.1.2 Disadvantages of Big Data. The disadvantage of big data is that educational institutions and enterprises follow blindly. As a new foothold, big data needs to be implemented every time. If it cannot be implemented, there will be a variety of problems; there is a risk of damaging the existing teaching situation.

According to the survey results in Figure 1, compared with the traditional teaching mode, internet teaching effectively improves the teaching effect and enriches teaching resources. At the same time, the interactive use of internet teaching, so that the original classroom enthusiasm is not high students also become active. This paper analyzes that the internet teaching mode using big data technology can better meet the learning needs of students. It also changes the students' traditional views on learning and strengthens the students' learning initiative.
Figure 1. Comparative investigation and analysis of the advantages of internet teaching and traditional teaching

In addition, as the above analysis, Internet Teaching in addition to many advantages, it still has many shortcomings. According to the survey results in Figure 2, there are some defects in most internet teaching, such as information and data insecurity, unstable platform performance, lack of humanized learning management, and lack of professional maintenance and upgrading services. In this paper, under the background of e-learning, we should not only pay attention to the change of teaching mode, but also strengthen the research of related technology, and do a good job of supporting technology service.
Figure 2. Survey and analysis of the main problems in current Internet Learning

4.2 Application of Computer Big Data in Internet Learning

4.2.1 Live Online Teaching. Live network teaching is a very popular teaching method. Live network teaching refers to the online teaching for users through the huge learning platform of the Internet. Teachers or relevant teaching staff only need to register to enter the field teaching service platform. Students who want to attend class can go to work by signing, clocking or booking courses. This online teaching method can simulate the real classroom communication. Through remote control, teachers and students can carry out problems and hold course activities. Not only that, this kind of online live teaching can also encourage students to attend classes on time and finish their homework on time.

4.2.2 Online Interactive Teaching. Affected by family planning and high housing prices, most families have only one child, which is the most obvious phenomenon in cities. Therefore, most students go home often no one to explore, learning is also a person, not conducive to students' active thinking, but also not conducive to the exercise of students' communication and expression ability. Online interactive teaching just solves this problem. At the same time, students can log in to the online interactive teaching platform and enter the discussion group of a certain subject. At any time, students can choose the subjects they want to enter the discussion group communicate online and explore the relevant problems in learning.

4.2.3 Search Engine in Online Learning. At present, online learning of search engine is also a good method of word-of-mouth learning. Under the influence of computer big data, many problems that can be solved by Internet technology can be solved accordingly. For example, when students use Internet technology to learn, as long as they enter keywords in the search field, they can get the corresponding answers. Students can only choose them so that they can not only consolidate their knowledge, but
also strengthen their memory ability.

4.3 Application Process of Computer Big Data in Internet Learning

In the process of the continuous development and application of big data technology to Internet learning, a set of relatively perfect application process has been gradually formed, which combines the advantages of traditional classroom education with Internet technology, forming the main contents of classroom management and knowledge management, including knowledge management, learning resource release, information retrieval; time management is a kind of time therapy for students. This kind of orderly learning and management can make students participate more regularly in the process of online learning, and make use of its resource advantages to improve learning efficiency.

The application of the Internet in various fields makes the boundaries of industries and disciplines fuzzer, which can enrich students' learning resources, help students expand their knowledge and understand the learning contents in different fields. In the era of big data, the resource library is also very rich.

5. Conclusions

In the study of the application of computer big data in Internet learning, the text deeply investigates the shortcomings of the existing internet teaching, analyzes the deep-seated causes of the phenomenon, and puts forward suggestions for optimization and improvement. According to the survey results, although Internet science has been popular in recent years, the technology is still in the early stage of development. As Internet learning is one of the main ways of teaching reform in the future, many schools and institutions follow the trend blindly, which leads to the poor effect of Internet teaching and many loopholes. In view of this situation, this paper believes that although Internet learning is a good teaching form and can make up for many shortcomings in the traditional teaching mode, it is obviously unscientific to rely too much on the current Internet learning technology. Any technology needs a development process, so does Internet learning. Colleges and universities should do a good job in the construction of soft power while they are keen to promote it. More efforts should be made in the technical support of the learning platform, and more research should be made in the learning management mode. Only in this way can the role of Internet Learning Based on big data technology be brought into full play.

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