

Research on the Reform of“Teachers,Teaching Materials and Teaching Methods”in Undergraduate Vocational Education in the Digital Era:Taking Network Engineering Technology Major as an Example

Yuwei Yao, Ruilin Zhang, Liangyi Liang, Nengling Jin

Guangdong Business and Technology University,Zhaoqing City,Guangdong Province,526060

Abstract: This paper takes network engineering technology major as an example to study the reform of“teachers,teaching materials and teaching methods”in undergraduate vocational education in the digital era.It is found that there are some problems in teaching content,teaching method and application of teaching resources in the reform of“teachers,teaching materials and teaching methods”of undergraduate vocational education in the digital era.It is proposed that we should start from four aspects:enhancing students’learning initiative,updating teaching content,enriching teaching methods and resources,and strengthening the construction of teaching staff to reform teaching content,improve teaching methods and resources,and cultivate high-quality technical and skilled talents through the construction of“Internet+”quality curriculum,the construction and application of digital resources.

Keywords: Digital age;Vocational education,Reform of“teachers;Teaching materials and teaching methods”

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1. Introduction

With the rapid development of information technology and the deepening of digital transformation,the digital era has quietly arrived.In this era,as a bridge connecting school education and career development,undergraduate vocational education is facing unprecedented opportunities and challenges.Especially in the field of network engineering technology,the rapid updating and iteration of technology requires vocational education not only to impart knowledge,but also to cultivate students’practical ability and creative spirit.In order to cope with this change,undergraduate vocational education must carry out in-depth reform of“teachers,teaching materials and teaching methods”,reform of teaching content,reform of teaching method and reform of construction of teaching staff.As a typical technology-intensive major,the teaching reform of network engineering technology is more representative and urgent.Therefore,this study takes network engineering technology major as an example to deeply explore the reform strategy and practice of“teachers,teaching materials and teaching methods”in undergraduate vocational education in the digital era.

Through the analysis of students’learning initiative,we can better understand students’learning needs and motivation to provide a basis for the reform of teaching content and methods.At the same time,the reform of teaching content and course system is the core of improving the quality of education,and it is necessary to closely combine the needs of the industry and the development trend of technology to build a course system that meets the requirements of The Times.The construction of teaching methods and resources is an important means to realize the modernization of education.The introduction of advanced teaching technology and resources can improve the teaching effect and learning experience.The construction of teachers is the foundation and guarantee of the whole reform.Only a high-quality and professional teaching team can ensure the smooth realization of reform goals.

2. An Analysis of Students' Learning Initiative

Undergraduate vocational education is a new education model that aims to cultivate technical and skilled talents, and carries out educational and teaching activities, reforms, and innovations in education and teaching in response to social, market, and industry and enterprise needs. Its main feature is the deep integration of the working process of enterprises with the training process of talents in colleges and universities, focusing on the cultivation of practical ability. Under the background of digital era, with the adjustment and upgrading of national industrial structure and the rapid development of information technology, enterprises have put forward higher requirements for technical and skilled personnel. As a vocational education personnel training base at the undergraduate level, vocational colleges and universities must improve the quality of personnel training.

In the digital age, students' learning initiative is mainly reflected in three aspects: The first is self-motivation, students have a certain initiative for learning, can take the initiative to learn and solve problems spontaneously; The second is teamwork. In the process of completing tasks, students improve their ability in close cooperation with an appropriate division of labor; The third is active exploration, students will want to explore what they are interested in.

At present, the talent training plan of network engineering technology major does not clearly put forward the cultivation of students' learning initiative. In the specific teaching process, many students lack initiative in the learning process due to the large amount of course tasks and few class hours. In the course of network engineering technology, it is 4:6 that the proportion of theoretical teaching and practical teaching, and the theoretical teaching of network engineering technology accounts for 40% of the total class hours. It is 4:6 that the proportion of practical teaching and theoretical teaching of network engineering technology, which is significantly lower than that of other ordinary undergraduate colleges and universities.

3. Teaching Content and the Reform of Course System

The major of network engineering technology is a new emerging major in the field of information technology in our country. It takes the configuration, deployment and application of network equipment as its main teaching content, and requires students to have strong programming ability, practical ability and innovative ability. With the rapid development of information technology, the new generation of information technology is gradually applied to all walks of life, and its requirements for talents are getting higher and higher. At present, the teaching content and curriculum system used by the network engineering technology major of undergraduate vocational education cannot keep up with the requirements of the current economic and social development for personnel training, and it is in urgent need of reform.

Network Engineering Technology is a new major added in 2019. As application-oriented institutes, it is necessary to reform the teaching content and curriculum system according to the training objectives and service orientation of application-oriented undergraduate talents. Under the background of digital age, information technology should be used to promote the updating, optimization and reorganization of course content according to the characteristics of undergraduate vocational education. Under the background of digital age, teaching content reform should be carried out according to students' learning characteristics and teaching rules. At present, students majoring in network engineering technology have poor learning initiative and can't take the initiative to participate in curriculum construction and classroom teaching. Therefore, it is necessary to reform the teaching content through the construction of "Internet+" quality courses and the construction and application of digital resources.

4. Teaching Method and Resource Development

Teachers should change the traditional teaching mode and enhance students' learning initiative, make full use of the Internet and information technology to carry out online and offline blended teaching, strengthen students' independent learning ability, and let students change from passive learning to active learning, and truly internalize the knowledge in books into their own knowledge. We will actively develop new teaching models such as flipped classroom and cloud classroom. Teachers should assign preview tasks before class, and adopt a "task driven, project oriented" teaching method in class, and use projects as carriers to design course content and guide students to learn knowledge in projects. At the same time, students are encouraged to apply their knowledge to practical operations in real engineering projects. In the classroom, flipped classroom, cloud classroom and other new teaching models are adopted to carry out online and offline blended teaching using new media technology. Teaching resources are provided online to support students' autonomous learning; Practical operations are carried out offline to train students' ability and enhance students' professional demeanor.

It is necessary to improve the construction and application of digital teaching resources. The school and enterprises can cooperate to build a number of school-enterprise cooperative industrial colleges to introduce advanced production management mode, technical standards and production technology of enterprises in engineering practice, guide students to participate in project implementation in

course design,internship and training,and stimulate students'learning interest through real enterprise projects;The school can cooperate with enterprises related to network technology to build a number of shared teaching resource libraries,and develop and promote high-quality education resources such as online open courses and online teaching resources,and organize professional teachers to create high-quality teaching resources such as micro-lessons and online open courses,and carry out shared application work.

5. The Construction of Teaching Staff

In the digital age,it is particularly important that the construction of teaching staff of undergraduate vocational education.It is imperative to strengthen the construction of teachers in order to train the high-quality engineering and technical talents who meet the needs of The Times.We have taken a series of measures to continuously improve teachers'professional practice ability and technology application ability.Firstly,we actively introduce high-level technical talents from enterprises in the industry,and their joining has injected fresh blood into the teaching team,bringing rich practical experience and cutting-edge knowledge of the industry.At the same time,we also employ industry and enterprise personnels as professional leaders,through their guidance and demonstration,to drive the development of the entire faculty team.Secondly,we deepen school-enterprise cooperation and build a double-position teacher training base.This initiative not only provides more practical opportunities for teachers,but also promotes resource sharing and complementary advantages between enterprises and schools.Through school-enterprise cooperation to build training bases,establish teacher training centers,and introduce the research and development teams of enterprise projects,we continue to improve teachers'practical teaching ability and scientific research ability.

In addition,we have also formulated a scientific and reasonable promotion system and evaluation mechanism.These systems aim to stimulate teachers'enthusiasm in practical teaching and encourage them to actively participate in specialty construction and teaching reform.For teachers who have achieved excellent results in practical teaching,we will give recognition and awards,and set them as role models to stimulate the competitiveness and creativity of the whole teacher team.

6. Conclusion

With the in-depth development of the digital age,undergraduate vocational education is facing unprecedented opportunities and challenges.This study takes network engineering technology major as an example to conduct an in-depth discussion on the reform of"teachers,teaching materials and teaching methods"in the digital era,aiming at improving the quality of education and teaching and cultivating high-quality engineering and technical talents who meet the needs of The Times.Through the analysis of students'learning initiative,we realize the importance of students'subjectivity and sense of participation in education reform.In short,the reform of"teachers,teaching materials and teaching methods"of undergraduate vocational education in the digital era is a systematic project,which needs the joint participation and efforts of the whole society.Only by deepening the reform and innovating the mode of education can we train more high-quality engineering and technical talents in line with the needs of The Times and provide strong support for the economic and social development of China.

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