

Analysis of the Internal Logic and Path of Education Digitisation for Economics and Management Majors in China's Higher Vocational Colleges

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ABSTRACT

Education digitisation is an important support for building an all-round digital China and a key project for promoting the development of high-quality vocational education. Therefore, at present, economics and management majors in vocational colleges face the problems of how to grasp opportunities from education digitisation and actively promote professional reform. Based on the characteristics of vocational economics and management majors, this study analyses the new requirements for these majors in the digital era. It further clarifies the intrinsic logic of these majors empowered by education digitisation from four logic perspectives: historical, theoretical, value, and technological logic. Accordingly, this study proposes a path for reform of these majors empowered by education digitisation in high-level vocational schools. Its elements include establishing a systematic concept of education digitisation, enhancing the service capacity for digitisation of industries, improving people's quality of life, building a digitised teacher team, and optimising the digitised teaching environment.

KEYWORDS

education digitisation; economics major; management major; higher vocational education; internal logic; path

Economics and management majors in higher vocational education are an important component of the modern vocational education system and are a key force for cultivating high-quality skills in the economics and management fields for industrial development in the new era and improving people's quality of life. However, in practice, economics and management majors generally face the problem of poor social recognition. According to the *2022 College Student Employability Survey Report* by Zhaopin.com, the employment rate of economics and management graduates is only 10.5%, which is far lower than the 29.5% for science majors and 17.3% for engineering majors. This is particularly evident in vocational education. Recently, the Chinese Ministry of Education announced the filing and approval results of higher vocational education specialty settings in 2024; among 5,052 majors cancelled, 2,635 (52.2%) were economics- and management-related majors, including big data and accounting, e-commerce, tourism management, marketing, and flight attendance. This is the result of oversupply caused by the blind expansion of economics and management majors in higher vocational colleges; however, it also reflects the incompatibility of professional talent training and service ability with industrial development and social needs. Especially in the context of industrial digital development, artificial intelligence has strongly replaced traditional jobs involving economics and management majors. Education digitisation not only provides digital tools and resources for these majors but also shifts

the overall education ecology and future development design of these majors. Therefore, it is inevitable for economics and management majors in higher vocational colleges to seize the opportunities brought about by the digitisation of education, actively carry out professional reform, and improve the quality of professional talent training and service abilities.

1 The Characteristics of Economics and Management Majors in Vocational Colleges and New Requirements in the Digital Age

1.1 Characteristics

Economics- and management-related majors belong to the field of humanities and social sciences. Because vocational education is characterised by close integration with the economy, it is divided according to matching occupations and posts, rather than according to the discipline system. However, according to the *Professional Catalogue of Vocational Education* issued by China's Ministry of Education, the related majors in the financial, trade, and tourism categories consider economics, management and service as their main objectives, which can be regarded as the economics and management majors of vocational education. Vocational economics and management majors have the following characteristics.

First, the nature of the major is social. Compared to natural disciplines, such as science and engineering, economics and management belong to the science of knowing and reforming human society. Economics and management majors classify and integrate social information and data to improve efficiency and generate value. Second, service objects are complex. Society is a complex system full of disorder, difference, randomness, fuzziness, and instability^[1].

Economics and management majors mainly serve people, rather than science and engineering majors. Compared with the universal law of natural science, people are independent individually, and their thoughts and behaviours are constantly developing and changing. Therefore, it is difficult to standardise consistency with the conclusion of definite reason.

Third, professional careers are service oriented. The main employment positions of economics and management majors in vocational colleges are management and service positions in the primary, secondary, and tertiary sectors, which belong to the scope of productive or life services. These graduates generally do not directly engage in production activities, but generate value by improving production efficiency and quality of life. Fourth, talent requirements are composite by nature. Compared to science and technology majors that focus on technical skills, jobs for economics and management majors place more emphasis on students' comprehensive abilities, requiring them to have strong coordination, arrangement, communication, and post-migration abilities based on professional skills.

Overall, the students majoring in economics and management have wide-ranging training specifications, comprehensive job capabilities, and long-term training. Therefore, teachers of these students must possess strong practical abilities. If students majoring in science and technology strengthen their abilities through extensive practical training, then students majoring in economics and management can improve through extensive social practice.

The difficulty level of training qualified economics and management students is higher than that of training eligible science and technology students. Vocational education often targets specific occupations and positions to carry out talent training; however, students majoring in economics and management tend to have less obvious technical features upon graduation because of their own major characteristics, making the visible effects of talent development less prominent. Therefore, they are often labelled as incompetent.

1.2 New Requirements in the Digital Era

1.2.1 Changes in Major Positioning by Industrial Digitisation

Vocational education is the type of education most closely linked to the economy and society. Development of majors must align closely with industrial development. With the advent of the digital age, the deep integration of big data, the Internet, and artificial intelligence with production and life has not only powerfully promoted the optimisation and upgrading of industries, but also had a profound impact on people's lives. Industrial digitisation has become a new trend and has introduced new requirements for the positioning of economics and management majors. First, from the perspective of industries, the integrated development of the digital and real economies has given rise to cross-border integration between industries. Traditional industrial boundaries are blurring, and new business forms continue to emerge. Based on the development of the tertiary industry, economics and management majors should also strengthen the connection to new business forms brought about by cross-border integration, such as the two-way empowerment of industry and 5G, and the rapid development of service-oriented manufacturing. Second, from the perspective of industrial chain development, digitisation brings not only the need for extended development of the industrial chain but also the overall improvement of the industrial chain; fine management and customised small-batch production have become a new trend, requiring higher-level management capabilities. Third, from the perspective of management objects, industrial digitisation has led to the management of knowledge-based workers. Peter Drucker, a management guru, has pointed out that 'The most important management in the 21st century will be the management of knowledge workers'. The management of knowledge-based workers is more complicated than that of skilled workers. Fourth, from the perspective of living needs, digitisation has effectively improved people's quality of life, and their demand for a better life is increasing. Therefore, those engaged in the industry face higher requirements in terms of knowledge depth, aesthetic ability, and so on. Therefore, the need for fine management of effective service industries and the greater demand by people for a better life are the new positions that economics and management majors must adapt to in the digital era.

1.2.2 Changes in Talent Training Specifications Improving Digital Capability Requirements

From the perspective of the main job requirements for talent, economics and management majors collect and process information and data, and optimise management objectives to improve efficiency. In the digital era, many data-collection positions have been replaced with information tools. Strengthening the analysis, processing, and summary of information, thereby providing effective support for decision-making, has become the core feature of the competitiveness of economics and management talents. Taking accounting majors as an example, information technology has transformed the personnel structure of traditional financial departments, and basic accounting work has gradually been replaced by financial robots. Accounting has changed from single financial accounting to comprehensive operational analysis, and from providing only financial data to integrating industry and finance. Alongside the shift from traditional accounting, accounting, and account submission as the main body to front-end business and financial integration process management and back-end financial data analysis and application, there are increasing numbers of financial personnel engaged in business cooperation, reporting, planning, budgeting, forecasting and other business work as well as other professional financial personnel working on financial and commercial big data analysis, significantly increasing cost management. The massive amount of information reserves and processing pose a challenge to the training of economics and management professionals. The primary trend in the development of the economics

and management fields is the skilful application of data-collection tools and effective information processing. Therefore, the essence of economics and management majors in the digital era is based on the digital economy as the premise, with economics and management theoretical knowledge as the basis, economics and management data as the platform, and artificial intelligence as the support to form economics and management activities that feature human–computer symbiosis, collaborative evolution, and management empowerment. This would meet the needs for economics and management data analysis and auxiliary decision-making information. It would require greater skills of students in logical and critical thinking abilities.

1.2.3 Changes in Teachers' Roles by Autonomous Ubiquitous Learning

The digital age has resulted in changes in teaching time, spaces, and methods. Students' acquisition of knowledge and skills is no longer limited to traditional classroom teaching methods. Autonomous and ubiquitous learning has become an important means, and the role of teachers has shifted from 'communicator' to 'guide' and 'evaluator'. Autonomous learning advocates that teachers respect students' unique experiences but not blindly follow them. 'Cramming' and 'laissez-faire' are not truly autonomous learning. Teachers should change from 'leading students' to 'helping students' and then 'allowing students to do it themselves'; they should change from 'putting pressure on students' to 'giving them motivation', and using incentives, encouragement, and appreciation to promote students' proactive development. As equals, teachers should serve as judges in equal exchanges and 'chiefs' in heated arguments. Therefore, teachers engaged in economics and management in the digital age must undergo an overall upgrade in terms of their knowledge comprehensiveness, depth, and systematicness. They also need to make significant breakthroughs in their tight integration with industries and markets as well as their real-time connectivity. In addition, they should possess strong digital awareness and application capabilities in digital tools, and be able to guide, recommend, and help students make judgments, summarise, and conclude.

2 The Intrinsic Logic of Education Digitisation Empowering Economics and Management Majors in Higher Vocational Education

2.1 Historical Logic

Chinese President Xi Jinping pointed out that 'education digitisation is the significant breakthrough for our country to create a new track and new advantage for educational development' ^[2]. The reform of vocational education is closely related to industrial development, and the study of digitisation of vocational education must be analysed in conjunction with industrial digitisation ^[2].

2.1.1 The Embryonic Stage

The National Strategy Planning for Informatisation Development Strategy (2006) proposed promoting industrialisation with informatisation and promoting informatisation with industrialisation, adhering to the policy of reform and opening up and scientific and technological innovation as driving forces to vigorously promote informatisation, providing policy support for enterprise information construction and initialising the formation of digital awareness. During that time, China was in a period of deepening reform and opening up, and many enterprises gradually realised the importance of information technology and digital tools; however, the scope of application was limited, mainly concentrated in the basic business areas of finance and sales ^[3].

Enterprises initially invest in basic IT facilities and attempt to establish basic information management systems such as enterprise resource planning systems, mainly focusing on changes in data processing methods. For example, economics and management software simplifies the process of data entry and analysis, provides more powerful data visualisation and reporting functions, and makes work related to economics and management more intuitive and efficient ^[4]. For example, Huawei introduced and implemented enterprise resource planning systems in the early 1990s to optimise its financial and supply chain management. With the transformation of enterprise informatisation, the state has issued such policies as the *National Medium-to-Long-Term Education Reform and Development Plan (2010 – 2020)* and *Opinions on Accelerating the Development of Information Technology in Vocational Education* to accelerate the strategic deployment of educational informatisation. Vocational education began to adjust the corresponding curriculum, adding such courses as computer basics and information management, teaching students basic computer operations and information system concepts, and introducing basic digital tools for teaching, such as office software and e-mail systems. Simultaneously, the information literacy level of the faculty was strengthened so that they could acquire basic information technology knowledge and pass it on to students. At this time, economics and management majors began to attach importance to the combination of information technology and management, initially cultivating students' basic computer skills and information system application abilities and gradually developing in the direction of composite talents ^[5].

2.1.2 The Development Stage

With the deepening integration of information technology and industrialisation in China, enterprises have widely applied information technology and have gradually applied digital tools to all aspects of production, management, marketing, etc., to improve operational efficiency and market competitiveness; they have also begun to pay attention to data collection and analysis, driving decision-making and business optimisation through data ^[6]. For example, through its big data platform, Alibaba has improved its market analysis and user-behaviour prediction capabilities, significantly improving the accuracy and efficiency of business decisions. With the proposal of *Made in China 2025* (2015) issued by The State Council, China emphasises the need for the deep integration of informatisation and industrialisation to realise the intelligent transformation of the manufacturing sector, enhance the competitiveness of enterprises, further promote the extensive application of information technology in all aspects of enterprises, and promote the development of data-driven decision-making and business optimisation. The Ministry of Education also issued a notice on the *13th Five-Year Plan for Education Informatisation* calling for comprehensive improvement in the ability of information technology to support and lead the innovation and development of vocational education and acceleration of the modernisation of vocational education. The high demand for digital talent in enterprises has led to the vigorous development of economics and management majors. The curriculum of majors focuses more on emerging fields, such as big data analysis and e-commerce. Courses on such topics as data analysis, big data management, and e-commerce have been introduced to cultivate students' digital thinking and data processing abilities. In addition, it emphasises interdisciplinary integration, combining management, economics, and information technology; conducting interdisciplinary teaching and research; and cultivating talents with composite technical skills ^[7].

2.1.3 The Deepening Stage

Today, China is in a new era of deep integration of digital economy and real economy. The Fifth-

Year Plan for the Development of Digital Economy (2022) clarified the direction and key tasks of digital economic development, put forward a strategic approach to deep integration of next-generation information and communication technologies with the real economy, and supported enterprises in their comprehensive digital transformation and intelligent operation. By achieving comprehensive digital transformation, enterprises can use cutting-edge technologies, such as artificial intelligence, the Internet of Things, and blockchain, to enhance their business models and innovation capabilities, and use intelligent systems for precision marketing, supply chain optimisation, and intelligent manufacturing to achieve highly automated and intelligent operations^[8]. For example, Haier realised intelligent manufacturing and personalised customisation through Internet of Things technology and big data analysis, which greatly improved production efficiency and customer satisfaction. At the same time, China has proposed the *Action Plan for Cultivating Digital Talent to Support Digital Economy Development* (2024–2026) to promote digital talent innovation and entrepreneurship in digital economy fields, such as artificial intelligence, information technology, intelligent manufacturing, and e-commerce. Economics- and management-related majors, which are characterised by their strong social relevance, are constantly reshaping their educational forms in response to the new technological revolution and industrial transformation centred on the Internet of Things and artificial intelligence. Talent is emerging in the fields of ‘big data + accounting’, ‘artificial intelligence + logistics management’, and other composite ‘new business’, triggering profound changes in the ways of knowledge acquisition and teaching and learning relationships^[9]. To strengthen practical teaching through the integration of industry and education, school-enterprise cooperation projects, and the construction of practice bases, students can learn and practice in real enterprise environments, which has become a direction for reform.

2.2 Theoretical Logic

The report of the 20th National Congress of the Communist Party of China proposed the promotion of education digitization, and building a learning society and country ‘for all people throughout their lives’. Aiming at synergy, personalisation, and lifelong learning, education digitisation provides powerful support for individualised learning, expanding the coverage of high-quality educational resources and educational modernisation, thereby achieving a deep integration of education with the needs of the times. This is not only an important means of enhancing the quality of higher vocational economics- and management-related professional education and adapting to the needs of the new era but is also closely related to the concepts of skill acquisition, personalised learning, and lifelong learning in vocational education theory. Through digital education, economics and management majors in higher vocational education can better meet the individual needs of students, cultivate their lifelong learning abilities, enhance the overall educational effect through collaborative efforts, and ultimately provide solid support for the comprehensive development and career growth of students^[10].

2.2.1 Collaboration between Professions and Enterprises

The concept of skill acquisition emphasises that students should acquire practical operational skills and professional ethics through simulated practice and training in real work scenarios. Digital education breaks the space and time restrictions of traditional education and strengthens the interactions between schools and enterprises, teachers, and students. By integrating high-quality teaching resources, innovating teaching models, applying digital teaching methods, and establishing diversified evaluation systems, students’ practical skills, professional qualities, and

innovative abilities can be cultivated more effectively^[11]. The virtual laboratory and simulation platform provide rich practical opportunities for students majoring in economics and management to practice repeatedly in a simulated business environment and management scenarios to improve their practical operational ability.

For example, Zhejiang Vocational College of Finance has established a Digital Trade College in cooperation with Alibaba, where students can simulate actual e-commerce operation and management through Alibaba's digital platform, and directly learn and apply enterprise-level e-commerce technology and operation model in practice. Through digital means, schools can conduct in-depth cooperation with enterprises, invite enterprise experts to guide online, organise virtual enterprise internships, and even participate in actual projects so that students can be in contact with real industry needs and work processes during school, thereby shortening their adaptation period from school to the workplace.

2.2.2 Personalised Learning by Students

The concept of personalised learning emphasises individualised teaching and the tailoring of learning plans for each student through data analytics and smart technology to maximise learning outcomes^[12]. Through advanced information technology and adaptive learning systems, education digitisation can provide customised learning paths and resources according to individual differences and the learning needs of students majoring in economics and management at higher vocational colleges. The core concept of personalised learning is to pay attention to the individual differences and learning needs of students; through personalised education programs and diversified learning styles, students can learn at their own pace and focus on their own interests^[13]. The online learning platforms enable students to choose their own learning content and progress, giving full play to their subjective initiatives and learning interests.

For example, Shenzhen Vocational and Technical College has built a 'smart classroom' driven by artificial intelligence-based learning management system, 'Teaching Command Center', to promote its 'humanisation transformation', which can recommend personalised learning resources and plans based on students' learning behaviours and data analysis, helping students receive personalised guidance and feedback on knowledge point mastery, skill improvement, and career development. Based on big data and other technical means, the school fully records students' learning processes, draws a personalised learning activity trajectory map for each student, and paints a portrait of students' personal growth.

2.2.3 Lifelong Learning

In the report of the 20th National Congress of the Communist Party of China, Xi stressed promoting the digitisation of education and building a learning society and a learning country for all people throughout their lives. In the current society and professional environment, where change is rapid and knowledge is updated frequently, the importance of the concept of lifelong learning is increasingly highlighted^[14].

Especially for students majoring in economics and management, vocational skills need to keep up with technological progress and the changing pace of market demand, and lifelong learning has become the key to maintaining competitiveness and adaptability. In the face of new iterations in management theory, business models, and technology applications, digital education platforms can provide continuously updated online courses, professional certifications, and industry seminars, enabling students to access the latest marketing strategies, financial management methods, and supply chain management techniques at all career stages. This would not only help them

continuously improve their professional quality and innovation ability but also ensure that they always have cutting-edge knowledge and skills in the workplace, so that they can quickly respond to changes and challenges in the industry and maintain lasting competitiveness in career development.

2.3 Value Logic

2.3.1 Digitisation of Education in Response to National Strategies

In March 2021, the *Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and Long-term Goals through 2035* were released, proposing to accelerate the development of digitisation and build a digital China. The plan aimed to accelerate the development of a digital economy, digital society, and digital government and to transform the way of production, life, and governance through digital transformation. In February 2023, the Central Committee of the Communist Party of China and the State Council issued the *Overall Layout Plan for Building a Digital China*, which stated that building a digital China was an important engine for promoting China-style modernisation in the digital age and a powerful support for building new competitive advantages for the country. In September 2023, Xi first mentioned 'new quality productivity' in relation to the province of Heilongjiang.

He reiterated integration of technology and innovation resources and guidance to develop emerging strategic industries and future industries so as to accelerate the shaping of new quality productivity. Digitisation has become a major strategy for China to develop new quality productive forces, promote Chinese-style modernisation, and lead future development in the new era. The construction of Digital China not only requires solid foundations in digital infrastructure and data resource systems but also the enhancement of two capabilities in digital technology innovation systems and digital security barriers. It also requires the cultivation of a large number of skilled graduates with digital thinking and literacy, proficiency in digital technology, and digital operation and management capabilities. Therefore, empowering the reform of economics- and management-related professional education with digital technology and driving the digital upgrade of these professional programs is an inevitable choice in response to the demands of the times and in serving national strategies.

2.3.2 Digitisation of Education to Develop the Service Sector

China's economy is currently undergoing a critical period of transformation and upgrading, not only reshaping the industrial structure and economic growth model but also putting forward new requirements and challenges for economics and management majors in higher vocational education. In recent years, with the new round of scientific and technological revolution and industrial transformation, China's digital economy has developed rapidly, giving birth to a number of new industries, such as artificial intelligence, Internet of Things, cloud computing, and integrated circuits, as well as new business forms and models, such as intelligent manufacturing, industrial Internet, Internet of vehicles, smart agriculture, digital finance, platform economy, and sharing economy. New jobs and positions, such as digital managers, Internet marketers, all-media operators, online learning services, network anchors, and other digital technology practitioners, continue to emerge.

At the same time, the integration of digital technologies, such as big data, cloud computing, artificial intelligence, and blockchain, with traditional offline industries has promoted the transformation and upgrading of industries, driving profound changes in business models, operating models, management models, and marketing models of enterprises, and greatly

changing the consumption concepts, behaviours, and habits of consumers. The development of digital industries and the digitisation of industries require economics and management majors in higher vocational colleges to proactively align with the upgrade needs of industries and the trend of technological change, and reconstruct the talent cultivation system for new industries, new business models, and new professions that have emerged from digital technologies. It is necessary to form a professional system that is closely aligned with the industrial and innovation chains. Therefore, empowering high-level vocational economics and management majors with digital technology could cultivate digital economy talent with digital thinking and basic knowledge and skills, thereby providing talent support for China's industrial digitisation and digital economic development.

2.3.3 Education Digitisation to Promote Education Equity

The 20th Communist Party of China National Congress report proposed adhering to people-centred development of education, accelerate the construction of a high-quality education system, promote quality education, and promote educational equity. Economics and management majors in higher vocational education have social and service characteristics, and their development is closely related to regional economic development. China's economic development has been uneven for a long time, forming a pattern of relatively developed eastern and relatively underdeveloped middle and western regions. This has affected the quality of economics and management majors in higher vocational education differently by region.

Generally, the eastern regions have more abundant educational resources and stronger professional service abilities, whereas the central and western regions have fewer available resources and weaker professional service abilities. In the context of digital education, based on digital technologies, such as big data, artificial intelligence, and blockchain, the construction of online courses, virtual simulation training bases, cloud classrooms, and other shared open online education resources and teaching modes can break the time and space restrictions of teaching resources. In this way, China could help students majoring in economics and management in higher vocational colleges in central and western China obtain more high-quality education resources and opportunities, narrow the quality gap of economics and management majors from the developed eastern regions, and promote educational equity in economics and management majors in vocational colleges.

2.4 Technical Logic

2.4.1 Digital Technology for Optimising and Upgrading

Digital transformation has given rise to a large number of new business forms, occupations, and positions, which have created new requirements and challenges for the ability and quality of economics and management professionals in higher vocational schools. Digital capabilities, such as data collection, analysis and application, online customer reception and operation, and new media operation and management, have become the main capabilities of economics and management talent in higher vocational colleges. This requires vocational colleges to align closely with the trends of industrial development in the digital era and the characteristics of talent demand, optimise the setting of economics and management majors, and restructure talent cultivation systems. Big data, artificial intelligence, 5G communication technology, and other digital technologies provide real conditions for economics and management majors to obtain vocational education data. Digital technology is used to mine and collect education, career, industry, and employment data at different levels.

Through the analysis of massive data, we can accurately evaluate the demand and supply status of economics and management professionals in higher vocational colleges, analyse the characteristics of talent demand, optimise major settings, adjust the orientation of talent training, innovate the mode of talent training, promote digital upgrading and transformation of majors, solve the mismatch between talent supply and demand, and enhance the adaptability and attractiveness of economics and management majors in higher vocational colleges.

2.4.2 Digital Technology for the Reform of 'Teachers, Textbooks, and Teaching methods'

The reform of 'teachers, textbooks, and teaching methods' is the cornerstone of the high-quality development of vocational education, and digital technology provides the framework guidance and supporting tools for the reform for economics and management majors in higher vocational colleges. First, by transforming traditional paper-based teaching materials into digital and multimedia forms, digital technology not only enriches the teaching content and form, but also makes the teaching materials more interactive and personalised, keeps up with the development of the industry, and ensures the timeliness and practicability of what students learn. Digital technology also promotes the sharing and optimisation of teaching resources, providing teachers and students with more abundant and diversified teaching resources. Second, digital technology makes teaching methods more flexible and effective by integrating multimedia resources, providing interactive online platforms and using big data analysis. Digital technology can also monitor students' learning progress and performance in real time, provide teachers with accurate teaching feedback, help teachers adjust teaching strategies, and achieve mutual growth in teaching and learning, thus promoting the continuous deepening of teaching reforms. Third, digital technology has greatly expanded teachers' abilities and means of education and teaching and has promoted the transformation of teachers' roles and the innovation of teaching methods. With the help of advanced digital tools and platforms, teachers can easily access, integrate, and share rich teaching resources to meet students' learning needs more efficiently and accurately. Digital technology also enables teachers to use innovative teaching methods, such as online interactions and virtual experiments, to stimulate students' learning interest and motivation, thereby enhancing teaching effectiveness.

3 The Path for Education Digitisation to Advance the Reform of Economics and Management Majors in Higher Vocational Colleges

Education digitisation is not only the application of digital tools but also a comprehensive reform of education ecology. This is an important opportunity to improve the quality of education comprehensively. Therefore, education digitisation should not only be regarded as the application of digital tools in teaching, but also the comprehensive construction of education digitisation ecology based on effective adaptation to the industry, social needs, and student learning characteristics in the digital age^[15].

3.1 Establish a Systematic Concept of Education Digitisation

Teaching, learning, and technology are the three fundamental components of modern education that are interconnected and dynamic. Digital technology has had a profound impact on educational development, but focusing solely on digital technology without considering its effective integration with teaching and learning is like trying to catch fish by climbing a tree. It will take much more effort and yield few results. From the perspective of educational ecology, as digital technology has

become widely used in production and daily life, the digital ecology outside of education has matured. This is evident in people becoming aware of using various digital tools in their daily lives as a latent consciousness, such as e-commerce and travel, and there are corresponding physical and social environments to support it. From the perspective of the internal ecology of education, the Party and the state have made clear requirements for the digitisation of education, and various actions have been undertaken in various places to promote education digitisation. The digital teaching environment in vocational colleges has also improved effectively. However, in the actual implementation of digital teaching, there is still a lack of in-depth understanding of the digital teaching concept, and the significance of education digitisation remains rather superficial. Especially for economics and management majors, understanding of the opportunities for qualitative improvement brought about by digitisation needs to be deepened. For economics and management majors, we need to make full use of the information collection and processing convenience brought about by digitisation, comprehensively improve the effectiveness of analysis, research and judgment, and design, and on this basis carry out professional construction of the environment, resources, and team system, so that we can find the right direction for professional construction.

3.2 Enhance Service Capacities for Industrial Digitisation and Life Quality Improvement

In the digital era, the dilemma faced by economics and management majors in the digital era actually represents higher expectations of industry and society for these majors. Economics and management majors in vocational colleges must fundamentally change their professional orientation from 'detaching from reality' to 'being practical' and reform the majors with the goal of 'being practical'. On the one hand, it is about being 'practical' for the industry. From the perspective of optimising and upgrading the industrial chain, economics and management majors in vocational colleges should target the need for integration and development brought about by the optimisation of the industrial chain, enhance the digital adaptability of the majors, and further improve the service capabilities of the primary and secondary sectors, such as strengthening the integration of industry and finance for accounting majors and the application of the Internet of Things for logistics majors. On the other hand, it is about being 'useful' for life. From the perspective of the integrity of the industrial chain, if engineering majors in vocational education solve the problem of 'making things' in the industrial chain, then economics and management majors should solve more problems of 'being useful'. In other words, how can products better enter the realm of daily life, allowing consumers to more conveniently and quickly access the latest achievements in the production field, such as e-commerce and distribution-related majors, and how can the consumer experience be improved and the quality of life enhanced, such as tourism and catering-related majors?

3.3 Build a Digital Teacher Team in Key Areas

Teachers are key to the implementation of education digitisation. Teachers of economics and management-related majors in vocational colleges not only need to have a deep understanding of the development of industries and society, but also a strong sense of digitisation.

First, we have changed the traditional understanding of teaching and learning. For economics and management majors, teachers should teach students how to collect digital information, use digital tools to process and analyse data, and propose targeted countermeasures and suggestions based on specific situations.

Second, students' critical thinking abilities should be strengthened. Most vocational college

students today are 'digital natives' while professional teachers are 'digital immigrants'. Students' ability to adapt to digital tools is not inferior to that of teachers, and more needs to be done to help students learn to distinguish and filter useless or harmful information from a vast amount of data. This requires teachers to possess a strong sense of logical reasoning.

Third, students' autonomous learning abilities should be strengthened. The digital age has changed the boundaries of traditional classrooms, and autonomous, ubiquitous, and lifelong learning has become a new trend. Teachers should fully play the role of the 'first classroom' and the 'second classroom' in different ways, especially paying attention to guiding and recommending students in the 'second classroom'.

Fourth, teachers should improve their knowledge and skills. Economics and management teachers should continuously improve the depth and systematic nature of their knowledge. Lecturing in a superficial and rote manner or merely copying textbooks is unlikely to attract students. Additionally, teachers should step outside campus and try to gain as much knowledge as possible about the actual situation of industries and markets, as well as the actual needs of enterprises. They should promptly incorporate these concepts into their case studies for teaching purposes.

3.4 Continuously Optimising the Digital Teaching Environment

The creation of a digital teaching environment requires not only efforts to upgrade the digital infrastructure, but also to strengthen the construction of a digital atmosphere. First, we optimised the digital teaching conditions. In terms of uniformity, planning, design, and implementation of digital teaching conditions, including campus integrated wiring systems, campus network service systems, infrastructure planning and construction, smart classroom operation and maintenance management, online and offline internship and training systems, intelligent platform campus systems, and intelligent logistics service systems, while simultaneously building a hardware infrastructure and software resource environment. Second, monitoring and evaluation mechanisms can be improved. Establish a comprehensive and systematic evaluation system based on the concept of 'Internet + monitoring and evaluation'. We need to comprehensively collect evaluation information of campus teaching, management, services and other aspects of the work operation so that the connotation of educational evaluation is constantly expanded around the centre of 'student development and school development'. This new evaluation system strengthens digital consciousness and ability. Third, digital resource construction should be strengthened based on the principles of practical and shared use. The widespread use of digital tools has enabled the sharing of high-quality teaching resources. At present, the key focus for vocational colleges should be shifting from 'building' to 'using'.

For example, a National Vocational Education Smart Education Platform has been built and implemented, and a large number of professional teaching resource libraries, excellent online courses, and open video courses have been shared. The effective application of high-quality resources is an important subject in the reform of digital majors. Therefore, we need to avoid the mistake of focusing too much on 'building' and not enough on 'using', take the application and sharing of resources as the guiding principle, and fully utilise the existing resources while focusing on the unique features and advantages of the colleges and institutions to build high-quality digital resources. This is an important choice for economics and management majors in higher vocational education to implement education digitisation in their current environments.

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