Research on the Influencing Factors of Vocational Education Talent Cultivation under the Background of Digital Transformation

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Abstract: Research and analyze the impact of digital transformation on talent cultivation in vocational education, and explore new paths for talent cultivation through the new problems and requirements faced. On the one hand, digital transformation poses new challenges and impacts on vocational education, and it is necessary to analyze how to carry out a comprehensive and full process digital transformation of vocational education; On the other hand, digital transformation brings new technologies and norms, and it is necessary to explore how to match talent cultivation with social needs. Focus on analyzing the impact of talent cultivation content, teacher teaching ability, and student education effectiveness on talent cultivation, construct a three-in-one cultivation path of “top-level design implementation approach effectiveness testing”, integrate digital transformation into the actual education process, and cultivate “moral and technical” talents, laying a solid foundation for the development of college students.

Keywords: Digital transformation, Vocational education, personnel training.

1. Introduction

In 2022, the Ministry of Education clearly proposed “implementing the strategic action of education digitalization” in its work priorities, requiring accelerating the transformation and intelligent upgrading of education digitalization, strengthening demand traction, deepening integration, innovation empowerment, application driven, actively developing "Internet plus education", and accelerating the transformation and intelligent upgrading of education digitalization. The "Promotion of Education Digitalization" was included in the report of the 20th National Congress of the Communist Party of China, indicating the direction and clear path for the future development of education. With the continuous progress of information technology, social development has entered the digital era, and the integration of education and information is also developing in depth. As an important component of the education system, vocational education is more closely related to industrial needs, closely linked to socio-economic development, and more contemporary and applicable in the digital transformation stage.

2. The Problems Faced by Vocational Education in the Context of Digital Transformation

The rapid development of digital technologies such as the metaverse, cloud computing, big data, the Internet of Things, and virtual reality has led to rapid progress in social development, posing new requirements and challenges to human digital capabilities, and promoting comprehensive and profound changes in the field of education. Vocational education has inevitably ushered in a wave of digital transformation. International education has taken the lead in the development of the digital era, and will enhance digital literacy, cultivate digital skilled talents, build digital platforms, and develop digital resources as important means of digital transformation in vocational education. We will carry out digital transformation in all aspects and at a deep level, and use digital advantages to solve new challenges and problems faced by vocational education.

2.1 Poor Quality of Student Employment

In the process of talent cultivation in universities, there has always been a problem of lagging behind social needs. Under the influence of digital industrial transformation, various job positions faced by students are also undergoing changes. The level of information technology and automation in these positions has significantly improved, and the required skill levels have become more intelligent and multidimensional. More and more job positions and work processes are being replaced by machines, resulting in significant changes in the employment environment for students. Utilizing digital transformation to connect with school talent cultivation and job skills needs, how to make the trained people more in line with social needs, has become a new problem faced by vocational education in the context of digital transformation. The result of talent cultivation that deviates from the actual needs of society is inevitably a low quality of employment. Faced with the challenges of the digital age, utilizing digital advantages in a reasonable manner can assist in talent cultivation and improve the quality of employment. On the one hand, digital teaching resources can be used to align with job requirements, in order to adjust professional settings in real-time and improve the adaptability of talent cultivation and positions. On the other hand, design talent cultivation plans based on actual job requirements, utilize the characteristics of digital resource sharing, and break through the difficulties of insufficient flexibility, slow and timely information interaction, location constraints, and weak resource integration in the development of school enterprise cooperation. Realizing real-time interaction between the
"school enterprise dual scene" in teaching, full process and all-round participation of the "school enterprise dual subject" in job internships, timely sharing of supply and demand information and real production case resources between schools and enterprises, and a positive environment for the construction of a virtual professional development community for school enterprise personnel. Under the conditions of deep digital integration and development, vocational colleges can not only highly adapt to the job requirements of enterprises, but also comprehensively improve the quality of students' employment and achieve better employment results.

2.2 Insufficient Application of Teachers' Normalized Digital Education Resources

In the context of digital transformation, the intelligence and complexity of job skills have significantly increased. As the main force in cultivating technical and skilled talents, teachers must master new teaching techniques and new skill process concepts. On the one hand, in the process of classroom teaching, it is necessary to use information-based teaching methods to enhance classroom participation and fun, and integrate the information and job experiences brought by new technologies; On the other hand, we will strengthen the construction of online educational resources to achieve a learning environment that allows for anytime, anywhere learning, pre class autonomous learning, and post class knowledge consolidation. At present, teachers' information-based teaching methods are uneven, and it is difficult for old teachers to update their concepts and technologies. New teachers lack the ability to enhance their concepts, and further training and improvement are needed. Moreover, when utilizing established shared educational resources, emphasis is often placed on construction, while neglecting application, which cannot achieve a normalized state of application. The information technology updates and iterations centered on the Internet, big data, cloud computing, the Internet of Things, and AI continuously influence and promote teacher education and teaching work. Through the integration and application of digital technology and comprehensive empowerment, digital transformation and upgrading have greatly improved the quality of teacher education and teaching. By improving teachers' digital literacy and enhancing hardware conditions such as teaching facilities, a better educational environment can be provided for students.

2.3 Insufficient Digital Literacy of Students

The digital age is filled with a massive amount of digital information. As the successors of the new era, college students are at the forefront of facing the impact of the information explosion. Having the ability to process information and correctly obtain, filter, and integrate the information they need is the foundation for current college students to stand in the digital age. Digital literacy is a comprehensive concept that encompasses people's critical use of digital technology to acquire, understand, communicate, integrate, and create digital resources, while also possessing comprehensive abilities in security awareness and cultural literacy. In the context of digital transformation, vocational education, under the influence of technological empowerment, has achieved the updating of teaching equipment, while also strengthening the construction of digital network resources, bringing a better digital education environment to students. However, there is insufficient attention paid to the improvement of students' digital literacy and the training direction is not clear enough.

In the context of digital transformation, vocational education needs to not only improve the construction of hardware conditions but also integrate the cultivation of human digital literacy in the process of talent cultivation. On the one hand, digital devices and software can support students' various digital practices, and technologies such as virtual reality and artificial intelligence can provide students with an immersive learning experience. On the other hand, incorporating digital literacy education into talent development plans for various disciplines and majors, exploring the integration of digital literacy and professional courses, and cultivating students' ability to creatively use digital technology to solve practical problems in different contexts. These digital transformations can effectively enhance students' digital literacy and achieve the goal of better cultivating people.

3. Requirements of Digital Transformation for Talent Cultivation

With the rapid development of digital technology and the deepening of a new round of technological revolution and industrial transformation, more and more industries and positions have undergone digital upgrades, and the role of digitalization in empowering economic and social development is becoming increasingly evident. Various industries rely on digital technology to rapidly develop personalized customization and intelligent production models, promoting the continuous upgrading of enterprise positions. Vocational colleges must consider practical needs when cultivating talents and cultivate students' ability to hold relevant positions. In order to better address the challenges brought by digital transformation, vocational education needs to comprehensively improve from teachers, majors, and students, accelerate the promotion of education digitization, fully leverage the amplification, superposition, and multiplication effects of digital technology on the high-quality development of education, promote the precise matching between the supply of high-quality technical and skilled talents and social demand, and continuously improve the degree of vocational education adapting to the demand for modern industrial talents.

3.1 Vocational Colleges need to Optimize their Professional Settings for Digital Transformation

Digital transformation can effectively empower vocational education, support high-quality economic development and full employment. 70% of the newly added labor force in China every year comes from vocational colleges, 91% of graduates from higher vocational colleges are the first generation college students in their families, and a large proportion of vocational school students come from rural and urban families with economic difficulties. Vocational education plays an irreplaceable role in providing technical and skilled talents required for economic development and improving people's well-being. Therefore, digital transformation is a necessary and urgent task. Vocational colleges can effectively carry out this task through optimizing their professional settings.
transformation bears the significant mission of assisting vocational education in supporting the construction of an educational powerhouse, a human resource powerhouse, and a skilled society, and promoting socialist modernization construction.

Through digital transformation and reasonable optimization of professional settings, we aim to cultivate talents that better meet the actual needs of the social industry and continuously improve the quality of employment. In the wave of industrial digitization, vocational education must closely follow the transformation needs, connect with industry and vocational positions in professional settings, align with professional standards in professional course content, and connect with production processes in the teaching process. Deeply explore the matching degree between industry talent demand and professional talent cultivation in the context of digital transformation, establish relevant majors based on actual needs, and carry out new school enterprise cooperation models. Adopt diversified and multi subject project cooperation models, introduce advanced concepts, cutting-edge technologies, and data resource platforms from enterprises, and integrate them into the internship and training teaching process to achieve deep docking and coupling of school enterprise cooperation talent cultivation models.

3.2 The Digital Transformation of Vocational Colleges Requires Improving Teachers' Information Technology Capabilities

According to the "Report on the Development of Information Technology in Vocational Education" (2021 edition), with the gradual deepening of the integration of information technology and education, the information leadership of vocational school leaders, the ability of vocational school teachers to apply information technology tools, the research and innovation ability of information technology teaching, and the level of digital campus construction have significantly improved. The promotion of digital transformation in vocational education is rooted in the practice of digital transformation in vocational colleges. As the main way of talent cultivation, teachers can only better adapt to the needs of the times by continuously improving their digital teaching abilities. Based on the diverse sources of teachers in vocational colleges, a hierarchical and classified mechanism for enhancing the digital teaching competence of teachers is adopted to stimulate teachers' initiative and initiative in teaching innovation, and to shift from passive implementers of reform to leaders of digital transformation, forming the ability foundation for digital transformation of vocational education.

Through the comprehensive empowerment of digital transformation, on the one hand, it can transform teachers' traditional beliefs about the application of digital resources, and is no longer limited to traditional classroom teaching models; On the other hand, in the process of transformation, teachers will also face challenges in mastering digital technology and digital adaptability. If some teachers cannot proficiently use intelligent terminals or flexibly apply digital technology tools to carry out professional teaching, they need to learn through training to meet the needs of transformation. For vocational colleges, digital transformation is not only a passive adaptation formed by the development of digital technology and the changing demand for technical and skilled talents, but also requires teachers to actively change, play their own proactive adaptation, and fully utilize shared resources in order to complete corresponding teaching tasks.

3.3 Vocational Colleges' Digital Transformation Requires Improving Students' Digital Literacy

Cultivating 'people' who can live a high-quality life and excel in work in different eras is a constant demand of education, embedded in the overall system of social and economic development, making the digital transformation of education a necessary connotation for the overall promotion of social and economic digital transformation. Education urgently needs to stand in the new era context to answer questions such as what kind of people should be cultivated and how to cultivate them.

In the current environment, vocational education needs to better cultivate talents with both moral and technical skills. Therefore, in the context of the digital wave sweeping the world, talents with high digital literacy are urgently needed by enterprises. After the digital transformation, vocational colleges can cultivate digital citizens with the ability to live in a digital society by facing social life; Facing professional life, it can help individuals become digital workers with the knowledge, skills, and abilities required for a digital work world.

4. The Path of Digital Transformation to Assist Talent Cultivation

Vocational education should meet the needs of engaging in a certain profession and career development; Implementing vocational education should adhere to market-oriented approach and promote employment. So in terms of talent cultivation, it is necessary to align with job requirements and effectively transform new technologies, processes, and standards in the work process into vocational education curriculum content. The implementation of these contents requires the support of digital transformation.

In order to better cultivate talents, establish a three-in-one training path of "top-level design, implementation approach, and effectiveness testing". A comprehensive talent cultivation path, under the role of digital empowerment, can better connect with the top-level design of optimizing talent cultivation in enterprise positions. Good design needs to be implemented through the main path of teachers, while the effectiveness of education needs to be tested through a comprehensive evaluation system.

4.1 Utilizing Digital Educational Resources to build a New Model of School Enterprise Cooperation

The newly revised "Vocational Education Law of the People's Republic of China" stipulates that "vocational education implements government coordination, hierarchical management, local focus, industry guidance, school enterprise cooperation, and social participation." The mechanism for co-construction and sharing of digital education resources and platforms needs to be reshaped to address the current
inadequate adaptability of digital education resources and platforms to the diverse needs of teachers and students, the lack of new technologies and practical cases, and the insufficient personalization and reorganization of resources. The lack of interactivity and social participation, as well as the low level of co-construction and sharing between schools and enterprises, have formed the content support for the digital transformation of vocational education.

Vocational colleges rely on their experience and initiative in information technology construction to explore, jointly build, and share through the practical model of "school enterprise government practice research". With a bottom-up promotion logic, they promote the implementation of relevant strategic plans for digital transformation of vocational education and cultivate practical cases that can be demonstrated and promoted.

4.2 Utilizing the Characteristics of Digital Transformation to Empower Education and creating a normal state of Digital Teaching for Teachers

Through digital transformation, we aim to promote the optimization and reconstruction of the development concept, structure, function, and ecology of vocational education, empower vocational education, and form a more advanced and powerful form of teaching development and practice compared to previous historical stages. The core of digital transformation in teacher reform lies in the improvement of teachers' digital teaching abilities. Teachers need to have digital awareness, master information technology tools, and use intelligent teaching methods, which is the foundation for creating a normal digital teaching for teachers. Normal digital teaching requires a deep integration of information technology and subject teaching. In the teaching process, teachers should be able to continuously use digital technology to solve teaching problems, innovate classroom teaching models, and enable students to improve their ability to independently construct knowledge and comprehensive literacy such as innovation and cooperation in digital teaching.

4.3 Promote the Digital Transformation of Teaching Content and Innovate a Comprehensive Teaching Evaluation Model

The digital transformation of teaching content is to promote the timely transformation of new technologies, processes, and standards into teaching content that helps to cultivate digital literacy, human-machine collaboration intelligence, and "soft skills". Research the development of digital technology and the digital characteristics of the work world, actively explore the application laws of digital technology, the integration laws of digital technology and vocational education, and the cultivation laws of digital skilled talents, in order to enhance the personalized cultivation ability of vocational education technology skilled talents in the digital era.

The digital transformation of the comprehensive teaching evaluation model, that is, through the comprehensive empowerment of digital technology, promotes the teaching evaluation model for the cultivation of technical and skilled talents to move towards a new form of engineering learning alternation and multi-mode collaborative application supported by a mixed space, real-time switching and interaction between school and enterprise dual fields, and the creation of real work situations and complete workflow experiences supported by digital twin technology.

5. Conclusion

Digital transformation not only brings technological and methodological improvements to education, but also plays an important role in the use of innovative tools in the process of education. On the one hand, new technologies can increase students' participation in classroom education, and through virtual simulation and other technologies, better experience the key points of technical operation and adapt to job requirements. On the other hand, the normalization of digital teaching process can effectively record students' changes, comprehensively analyze the advantages and disadvantages of the training process, and provide good data support for subsequent optimization and continuous improvement. At the same time, using digital technology can also establish a multidimensional evaluation perspective, introduce enterprise and industry personnel to guide job practice, and more comprehensively improve the effectiveness of education.

References

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