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RESEARCH ARTICLE

Research on the Curriculum System of Big Data Technology and Applied Specialty in Higher Vocational Colleges

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Abstract: With the rapid development of information technology industry, the demand for big data, artificial intelligence and cloud computing posts is increasing in many industries. Higher vocational colleges should actively train information technology talents. In order to promote the reform of big data technology and application curriculum system and improve the ability of talent training in higher vocational colleges, this paper analyzes the characteristics of big data technology and application specialty, the problems in curriculum system construction and the optimization countermeasures.

Keywords: big data technology and application major; characteristics; professional construction

In recent years, big data technology has developed rapidly. In order to meet the production needs of various industries, it is urgent to train big data technical personnel. Higher vocational colleges are an important place for talent training, and have a great responsibility in big data technology and application professionals training. However, because big data technology and application major is a new industry, it faces many shortcomings in curriculum construction, which hinders the development of curriculum specialization. Based on this, higher vocational colleges should constantly improve the construction of big data technology and applied professional curriculum system, and train the core

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talents for the society.

I. Summary of Big Data Technology and Application Specialty in Higher Vocational Colleges

In the era of big data, many industries need to speed up innovation and adjustment. In the field of education, the opening time of big data technology and application specialty is relatively short, the course research is not deep enough, and the basic theory and professional technology are constantly updated. In the teaching of big data technology and application specialty, it is necessary to take advanced technology as an important foundation, analyze the professional characteristics and attributes before the course is created, formulate the teaching goal, set up the professional course on this basis, train the high quality talented person. Big data technology and application teaching involve a lot of industry knowledge, knowledge system has the characteristics of compounding and practicability. The concept difference between big data and data is quite big. Among them, big data has large data scale, many data types and fast transmission speed. It is a new type of technology formed in the process of rapid development of computer technology and information technology, which is closely related to the development of information technology. In the current situation of market economy development, information technology accelerates innovation and development, at the same time, Internet technology has been gradually popularized, and the amount of information generated by various industries is huge. Through the collection, collation and analysis of a large number of data, useful information can be obtained. In this process, big data technology is formed. The application of big data technology is fast and efficient, so it can process large data quickly^[1].

II. Analysis of the Characteristics of Big Data Technology and Application Specialty

(i) Independence. Through the in-depth analysis of the theoretical basis and method system of data science, it has a great relationship with computer science and mathematics, but also has its own characteristics. For statistics, it can be applied to data research, and data science can break the shackles of statistics. In the era of big data, the amount of data is huge and there are many types of data. Data science needs to study the efficient processing of massive data in depth, and then obtain valuable information. In the development of data science research, computer technology should be regarded as an important basis, and for computer technology, it can be applied to the field of computer system. It can be seen that in data science, applied mathematics, statistics and other aspects of knowledge, and for mathematical science, can be used as an independent discipline, can be used as a supplement to other disciplines.

(ii) Intersection. In the research of data science, it is necessary to apply the knowledge of many specialties, including mathematics, statistics so on. In the research of data science, we can not only apply the research method of this subject, but also apply the knowledge points and research methods of other disciplines. For data science, it can be applied to big data analysis. In different industries, big data has many types and has its own characteristics. Therefore, when analyzing big data in different fields, it is necessary to apply all kinds of professional knowledge in this field reasonably.

(iii) Practicality. In the research of data science, big data should be regarded as the key research object, and valuable information can be obtained by analyzing and processing big data, including data collection, processing and modeling. Data science has the characteristics of interactivity and circulation. In the study of mathematical science projects, we should pay attention to the knowledge content at the scientific and technical levels, and embody the practical characteristics.

(iv) Systematicness. In the research of data science, we should take data and big data as the foundation, big data technology and application specialty as the new course, should adapt to the development situation of big data era actively, absorb the knowledge, theory, method and so on in the teaching of other professional fields extensively, adjust the teaching mode of big data technology and application specialty course^[2].

III. Problems in the Construction of Big Data Technology and Applied Specialty Curriculum in Higher Vocational Colleges

Big data technology and application specialty is a new type of computer specialty, which lacks working experience in curriculum construction, inspection environment planning and construction, and has not formulated unified and perfect standards. In the process of carrying out the teaching activities of big data technology and application specialty, higher vocational colleges can not blindly apply the teaching system of computer specialty and the teaching mode of big data specialty. Instead, we should analyze the practical problems in the teaching of big data technology and application specialty in higher vocational colleges and speed up the construction of big data platform in higher vocational colleges. At present, in the construction of big data technology and application course system, the following problems are mainly faced:

(i) Weak student base. The main sources of big data technology and application students in higher vocational colleges are high school students and secondary vocational students. Many students have not solid theoretical foundation and have not accumulated rich theoretical knowledge in mathematics and English. In the teaching of big data technology and application specialty, it is necessary to take

mathematics as the foundation. Therefore, some high school students are under great pressure in the study of big data technology and application specialty, and the study is difficult.

(ii) Lack of professional teachers. In the teaching of big data technology and application specialty, some teachers are originally engaged in computer teaching activities. Although teachers are proficient in computer knowledge and teaching methods, they lack theoretical knowledge in mathematical analysis. In addition, some teachers are deployed from mathematics major, although master mathematics basic knowledge, but lack of computer operation skills.

(iii) The lack of practical experimental facilities available in schools. In higher vocational teaching, teachers focus on cultivating students' hands-on ability. In big data technology and application teaching, students are required to create big data training test equipment, but the experimental environment of some higher vocational colleges is not perfect. Lack of experimental equipment, and no experimental manuals and teaching plans.

(iv) The course of talent training program is not perfect. The big data technology major level is relatively high, the student entry difficulty is big, many higher vocational colleges big data technology and the application specialty is still in the primary development stage, has not formulated the perfect, the system big data technology and the application specialty curriculum system.

IV. The optimization countermeasures of big data technology and application course system construction in higher vocational colleges.

(i) Curriculum architecture for integration of industry and education. Higher vocational colleges should strengthen cooperation and exchange with enterprises, take improving students' practical operation ability as the goal, create a perfect curriculum system of big data technology and application specialty, promote the integration of multi-industry and multi-enterprise, and fully show the characteristics of big data technology and application specialty. Big data technology in China is developing rapidly, but the development of industry is uneven, the degree of data opening is insufficient, and the related technology lags behind, especially in the field of big database technology and data mining technology. In order to promote the integration of industry and education, the development situation of the industry should be deeply analyzed when establishing the curriculum system of big data technology and application specialty.

(i) Create a training platform based on big data teaching. Higher vocational colleges should establish and perfect teaching system of big data technology and application specialty, promote the optimization and adjustment of teaching platform, select high quality enterprises to carry out

cooperation and exchange, create scientific and reasonable practical learning platform, and provide students with practical operating conditions. Select appropriate practical platforms and language tools. In the teaching of big data technology and application specialty, students are required to master a lot of professional knowledge, and students are required to apply distributed parallel computing and Hadoop technology to improve students' professional ability. Big data technology and application major involves many fields, technology and tools have diversity characteristics, students are

(i) Reform of the teaching model. In the teaching of big data technology and application specialty, in order to combine theory teaching with experimental teaching method effectively, it is necessary to optimize and adjust the teaching mode, and adopt autonomous, research and team teaching methods. In order to innovate the experimental teaching method, the students can choose the experimental subject independently, strengthen the cooperation in the experiment process, divide the whole class into 2~4 people, make the perfect experiment plan, participate in the experiment process together, Make a summary report after the experiment is completed. Through innovative experimental teaching methods, students' ability of independent inquiry, experimental design, analysis and summary can be improved. In big data experimental teaching, we need to fully apply the academic frontier research results. Therefore, we can combine the experimental teaching model with scientific research to fully stimulate students' learning enthusiasm and subjective initiative. Constantly improve the ability to analyze and solve problems, cultivate innovative spirit.

(iv) Reform of the teaching model. In the teaching of big data technology and application specialty, in order to combine theory teaching with experimental teaching method effectively, it is necessary to optimize and adjust the teaching mode, and adopt autonomous, research and team teaching methods. In order to innovate the experimental teaching method, the students can choose the experimental subject independently, strengthen the cooperation in the experiment process, divide the whole class into 2~4 people, make the perfect experiment plan, participate in the experiment process together, Make a summary report after the experiment is completed. Through innovative experimental teaching methods, students' ability of independent inquiry, experimental design, analysis and summary can be improved. In big data experimental teaching, we need to fully apply the academic frontier research results. Therefore, we can combine the experimental teaching model with scientific research to fully stimulate students' learning enthusiasm and subjective initiative. Constantly improve the ability to analyze and solve problems, cultivate innovative spirit.

(v) Reform of assessment methods and evaluation mechanisms. Through the analysis of the

theoretical knowledge and practical teaching contents involved in the teaching of big data technology and application specialty, in order to stimulate students' interest in learning and improve students' learning ability, it is necessary to create a diversified assessment and evaluation method. In the evaluation of basic theory teaching, the written closed examination method can be used to investigate the mastery of students' professional technology and methods. In order to evaluate the students' practical operation ability, it is necessary to design the examination items and make the task index reasonably. After organizing students to participate in the examination activities, the students' assessment results are summarized and analyzed by the standard group to determine the students' assessment results. For innovative experiments, teachers can propose experimental projects, or students can draw up experimental projects on their own, and optimize the design of the experimental scheme. Students can independently complete the production of works, and after the design is completed, Make design report by scientific research paper or technical summary^[3].

Conclusion

To sum up, in the era of big data, higher vocational colleges should attach great importance to the teaching of big data technology and application specialty, and train high quality professional and technical talents for the society. In the construction of big data technology and application specialty curriculum system, we should not only combine computer specialty curriculum with other courses. At the same time, we should consider the market demand and the present situation of technology research.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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