

Research on Digital Training in Higher Vocational Colleges under the Perspective of Human and Technology Integration

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Abstract. Digital training is the practical application of digital technology in vocational training in higher vocational colleges. At present, vocational training in higher vocational colleges is at an important node of the leap from traditional training to digital training. The concept of human and technology integration helps us to grasp the practice law and development trend of digital training with multi-dimensional goals, co-construction of main body, digital governance and cultural symbiosis. In the future, the key task of digital training in higher vocational colleges is to pay attention to the ethical direction of digital technology, adhere to the integrated development of technology and humanities, build a data governance mechanism of multi-party collaborative innovation, and realize the reform of digital governance mode and means innovation.

Keywords: higher vocational colleges; digital training; digital governance

1 Introduction

Digital training is the practical application of digital technology in vocational training in higher vocational colleges, and has gradually become the main training form in the era of artificial intelligence. It is the product of the deep integration of digital technology and vocational training, and the key force to change the content of vocational training in higher vocational colleges and reshape the pattern of vocational training in higher vocational colleges. Party and state leaders attach great importance to improving the digital literacy and skills of the whole people. When General Secretary Xi Jinping presided over the collective study to promote the healthy development of China's digital economy, General Secretary Xi Jinping stressed that "we should improve the digital literacy and skills of the whole society of the whole people, and consolidate the social foundation for the development of China's digital economy"^[1]. As the cradle of digital skills talents, higher vocational colleges take multiple measures to provide intellectual support for promoting the digital literacy and skill improvement of the whole people. Digital training is an important part of many measures. Therefore, it is necessary to clarify the reform logic and practice path of digital training in higher vocational colleges.

2 The era connotation of digital training

A major breakthrough in high-quality vocational training lies in the digital transformation. From the industrial era to the intelligent era, with the opening of the first year of 5G commercialization, China has gradually entered the era of digital economy and digital society. "Made in China 2025" put forward by manufacturing power to manufacturing power, the core concept is intelligent manufacturing, the drive of industrial structure adjustment of the adjustment of talent structure, talent structure adjustment of intelligent vocational training and digital orientation, vocational college training goal to focus on compound technical skills of digital literacy training.

Digital training is a new type of training in the context of high quality development and high quality education. The connection between the supply side and the demand side of vocational training expects the application of digital technology. The goal of digital economy is to realize the whole process of digital transformation of training direction, content, measures and evaluation means. Higher vocational colleges will complete the reform of training teachers, teaching materials, teaching methods and evaluation through the support of digital technology, cultivate high-quality technical and technical talents with digital literacy, and serve the digital and intelligent regional economic development.

As the main force of vocational training, higher vocational colleges play a key role in the construction of the national education system and the development of human resources. The digital training of higher vocational colleges can be defined as the digital reform of the actual production position based on the intelligent era, the supply and demand of training through digital technology, the digital management system and data governance mechanism of training, and the digital reform of training objectives, content, methods and evaluation. "Lifelong learning is an important support for the sustainable development of highly skilled talents in the digital age. Therefore, the digital transformation of vocational education needs to be effectively combined with the lifelong learning system."^[2] Integration of digital technology, data management, digital literacy and skills training as one of the lifelong skills training, its personnel input and output, process, technology and data reveal digital characteristics, digital training architecture, cultural values and interactive environment, form a network of digital training social system.

3 The practical logic of digital training

At present, vocational training in higher vocational colleges is at an important node of the leap from traditional training to digital training. The concept of human and technology integration helps us to grasp the practice law and development trend of digital training with multi-dimensional goals, co-construction of main body, digital governance and cultural symbiosis.

(1) Top-level design based on multi-dimensional objectives

"China's digital skills protection system for the low-skilled labor force should focus on equalizing the construction of digital infrastructure, improving the accessibility of appropriate digital education and training opportunities, and building an inclusive digital employment

atmosphere."^[3], Digital training is more diversified than the traditional training objectives, pointing to the digital socialization, digital subjectivity and digital qualification of the trainees respectively. Vocational training affects and catalyzes people in an open qualification framework,"We can draw from the European Digital Competence Framework for Citizens developed by the European Commission"^[4], helps the trainees to maintain their true life in the complex digital media and digital social networking in the intelligent era, and enhances the ability of adapting to the digital society. Vocational education emphasizes the standardization of professional learning, template and mandatory, and vocational training is not mandatory, is to meet the needs of trainees self, digital training pay more attention to personalized, customization, emphasize open, emphasis on bear, this is the subjectivity of digital training, aims to discover students' self consciousness, creative consciousness and responsibility consciousness, and these are intelligent machine does not have the quality. At present, vocational training in higher vocational colleges mainly trains the single skills of trainees according to the government's mandatory plan, and then evaluates them through skill appraisal or examination, and fixed the evaluation results in the form of certificates, so as to obtain the corresponding training subsidies. The goal of traditional training is relatively single, and the goal of digital training is cross-border diversity. In addition to certain professional skills training, cross-border training of digital literacy and skills is also needed, and comprehensive literacy training to adapt to the digital economy and society. Entering the era of digital intelligence, it will widely apply digital technology, which will generate more demand for digital qualification. Employees should not only obtain professional qualifications of certain professional skills, but also obtain cross-border digital literacy and skills, and have comprehensive professional adaptability.

(2) Organizational construction based on diversified subjects

"The UK government, employers and education and training providers undertake different levels of digital skills education and training initiatives"^[5], Digital training requires multiple subject participation, including government departments, industry enterprises and society, higher vocational colleges and social training institutions of training alliance, related research institutes and institutions and trainers of the subject, the biggest subject of digital training is still in higher vocational colleges, involving training management department, training department, security department and a line of training teachers. In the training community of multiple subjects, the content, method and evaluation of digital training are promoted through the process of value co-creation.

At present, most of the training organizations in higher vocational colleges are hierarchical management, with clear organizational boundaries, relatively solidified responsibilities and rights, complicated work process, and relatively low work efficiency. Digital training requires that training organizations are borderless organizations, an efficient organization based on digital technology, which can adhere to the service purpose and coordinated guidance, and implement flat management.

(3) Structural innovation based on governance digitalization

Current training management mechanism in higher vocational colleges is not sound, the needs of trainees and vocational colleges admissions, education institutions is not enough active training, training courses and resources, no comprehensive pertinence and applicability, educators practice teaching ability is not strong, especially the imperfect training management

mechanism has seriously restricted the development of high quality training in higher vocational colleges. The evolution of digital technology requires vocational training to shift to digital management and data governance, and promotes the organizational management system, functional responsibilities, business process and operation mode of vocational training to passively enter the revolutionary changes. Therefore, higher vocational colleges need to build scientific and reasonable digital management structure, through the formulation of scientific and reasonable standardization process, with the help of efficient and orderly management platform, form the training organization system interaction and independent running data management mode, this pattern embodies the vocational training professional attributes and inherent regularity of management mechanism, with digital, networked and intelligent features.

(4) Field reconstruction based on cultural integration

The principle of education is to lead people to the origin, truth and foundation in all the existing cultural nourishment, rather than to be satisfied with the acquisition of mediocre knowledge. The purpose and environment of the training should be closely related to the cultural attributes. Now, it has become an indisputable fact that vocational training in higher vocational colleges, which integrates cultural attributes, embodies school culture, professional culture, quality culture, corporate culture, excellent traditional culture and the mainstream culture in the digital age. "There is the integration of on-campus resources and the integration of off-campus resources, which will inevitably bring about the diversified collection of culture"^[6]This multicultural collection is also the collection of diverse stakeholders and social capital. Digital economy under the condition of cultural capital and social capital, shaping the resilience tension of digital management and data management field, multiple training subject in cross-border fusion culture field, through the value of the stakeholders, output has the ideal digital literacy and skills of "qualification, socialization and subjectivity" talent.

4 Pathway selection for digital training

In the future, the key task of digital training in higher vocational colleges is to pay attention to the ethical direction of digital technology, adhere to the integrated development of technology and humanities, build a data governance mechanism of multi-party collaborative innovation, and realize the reform of digital governance mode and means innovation.

(1) The degree of digital ethics: highlighting the value orientation of the integration of human beings and technology

The digitization of higher vocational college training will help solve the problem that educational technology lags behind the age of intelligence, but the profit-driven nature of digital technology has the risk of interfering with the educational function, such as people's concern that chatGPT hinders people's thinking. "Education in artificial intelligence

The application should adhere to the pedagogy-oriented, rather than the technology-oriented of artificial intelligence algorithm. What kind of education we want to decide what kind of algorithm to use, rather than the algorithm we use to decide what kind of education to form.^[7], Digital technology will generate new industries and profit growth points. Digital training

should avoid the supremacy of interests and technology dependence, and should not ignore the life value and social value of training work.

As an important part of the education system, vocational training must play a good role of humanity. "The core of teacher existence is not technical artificial objects but" relationship ", and the mode of function of technology must highlight the existence of teachers.^[8] The leading role of teachers cannot be materialized into technical tools. Digital training in higher vocational colleges research will effectively organize training resources, with skills as the foundation, powered by digital technology, fusion of virtual and reality, strengthening reality, digital twin, human-computer interaction technology, improve the efficiency of training, and support the development of data management system, but the digital training cannot ignore the training humanity and uncertainty.

(2) Technology and humanities orientation: green training focusing on the integration of technology and humanities

Digital training in higher vocational colleges should avoid focusing on technical rationality, adhere to the integration of technology and humanity, and take the road of green training. The development direction of digital technology is not naturally consistent with human nature. At most, it serves for the realization of human life growth, paying attention to monitoring data and forecasting data, so as to facilitate scientific decision-making in education. However, the digital development direction of higher vocational college training should be consistent with the human nature. "People's ability to control knowledge production machines should grow simultaneously with the production capacity of intelligent machines"^[9] Although the school culture and school system sometimes lag behind the development of educational technology, its goal is committed to the improvement of human nature and the growth of life is unchanged. Whether it is academic education or vocational training, knowledge and skills are not the ultimate goal of education, but the ultimate goal is still directed to the all-round development and growing people.

The ultimate goal of the training needs the support of the social system and the support of the culture, and the digital technology person culture and the digitalization of humanistic education should be integrated. "People actually consciously or unconsciously fall into a 'cover in a song' situation. This song is 'scientism ', and its main content is 'positivism' and 'rationalism'. Between the scientific characteristics of pedagogy and cultural character are not opposed in a general sense, but organically combined."^[10] Therefore, the integration of technical and cultural digital training in higher vocational colleges should be a trend. In other words, the digital training of higher vocational colleges should not follow the old path of technical value first, but should have humanistic feelings, focus on the humanistic quality training of the trainees, and explore the vocational training for everyone and suitable for everyone under the humanistic threshold of life and personality, culture and diversity, unity and shared responsibility.

(3) The degree of digital governance: to build a multi-dimensional and collaborative co-governance and sharing mechanism

Digital education and training is the premise of digital teachers have digital literacy main body, related training organizations should actively participate in foreign training activities and provide technical support, related to the field of the domestic famous digital technology

experts, jointly create digital training package, for trainers digital training, and professional and technical personnel to explore the competent department of digital training certificate and continuing education credit assignment method, training teachers of digital literacy training digital certification, promote the digital training process elements convenient flow."Through the path of 'skill demand prediction-skill status assessment-skill supply coverage', a dynamic, personalized and practical digital skills training system for the whole life cycle of workers has been established"^[11], Focus on the personalization and customization of the trainees' needs. Both the trainers and the trainees' digital capacity improvements rely on digital governance.

Implement a comprehensive and dynamic governance and evaluation system."The focus of data governance is to establish a sound system of rules."^[12]. The vocational training evaluation system will be closely related to the requirements of training certification, credit conversion, training subsidy and so on, and the big data evaluation system under the guidance of digital technology theory will complete the training evaluation more scientifically."Promote data-based educational decision-making, such as improving school management processes through data such as student behavior"^[13].The monitoring, prediction and other functions of educational big data can also contribute to the precise management of educational managers and overcome the problem of limited and rational information asymmetry. Data governance should not only serve the whole process of subsidized training and digital certification, but also serve the supply and demand connection of market training and the tracking feedback of lifelong skills training, and integrate into the whole industry chain of vocational training.

(4) Interaction of digital training: an evaluation mechanism based on students 'feedback and teachers' digital literacy and skill improvement

The evaluation of the effectiveness of digital training is a multi-dimensional process, which aims to measure whether the training activities have achieved the expected goals and effects. The core indicators of the evaluation include the improvement of students' digital literacy and digital skills, as well as the ease of operation and convenience of digital technology training means. We can obtain direct information about the effectiveness of digital training by conducting regular assessments and collecting feedback from trainees. These data can help us understand the actual effects of the training, including student satisfaction, knowledge mastery, and the application of digital skills. Training institutions should pay enough attention to the feedback and evaluation results of the students, and make timely responses, including adjustments to the training content, methods, materials, time arrangement and other aspects. "The survey showed that students actively promoted the exchange of experiences between different learning places and performed better in school"^[14].Training institutions can improve the attractiveness and practicability of digital training by introducing new training techniques and methods, updating training content, adjusting training forms, etc. More personalized training plans can be formulated to improve students' interest in learning and training effect.

The impact of digital training on the teacher role is significant, which not only changes the teaching style of teachers, but also improves the teaching efficiency and quality of teachers. First of all, we should improve the digital literacy of teachers and realize the digital transformation of teaching skills. Teachers need to understand and master the use of various digital tools and platforms, have the ability to screen, evaluate and use network resources, and encourage students to use digital tools for creative thinking. Teachers can make more effective

use of digital tools and resources to create a richer, interactive and personalized learning environment to improving students' learning outcomes and satisfaction.

5 Conclusion

Under the perspective of human and technology integration, the digital training of higher vocational colleges is based on humanistic ethics, and has two characteristics: platform digital innovation and digital innovation of governance mode. Digital governance means need a digital management platform, and the improvement of digital skills needs an AI-enabled practical training platform. In the era of artificial intelligence, digital training in higher vocational colleges should adhere to the bottom line of ethics, adhere to the integration development of technology and humanities, build a data governance mechanism of multi-party collaborative innovation, and realize the reform of digital governance mode and means innovation.

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