Research on teaching reform path of Computer Network security course in big data era

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Abstract: With the deepening of education reform, college computer network security teaching should be further optimized, teachers should actively introduce new education concepts, teaching methods, in order to better arouse students' interest, strengthen their understanding of computer network security knowledge and application level, improve teaching effect. Big data technology, as a popular teaching assistant means, plays an important role in enriching the content of computer network security teaching in colleges and universities and broadening the path of education. In view of this, this paper will analyze the teaching reform of computer network security course in the era of big data, and put forward some strategies for your colleagues' reference.

Key words: Big data; Universities and colleges; Computer network security; Teaching reform

I. Value analysis of the teaching reform of computer network security course in the era of big data

1. Help to enhance the appeal of the course

By applying big data technology to computer network security teaching in colleges and universities, it can greatly enrich the education resources of computer network security teaching. If we can reasonably use these resources in the education process, it will play an important role in improving the teaching effect, and it can virtually enhance the appeal of computer network security teaching to college students. Make them more actively and actively participate in knowledge exploration and learning, and improve the education effect. At the same time, the application of big data technology to computer network security teaching can greatly enhance the interest of computer network security classes, so that college students can have a more intuitive and in-depth understanding of computer network security knowledge, which has an important role in promoting their learning interest and understanding ability development.

2. It is conducive to improving the timeliness of teaching

When carrying out computer network security teaching in colleges and universities, we should ensure that the teaching content is effectively implemented, so that college students can fully understand the computer network security knowledge, form good computer network security literacy and professional ability, and help them realize the goal of "learning in class and digsting in class". To this end, we should be good at leveraging big data technology to carry out reasonable optimization of traditional computer network security teaching forms, so as to enhance the timeliness, interaction and scientificity of computer network security teaching work, and help college students to better study computer network security knowledge by combining network resources, actual cases and project content. Enhance the flexibility and effectiveness of computer network security teaching work, which will play an important role in promoting the quality of computer network security teaching in colleges and universities.

3. It is conducive to improving the flexibility of education

From the perspective of teaching practice, the traditional teaching of computer network security in colleges and universities is mostly carried out in the way of inflowing, which is easy to lead to resistance and boredom among college students, which is not conducive to the improvement of teaching effect and hinders the development of their practical ability. Through the rational application of big data technology to computer network security teaching, the flexibility of computer network security teaching can be greatly enhanced. We can carry out more diverse education activities by means of micro-lessons, media videos, etc., so as to greatly enhance the interest, vividness and flexibility of computer network security teaching, and thus better attract the attention of college students. In addition, the application of big data technology to computer network security teaching can effectively expand the content and form of classroom teaching, so as to help college students create a cross-time and space learning platform, so that their learning process becomes more flexible and efficient, thus greatly improving the teaching effect of computer network security.

II. Analysis of the current teaching situation of computer network security courses

1. Solidification of teaching mode

At this stage, many college teachers fail to actively introduce new education models when teaching computer network security. In classroom teaching, they usually focus on explaining computer network security theory and rarely analyze it in combination with actual computer network security cases. This will hinder the improvement of college students' understanding ability to a certain extent, thus affecting their subsequent entry into actual employment positions. In addition, at the level of teaching content, the computer network security textbooks used by some colleges and universities are not updated in a timely manner, which leads to certain differences between the actual learning content of college students and the future job requirements of enterprises, and it is easy to appear "what they have learned is not used". In the long run, the fixed teaching mode is easy to make college students feel frustrated, which is not conducive to improving their learning efficiency.

2. Enterprise cooperation is not active

If we want to improve the effect of college computer network security teaching reform in the era of big data, we must guide enterprises to participate in it more deeply. However, in the actual teaching of computer network security, many enterprises are reluctant to accept college students. The reasons for this problem can be analyzed from the following two aspects: First, college students' insufficient ability to apply knowledge. Affected by the previous teaching methods, some college students have limited knowledge of computer network security teaching, which leads to the actual problems in some enterprises, it is easy to appear at a loss and do not know where to start. Due to the lack of application ability, college students need a long time to adapt to the environment after entering the enterprise, and it is difficult to put into work in a short period of time, which affects the efficiency of enterprise management. Second, the professional quality is not high. In the current era, the growth environment of college students is relatively good, rarely bear hardships and suffer grievances in real life, which leads to the lack of strong resilience after entering the job, in the face of problems and difficulties, often appear to shrink, fear of difficulties and other psychological, which will increase the time cost of enterprise training talents virtually. Under the influence of these two factors, the enthusiasm of many enterprises to participate in the education work is not high, which greatly affects the application effect of big data technology in computer network security teaching in colleges and universities.

3. The teaching staff is weak

At this stage, many colleges and universities in the recruitment of computer network security teachers, often take the applicant's academic background as the main content, for their computer network security professional knowledge reserve, practical teaching ability, understanding level of the industry and other factors are not enough attention. In addition, at present, few computer network security teachers can deeply understand the computer network security market industry, they lack of understanding of some commonly used software, problems and technologies in the current enterprise, which will increase the difficulty of computer network security teaching virtually, which is not conducive to the improvement of teaching effect. From here, we can see that the relatively weak faculty is also a major factor affecting the quality of computer network security teaching reform in colleges and universities in the era of big data.

III. College computer network security teaching reform strategy in the era of big data

1. Introduce micro-lessons skillfully to stimulate students' interest

When carrying out the reform of computer network security teaching in colleges and universities in the era of big data, we should pay full attention to the pre-class introduction, so as to lay a solid foundation for the follow-up education work. Generally speaking, high-quality classroom introduction can help college students more quickly focus on computer network security knowledge learning from recess games, which is of great significance to improve their learning efficiency. In the previous computer network security teaching, few teachers paid enough attention to the introduction before class. They usually asked college students to read the textbooks before class to make them have a basic understanding of the theories and concepts in the textbooks, and then began to teach. Such computer network security teaching method can not guarantee that college students will fully focus on the teaching content at the beginning, which will affect the education effect virtually. To this end, we can make full use of big data technology to play some interesting micro lessons for college students before class, in order to more effectively arouse their curiosity and desire to explore, so as to lay a solid foundation for the follow-up teaching work.

2. Introduce media videos to enrich the teaching content

Through in-depth analysis of the computer network security textbooks in colleges and universities, we can find that many contents in the textbooks have strong abstract characteristics. In addition, due to the limitation of the length of the textbooks, the introduction of some knowledge points is not perfect, which will virtually hinder the formation of a good computer network security knowledge system for college students. At the same time, in the previous computer network security teaching process, few teachers can make reasonable use of big data technology to assist teaching, and the introduction of high-quality education resources on the network is insufficient, which is extremely unfavorable to improving the teaching effect of computer network security in colleges and universities. Therefore, when we carry out the reform of computer network security teaching, we can try to use the power of media video, find some video resources related to teaching content from the network, and present them to college students with the help of multimedia devices, so as to achieve further expansion of computer network security teaching content. In order to enhance the understanding of computer network security knowledge of college students at different levels, we can divide college students into different levels before choosing video resources, so that media video can play a greater role in college computer network security teaching. The introduction of media videos that meet the learning needs of college students can greatly enrich the content of computer network security teaching and make their professional knowledge system of computer network security more perfect and reasonable, which plays an important role in promoting college students to learn deeper knowledge of computer network security in the future.

3. Build a self-learning platform and cultivate self-learning habits

In order to further improve the effectiveness of computer network security teaching, we should pay attention to the cultivation of college students' self-learning ability. By guiding college students to form good self-learning habits, we can make them participate in knowledge preview and review more efficiently, which will enhance their mastery and application of computer network security knowledge. However, in the previous computer network security teaching work, few college students can carry out more efficient independent learning, the reason is that they lack of an effective independent learning platform. In the past, when college students carried out independent knowledge learning, it was usually difficult to solve all kinds of problems encountered in the first time, which would not only affect the improvement of their self-study efficiency, but also have a great negative impact on their self-study confidence, thus hindering the formation

of good self-study habits.

In view of this, we can combine the actual situation of the university and make use of big data technology to create a more efficient and reasonable road for college students to learn by themselves. By creating an online self-learning platform for them, we can help college students solve the problems encountered in the process of self-study more efficiently and timely. When college students encounter bottlenecks in learning computer network security knowledge, they can upload the problems encountered to the online self-learning platform, and then solve the problems with the help of classmates and teachers, so as to ensure the smooth development of subsequent self-study and improve the education effect.

4. Carry out reasonable teaching evaluation and improve teaching problems

Before teaching evaluation, we can divide college students into different levels according to their different characteristics, so as to ensure the objectivity, effectiveness and pertinence of teaching evaluation. For example, for those college students with poor basic knowledge, we should take theoretical basic knowledge as the main content of evaluation to improve their basic level. For ordinary college students, our evaluation can start from two aspects, one is the theory of computer network security, the other is the college students' mastery of computer network security skills. While mastering the basic computer network security theory, these college students should also master some basic computer network security professional skills, and ensure that there is enough time to learn computer network security professional skills and knowledge every week, in order to meet the computer network security learning needs of college students. For those college students who have a solid foundation of computer network security, master the knowledge of website construction and network marketing, we should not only investigate and evaluate their computer network security theory and operation skills, but also put forward higher requirements, encourage them to constantly break through their own limits and improve the comprehensive ability of personal computer network security.

Summary

To sum up, if we want to improve the optimization level of computer network security teaching in colleges and universities in the era of big data, we can introduce micro-lessons to stimulate students' interest; Introduce media videos to enrich teaching content; Build self-study platform to cultivate self-study habit; Carry out reasonable teaching evaluation, improve teaching problems and other aspects of analysis, so as to virtually promote the quality of computer network security teaching in colleges and universities to a new height in the era of big data.

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