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Digital Transformation and Practice of Higher Vocational Course Teaching from the Perspective of Teaching Diagnosis and Improvement

-- Taking the Course of "Logistics and Supply Chain Management" as an Example

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Abstract

In the context of the continuous development of the digital economy, the development of artificial intelligence, big data, mobile Internet, cloud computing, and blockchain technology has brought great impact to social development and challenged the logistics management of enterprises. If enterprises want to achieve progress and development in the era of digital economy, they have to adopt innovative reform methods to improve the efficiency of enterprise digital management. The transformation of enterprise logistics management personnel is imperative. In the era of digital economy, the education and teaching of logistics management talents in colleges and universities must be reformed and innovated in order to adapt to the actual needs of modern social development and enterprise logistics management. Therefore, the traditional logistics and supply chain management courses The teaching mode urgently needs to be reformed and innovated. This paper takes the "Logistics and Supply Chain Management" course in higher vocational education as the research and practice object, adopts the action research paradigm, and deeply explores the characteristics of the "Logistics and Supply Chain" course in higher vocational education, the problems and reasons of digital teaching, the research significance, and the construction Practical issues such as what and how to transfer to digital transformation promote the reform and construction of curriculum teaching to meet the country's demand for logistics and supply chain digital management talents during the "14th Five-Year Plan" period, and provide effective reference for the digital reform of higher vocational colleges.

Keywords

Digital Transformation and Practice Diagnosis Reform Perspective; Higher Vocational Course Teaching Logistics and Supply Chain Management; Digital Economy.

1. Features of the Course "Logistics and Supply Chain Management"

The course "Logistics and Supply Chain Management" is one of the core courses of industrial and commercial enterprise management and modern logistics management. Courses such as Logistics Performance Management, Logistics Cost Management, Supply Chain Management, Logistics Strategic Management and Logistics System Planning together constitute the necessary professional skills framework for logistics management talents. By studying the course "Logistics and Supply Chain Management", students will be able to use transportation, warehousing management, procurement management, distribution management, packaging management, loading and unloading and distribution processing, international logistics management, supply chain management, supply chain integration and optimization, logistics Knowledge and technology such as information management can improve the management

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methods of logistics enterprises, control logistics costs, improve logistics efficiency, improve logistics services, promote supply chain integration, and promote the realization of supply chain integration.

The "Logistics and Supply Chain Management" course is highly practical and comprehensive, and its practicality is reflected in the fact that students can use various logistics management knowledge and technologies to solve logistics problems such as transportation, warehousing, and distribution, and then realize supply chain integration; Its comprehensiveness means that logistics and supply chain management can play its value only when it serves other courses, which requires the integration of other courses with "Logistics and Supply Chain Management". It can be seen that the "Logistics and Supply Chain Management" course is a highly applied and comprehensive course aimed at cultivating students' professional knowledge and skills in the field of logistics and supply chain.

First, logistics and supply chain management play an important role in the modern business environment. With the continuous development of globalization, enterprises are faced with a more complex and highly competitive supply chain network. Effective logistics and supply chain management can help businesses reduce costs, improve efficiency, increase customer satisfaction, and gain a competitive advantage. Therefore, it is vital for students to understand and master the principles and practices of logistics and supply chain management.

The content of the "Logistics and Supply Chain Management" course covers all aspects of logistics and supply chain management. First, students will learn the basic concepts and terminology of logistics and supply chain, including the various links and actors in the supply chain. They will also understand the design and operation principles of logistics networks, including key links such as warehousing, transportation, inventory management and distribution. In addition, important topics such as supply chain planning, procurement management, transportation management, quality control and risk management are introduced.

During the course of their studies, students will be exposed to real cases and industry practice. They will learn how to analyze and solve problems in logistics and supply chain management, such as how to optimize transportation routes, reduce inventory costs, improve supply chain reliability, etc. Students will also examine the challenges and opportunities of global supply chains and understand the characteristics of international trade and transnational logistics. Through these practical cases and practices, students will be able to apply theoretical knowledge in practical situations and develop problem-solving skills.

Students can gain many benefits by studying the "Logistics and Supply Chain Management" course. First, they will master the core concepts and skills of logistics and supply chain management, laying a solid foundation for future career development. Logistics and supply chain management are key functions in many businesses and industries, and mastering the relevant knowledge and skills will increase your competitiveness in the job market.

In addition, students will develop teamwork and communication skills. Logistics and supply chain management often involve cooperation and coordination between multiple departments and stakeholders. By working with classmates on projects and case studies, students will learn to collaborate with others to solve problems together, and to communicate and exchange ideas effectively.

Finally, students will also develop analytical and decision-making skills. Logistics and supply chain management require students to possess analytical and problem-solving skills, the ability to collect and analyze relevant data, and to make informed decisions based on data. This ability is very important for students' future professional development and personal life.

All in all, the course "Logistics and Supply Chain Management" plays an important role in higher vocational education. Through this course, students will acquire specialized knowledge and

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skills in logistics and supply chain management, develop teamwork and communication skills, as well as analytical and decision-making skills. This will provide a solid foundation for their future professional and personal growth.

2. Analysis of the Main Problems and Reasons Encountered in the Digital Teaching of the Course "Logistics and Supply Chain Management" in Higher Vocational Education

2.1. The Main Problems in the Digital Teaching of the "Logistics and Supply Chain Management" Course in Higher Vocational Education

"Logistics and Supply Chain Management" is a comprehensive course with strong theory and practice. Affected by many factors, the course has the following problems in the teaching process, which seriously affects the teaching effect of the course. The main performance is as follows:

(1) Insufficient technical facilities and resources

Digital teaching needs supporting technical equipment, network and software resources. However, some higher vocational colleges may face the problems of equipment aging, network instability and lack of relevant software and teaching resources. This makes it impossible for teachers to carry out digital teaching smoothly, which affects the quality and effect of courses.

(2) Teachers' digital teaching ability is insufficient

Some teachers may be unfamiliar with the concepts, methods and tools of digital teaching, and lack relevant training and support. They may lack experience in using digital teaching tools such as online learning platforms, virtual labs, and simulation software to take full advantage of these tools to provide rich learning experiences and practical opportunities.

(3) Lack of interactive and cooperative learning environment

Digital teaching may not provide a fully interactive and collaborative learning environment, which is especially important for logistics and supply chain management courses. Interaction and cooperation among students are crucial to understanding and applying practical knowledge, but in digital teaching, students may lack effective interactive platforms and opportunities for cooperation.

(4) Restrictions in practice

Logistics and supply chain management courses require students to carry out practical activities such as field trips, practical operations and case analysis, and digital teaching may not be able to completely replace these practical links. This will cause students to lack practical operation and practical experience, and there are certain limitations in understanding and applying the knowledge of logistics and supply chain management.

The problems that may be encountered in the digital teaching reform of the "Logistics and Supply Chain Management" course in higher vocational colleges mainly include insufficient technical facilities and resources, insufficient digital teaching ability of teachers, lack of interactive and cooperative learning environment, and limitations of practical links.

(5) The design of teaching content is out of touch with the needs of the industry

Today, with the rapid development of logistics management, transportation management technology, warehousing management technology, distribution management technology, logistics information management technology, supply chain management, international logistics management, and green logistics management have become important contents of the "Logistics and Supply Chain Management" course.

Unfortunately, the teaching materials used by teachers and students still focus on traditional logistics knowledge such as warehouse management and inventory management, and involve

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less technology such as logistics information technology and supply chain management. They cannot meet the needs of enterprises for students' modern logistics management skills, and it is difficult to make them Students adapt to the changing needs of the digital logistics industry.

(6) It is difficult to unify unified teaching and heterosexual thinking

Due to the different levels of individual intelligence of students and different ability to accept knowledge, teachers use a unified template to teach, which may cause backward students to be unable to grasp the knowledge taught, while advanced students cannot absorb deeper knowledge points, resulting in "both ends" Students gradually lose interest in exploration. When teachers try to teach students according to their aptitude but cannot guarantee the teaching progress, there will be a contradiction between teaching students according to their aptitude and the difficulty of unifying the teaching progress.

(7) The low degree of curriculum integration is difficult to reflect the practicality of the curriculum

"Logistics and Supply Chain Management" is a comprehensive course that emphasizes both theory and practice. , storage and other issues for decision support. Whether it can be effectively integrated is an important criterion for testing the practicality of the course. However, the teacher is only responsible for one course, and the theoretical knowledge of the "Logistics and Supply Chain Management" course cannot make students understand the value of the integration of this course and other professional core courses. It is also difficult to reflect the practicality of the "Logistics and Supply Chain Management" course.

(8) It is difficult to resolve the contradiction between knowledge fragmentation and knowledge system

In order to make the teaching objectives more targeted, teachers divide the knowledge system into knowledge points and explain them one by one. This fragmented learning method is more flexible, more targeted, and has a higher absorption rate. However, due to the lack of combing of sporadic knowledge by students, it is difficult to form knowledge modules, resulting in students' lack of overall understanding of the "Logistics and Supply Chain Management" course, and the dilemma of "seeing the trees but not the forest".

(9) The limitation of teaching knowledge is contradictory to the variability of social needs

No teacher can pass all knowledge to students in a limited classroom, and passive learning can only ensure that students acquire limited knowledge; however, digital innovation in logistics promotes frequent changes in jobs and rapid knowledge updates, and it is difficult for the knowledge learned in the classroom to be shared with society. The matching of needs leads to students showing that learning is useless, eager to carry out social practice, or not active in classroom learning.

2.2. Analysis of the Reasons for the Ineffective Digital Teaching of the "Logistics and Supply Chain Management" Course in Higher Vocational Education

This paper summarizes the main reasons for the poor teaching effect of "Logistics and Supply Chain Management" in higher vocational education as the following points:

(1) Reasons for technical facilities and resources

Funding constraints. Higher vocational colleges usually face funding constraints, unable to update and maintain technical equipment in a timely manner, and purchase the latest software and teaching resources. Aging equipment. The technical equipment of some vocational colleges is aging and damaged, which cannot meet the needs of digital teaching. Network infrastructure problems. The network infrastructure of some colleges and universities is not perfect, and the network bandwidth is insufficient, resulting in unstable network connections or unable to support large-scale online teaching.

(2) Reasons for Teachers' Digital Teaching Ability

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Lack of training opportunities, teachers may not have received professional training for digital teaching, and lack relevant knowledge and skills. Rapid technological development, digital teaching techniques and tools are evolving at such a fast pace that some teachers cannot keep up with the latest teaching trends and technology applications. Influenced by the traditional teaching mode, some teachers have become accustomed to the traditional face-to-face teaching mode, hold a reserved attitude towards digital teaching, and lack the motivation to actively learn and try.

(3) Reasons for lack of interactive and cooperative learning environment

The participation of students is not high. Some students are not familiar with the use of online learning platforms and lack the motivation to actively participate. The limitations of course design and teaching methods. Some course designs and teaching methods fail to take full advantage of the advantages of digital teaching and fail to stimulate students' willingness to interact and cooperate in learning. Lack of interactive tools and platforms, some online learning platforms have limited interactive functions and cannot provide diversified opportunities for interaction and cooperation.

(4) Reasons for limitations in practice

Limitations of virtual laboratories and simulation software. Although tools such as virtual laboratories and simulation software can simulate practical operations, there is still a gap with the real scene. Lack of real practice environment and cases, limited opportunities to cooperate with industries and enterprises, it is difficult to provide real practice environment and cases.

(5) The dynamic update of teaching materials lacks timeliness

Textbooks are the core teaching materials for course implementation and teaching work, and appropriate textbooks can achieve twice the result with half the effort for teaching. The key to improving teaching quality is to select or compile a new teaching material and a supporting case library that can not only meet the national standards and industry standards, but also reflect the characteristics of the times, and meet the needs of logistics digital education. It usually takes a long time to compile such teaching materials. However, the preparation of teaching materials is not accomplished overnight. It is often necessary to continuously add new content or adjust the structure according to changes in information technology. In fact, the update speed of teaching materials is far behind the speed of technological change, resulting in a disconnect between teaching content and social needs.

(6) Lack of inquiry-based teaching concepts

The course "Logistics and Supply Chain Management" adopts the traditional teaching method to explain the main knowledge points. Although it is supplemented by videos and pictures, it is difficult to stimulate students' interest in learning because of its superficial use, especially for students with poor acceptance. , so the learning atmosphere in the classroom is average. The student-centered exploratory teaching method is occasionally mentioned, but it is basically at the theoretical level and has not been implemented in the classroom.

(7) The level of digital literacy of teachers is low

Digital technology has enriched the "Logistics and Supply Chain Management" course, but it has brought great challenges to teachers. The new technologies of cloud computing, Internet, big data, virtual reality and artificial intelligence involved in this course are all based on the computer background, and the educational background of the teachers majoring in logistics management is mostly liberal arts. It is difficult to master these new technologies in a short time, let alone It is even more difficult to use digital equipment, software, and platforms proficiently, and to integrate these digital technologies into the core courses of logistics management.

(8) Lack of sorting, inductive ability and independent learning ability

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Massive information not only enriches the knowledge system, but also brings about the annihilation of information. It is very important to organize, summarize and absorb information in time to internalize it into a knowledge system, which is very important for building a new knowledge system.

In fact, few students connect knowledge points in series to form knowledge modules, and then form a knowledge system. The root cause is the lack of ability to organize and summarize knowledge. Self-directed learning is to allow students to have the concept of lifelong learning, so that they can continuously update their knowledge system to meet the needs of the continuous development of the industry. Unfortunately, most students have not yet established the concept of self-learning, let alone complete their studies through self-directed learning.

3. Research Significance

The World Digital Education Conference (2023) clearly put forward the theme of "Digital Transformation and the Future of Education". Digitization is an inevitable trend of future education. Specifically in the field of vocational education, digitalization is an important opportunity for China's vocational education to catch up and overtake, and to change lanes and overtake. It is necessary to implement the strategic action of vocational education digitalization to promote vocational education to become the main participant in industrial progress and an important force in technological change. The systematic change from large-scale standardized training to large-scale personalized training adapts to the rapidly developing market demand and the diversified growth needs of talents. In the field of curriculum construction, it is required to explore new paradigms and new models for the cultivation of innovative talents suitable for the digital age, so as to promote the high-quality development of school education and help students prepare for the challenges of the future society.

(1) The digital transformation of curriculum construction is the core essence of vocational education reform

The digital transformation of curriculum construction is the application of digital technology in educational scenarios. In the 5G environment, with the Internet and the Internet of Things as the carrier and data resources as the key elements, digital technology and educational elements are deeply integrated to promote the process of educational reform and innovation. The successful sign of digital transformation is the deep integration of technology and education, and students and teachers are better developed. In October 2021, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the "Opinions on Promoting the High-quality Development of Modern Vocational Education". In-depth integration of information technology and education and teaching improves the quality of classroom teaching. At present, my country's education is at an important historical node of leaping from network to intelligence. It is very important to grasp this node well. The digital transformation of the course construction of "Logistics and Supply Chain Management" in higher vocational education is to use modern information technology to carry out classroom revolution at the course level, and use data information to carry out course construction and course reform, and then promote the digital transformation of vocational education teaching.

(2) The digital transformation of curriculum construction is a practical requirement for the improvement of higher vocational diagnosis

Since 2015, higher vocational colleges have comprehensively promoted the diagnosis and improvement of the internal quality assurance system. The ultimate focus is that classroom teaching should be organized and implemented according to teaching objectives, analyze data, diagnose problems, and improve in time during the work process, forming a continuous improvement system. quality improvement spiral. In order to meet the requirements of

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diagnosis and reform in higher vocational course teaching, it is necessary to reform the teaching preparation, teaching activity design, teaching evaluation and other links in the classroom teaching process, and establish a long-term mechanism for course teaching quality diagnosis and reform. The teaching reform and practice of the "Logistics and Supply Chain Management" course quantifies and standardizes teaching content such as talent training programs, course standards, and teaching design, and forms a series of course construction indicators and corresponding teaching diagnosis and reform indicators to enable data collection. Based on the basis of , comparison and analysis, based on big data analysis, it is more effective to find the weak link between teaching and personnel training, and it is more conducive to targeted improvement, forming a new ecology of digital curriculum construction. This is of great significance for improving the quality of classroom teaching and realizing the goals of the course, and it is also the specific implementation and achievement display of diagnosis and improvement work.

(3) The digital transformation of curriculum construction is the basic content of the cultivation of innovative higher vocational talents

With the development of the digital economy and artificial intelligence, many occupations are no longer limited to specific professional fields, and the connotation requirements of front-line workers have also undergone profound changes. Information literacy, sustainable learning ability, social emotional ability, etc. basic general capabilities. This requires higher vocational education to actively adapt to the talent needs of the times, and train a large number of mid-to-high-end talents to serve future high-end industries and high-end industries. On the whole, the "employment-oriented" and "single occupation-based" development orientation of higher vocational education does not meet the requirements of the digital transformation of vocational education. Based on the concept of diverse talent quality, adhering to the pursuit of multiple values in vocational education, strengthening digital education, and cultivating new technology application talents are the key to the cultivation of craftsman talents in the new era of vocational colleges. The course construction of "Logistics and Supply Chain Management" in higher vocational education aims to reconstruct the teaching organization form, further expand the field of teaching time and space, adopt a mixed classroom combining online and offline, and encourage students to enter the enterprise to feedback practical problems and further improve The teaching activities are experiential and practical, effectively improving the digital literacy, high-level cognitive ability and social emotional ability of higher vocational students.

To sum up, in the digital age with the rise of information technology, there are more and more researches in the application field of digital transformation, which also highlights the powerful advantages of digital transformation in injecting fresh vitality into its empowering fields. However, compared with other fields, there are not many research literatures on digital transformation in the field of vocational education, especially on curriculum construction. In the limited literature, only theoretical discussions are carried out, and digital transformation and higher vocational curriculum construction are lacking. empirical research. Judging from the relevant literature on the teaching of the "Logistics and Supply Chain Management" course, most scholars are more concerned about the implementation of the hybrid teaching model in the course teaching, such as using MOOCs, micro-classes, and blue ink cloud classes to implement hybrid teaching methods. teaching mode. Based on this, the subject of this paper combines the theory of digital transformation and the hybrid teaching mode, and through the multi-dimensional design of digital teaching materials, digital platforms, and digital teaching, it gives new momentum to the teaching of the "Logistics and Supply Chain Management" course in higher vocational education, and promotes and implements education informatization 2.0 Action plan to speed up the reform of higher vocational course teaching and improve the quality of higher vocational course teaching.

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4. The Application and Effect of Digital Teaching of "Logistics and Supply Chain Management" Course in Other Countries

4.1. Application

(1) United States:

In the United States, many higher education institutions have adopted digital teaching to improve the teaching effect of logistics and supply chain management courses. For example, the Department of Supply Chain and Information Systems at Penn State University uses online learning platforms and simulation software to teach digitally. Students can access course materials, video lectures and case studies through an online platform for self-directed learning. In addition, they also use supply chain simulation software to allow students to simulate various aspects of supply chain management in a virtual environment, so as to cultivate students' practical ability and decision-making ability.

(2) United Kingdom:

British vocational colleges are also actively promoting the digital teaching reform of logistics and supply chain management courses. For example, the School of Materials, Logistics, and Supply Chain Management at the University of Manchester uses online learning platforms and virtual laboratories to support course delivery. Students can simulate logistics operations and processes in the virtual laboratory, and deepen their understanding of logistics and supply chain management through interactive learning activities. At the same time, students can also discuss and cooperate with teachers and other students through the online platform to promote interaction and knowledge sharing among students.

(3) Germany:

Germany's higher vocational education focuses on the combination of practice and theory, and logistics and supply chain management courses have also developed in digital teaching. For example, the Department of Logistics Management at the Stuttgart University of Applied Sciences uses online learning platforms and practical software for digital teaching. Students can learn the basic knowledge and theory of logistics management through the online platform, and use practical software to carry out practical operations such as logistics planning, operation optimization and risk management. In addition, students will have the opportunity to participate in industry projects and corporate collaborations to deepen their understanding of logistics and supply chain management practices.

(4) Canada:

Canadian vocational colleges are also actively promoting the digital teaching of logistics and supply chain management courses. For example, the University of Waterloo's Center for Supply Chain Management (Centre for Supply Chain Management) combines online learning platforms and remote collaboration tools to carry out digital teaching. Students can study course content through the online platform and utilize remote collaboration tools to communicate and collaborate with teachers and other students in real time. In addition, they also build and analyze logistics models through virtual laboratories and simulation software to cultivate students' practical ability and problem-solving ability.

(5) Australia:

Australian vocational colleges are also actively applying digital teaching reforms to improve the teaching effect of logistics and supply chain management courses. For example, Queensland University of Technology's Business School uses online learning platforms and virtual labs to teach digitally. Students can carry out logistics network planning and operation simulation in the virtual laboratory, and deepen their understanding of logistics and supply chain management through practical operations. In addition, students can also use the online

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platform to interact and discuss with teachers and other students, sharing learning experiences and case studies.

(6) France:

French vocational colleges are also exploring innovative teaching methods for logistics and supply chain management courses in the digital teaching reform. For example, the MSc in Sustainable and Global Supply Chain Management at HEC Paris combines online learning platforms with hands-on projects for digital teaching. Students can learn relevant theories and cases of supply chain management through the online platform, and at the same time participate in practical projects, and cooperate with enterprises to solve real logistics and supply chain management problems. In addition, students have the opportunity to participate in webinars and industry talks to interact and share knowledge with industry experts.

(7) Italy:

In the course of "Logistics and Supply Chain Management", the University of Venice in Italy fully combines digital applications for teaching. First of all, by establishing an online training platform, they provide rich learning resources such as video lectures, PPT, references, case studies, etc., so that students can study independently at any time. In addition, they also use the form of online forums and group discussions to enhance the interaction among students and improve their learning interest and initiative. In terms of teaching methods, the University of Venice tries to use blended teaching. They flipped part of the class, allowing students to study the teaching content in the video before class, and then discuss and ask questions in class. At the same time, teachers mainly use case analysis in the classroom to simulate the actual situation of the enterprise, so as to cultivate students' practical ability and problem-solving ability.

Therefore, the higher vocational "Logistics and Supply Chain Management" courses in the United States, the United Kingdom, Germany, Canada, Australia , France , Italy and other countries have actively explored and practiced digital teaching reform. They use digital teaching tools such as online learning platforms, virtual laboratories, and simulation software to provide rich learning resources and practical opportunities, promote students' interactive and cooperative learning, and strengthen cooperation with industries and enterprises to cultivate students' practical ability and solve problems. ability to problem. These examples provide useful reference and enlightenment for higher vocational colleges in other countries in digital teaching reform.

4.2. Practical Application Situation

Judging from the development situation, the application of digital teaching in the "Logistics and Supply Chain Management" course has achieved good results. Students can learn independently at their own pace, which greatly improves the efficiency of learning; at the same time, through online discussions and case studies, students' active participation and interest are also significantly improved.

In addition, the biggest advantage of digital teaching is that it breaks through geographical restrictions, so that more remote students can learn this course. At the same time, the data analysis function of the online learning platform also allows teachers to have a detailed understanding of students' learning conditions and carry out more refined teaching management.

4.3. Get the Effect

After applying the digital teaching mode, the learning effect of students has been significantly improved. From the feedback of students, they generally believe that digital teaching is more interesting than traditional teaching forms, and it can better stimulate their interest in learning.

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It can also be clearly seen from the results that the overall performance of students has improved, and the proportion of outstanding students has increased significantly.

For teachers, digital teaching has also brought a series of positive effects. First of all, the work efficiency of teachers is greatly improved, and they can complete teaching tasks in less time; moreover, teachers can provide more personalized guidance to students' learning through the data analysis of the platform, which will undoubtedly improve the quality of teaching.

At the same time, after the promotion of the digital teaching model, the "Logistics and Supply Chain Management" course of Willis University has received wider attention, and the number of participants in the course has increased significantly, which has achieved good social impact. This aspect reflects that the digital teaching mode is in line with the development of the times and is worthy of further promotion.

The application of digital teaching in the "Logistics and Supply Chain Management" course is not only beneficial to students' learning, but also can improve the teaching efficiency of teachers, and at the same time, the influence of the course has been continuously expanded. Therefore, we should apply digital teaching in more courses as soon as possible, so as to promote the modernization of education and improve the quality and efficiency of education.

5. Digital Application Design for the Course Teaching of "Logistics and Supply Chain Management "

According to the "Teaching Standards for Logistics Management in Higher Vocational Schools" published by the Ministry of Education, this major cultivates firm ideals and beliefs, comprehensive development of morality, intelligence, physique, aesthetics and labor, a certain scientific and cultural level, good humanistic quality, and professionalism. Morality and innovation awareness, craftsmanship spirit of excellence, strong employability and sustainable development ability, mastering the professional knowledge and technical skills, facing the management of road transportation, multimodal transportation and transportation agency, loading and unloading and warehousing industries (Industrial) engineering and technical personnel, loading and unloading and transportation agency service personnel, warehousing personnel and other occupational groups, high-quality technical and skilled personnel who can engage in warehousing, transportation and distribution, procurement, supply chain management and other grassroots management and logistics services. "Logistics and Supply Chain Management" is the basic core course, and the course teaching reform directly affects the professional technical skills, digital literacy, high-level cognitive ability and social emotional ability of higher vocational students.

Combining the concept of the education model of vocational education with the integration of "job and class competition certificates", set courses by post, improve skills by competition, and calibrate standards by certificate, it is proposed to invite school-enterprise cooperation units Debon Logistics, Ouhai Logistics Information Center, Wenzhou Supply Lianxue has made multiple arguments to determine the teaching objectives and content of this course. On this basis, based on the logistics business process and work process, with the task as the main line, typical work tasks are formed, and vocational skills standards are integrated into the course standards. Combining the characteristics of higher vocational students and teaching content; combing and designing typical work tasks according to the modules in the curriculum standards; combining tasks, designing teaching methods and teaching means. The teaching design idea is mainly divided into three stages, the pre-class preparation stage, where students learn independently; the in-class implementation stage, to promote the internalization of knowledge; the after-class reflection stage, to help consolidate the review. It is mainly embodied in the form of Internet tasks before and after class to realize the overall digital transformation of course teaching. The design idea is shown in Figure 1.

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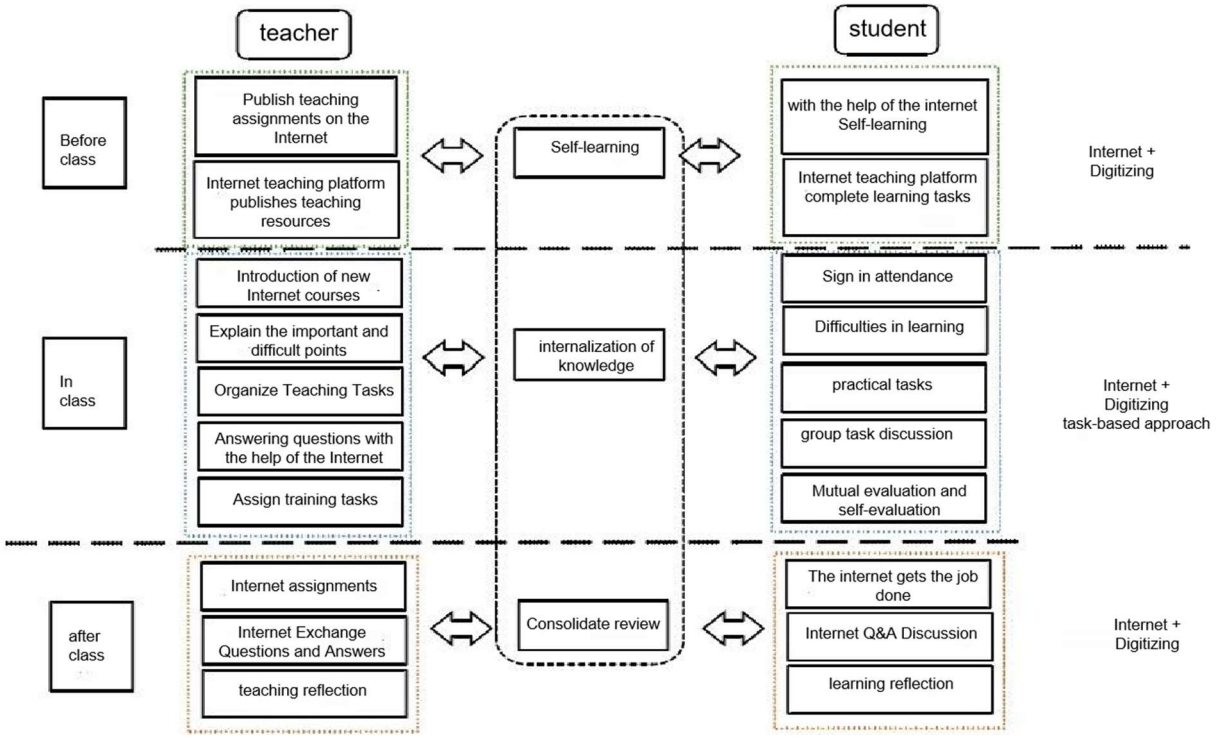

Figure 1. The digital transformation thinking map of the course teaching of "Logistics and Supply Chain"

(1) Digital application design for learning support

Effectively integrate public open resources such as the existing national vocational education smart education platform, modern logistics management national teaching resource library, "logistics management" national online quality course, intelligent logistics center planning and operation virtual simulation training system, and build "logistics and supply chain" Management" digital learning support system, including technical support, platform support, psychological support, etc., provides online and offline two-way communication support services for students, aiming to help learners improve learning effects, and enhance students' independent exploration and collaborative learning capabilities.

(2) Digital application design of the teaching process

Add the function of supporting tools for classroom teaching activities in digital teaching resources, so that digital teaching resources can be transformed from media tools for displaying content to important supporting tools for classroom teaching in the information environment, and select appropriate modules according to the classroom teaching needs of "Logistics and Supply Chain" Integrate into the teaching resources you need.The function of digital teaching resources for the course of "Logistics and Supply Chain" should not only be limited to the pursuit of digitization and presentation of teaching content, but also have the role of "intermediary" in the theoretical system of teaching activities, providing corresponding learning behaviors for learners. Cognitive support tools to provide support for teachers' teaching behavior.

(3) Digital application design of teaching evaluation

The teaching evaluation of the "Logistics and Supply Chain Management" course is not a single achievement determination theory, but a diversified evaluation method. This evaluation method pays more attention to the learning process of students, and formative evaluation focuses on students' daily learning situation. The interaction and records of online collaborative

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learning will be saved on the Internet, and the frequency of students participating in discussions and expressing opinions can be queried; offline learning The situation can be statistically recorded through students' daily attendance, homework, and in-class testing. The summative evaluation is based on the students' final examination results as the main reference basis. Therefore, through two-way monitoring of students' learning situation, giving a comprehensive evaluation, comprehensively testing whether students' abilities have been improved, and establishing a reasonable, effective and scientific evaluation system is the key to the digital transformation of course teaching.

(4) Digital teaching curriculum transformation ideas

Firstly, through literature review and induction, it analyzes the research background of digital transformation and higher vocational course teaching, defines related concepts, divides the dimensions of higher vocational course teaching under digital transformation, and expounds the theoretical basis.

Secondly, the questionnaire survey and interview method are used to investigate and analyze the teaching status of the "Logistics and Supply Chain Management" course in higher vocational colleges, so as to provide a basis for the follow-up teaching support platform, teaching support design and teaching evaluation reform.

Thirdly, construct the digital transformation plan of "Logistics and Supply Chain Management Course", including the design of teaching mode, learning support, teaching strategy, teaching method, teaching process, teaching evaluation, etc.;

Finally, the teaching practice is carried out according to the digital teaching design plan, and the results of the teaching practice are analyzed by questionnaire survey and interview method, and a conclusion is drawn from it, as shown in Figure 2.

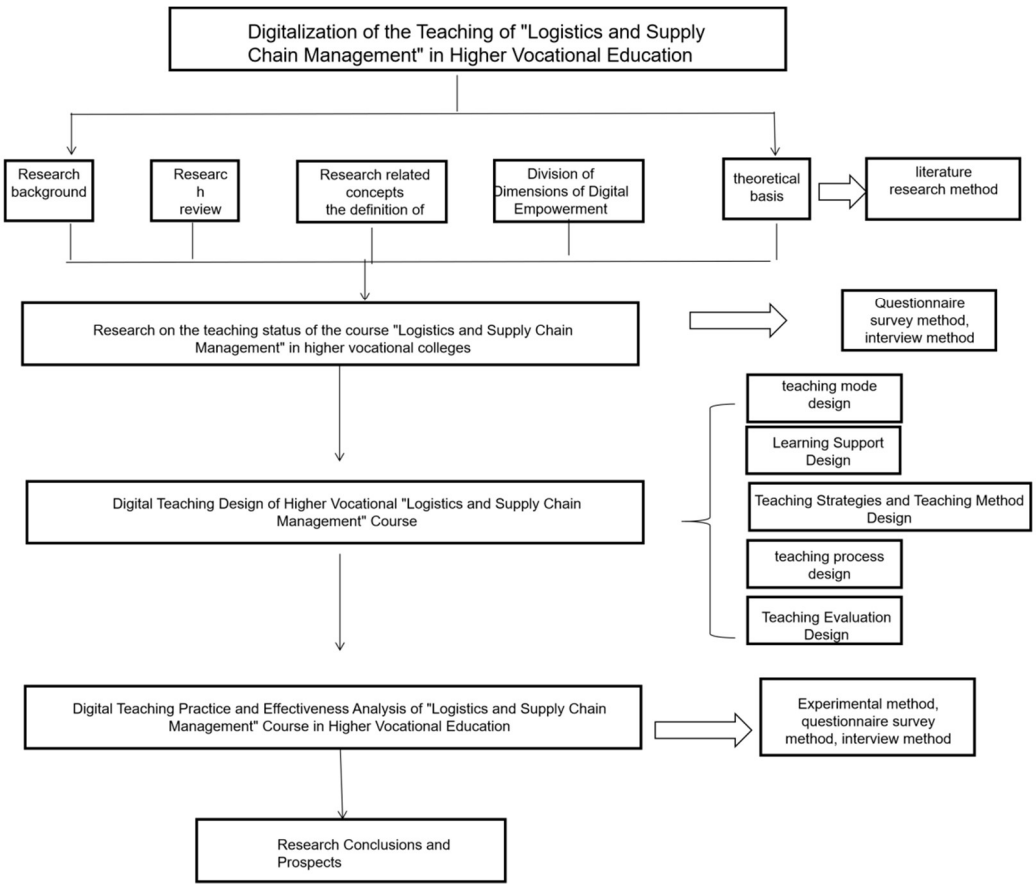

Figure 2. Thoughts on digital transformation of the course "Logistics and Supply Chain Management"

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6. Reflection and Prospect

6.1. Reflection

Although digital teaching provides convenience for learning, there are many problems at the same time, some of which need to be solved by educators in a timely manner. Digital teaching still faces many challenges and problems.

First, many students are not familiar with this new course structure. They may not be able to use online resources effectively for learning, or may be too intimidated by new technologies to concentrate on their studies. In addition, many teachers have not adapted to the digital teaching technology in time, causing them to encounter difficulties in teaching.

Secondly, although digital teaching provides a lot of visual materials, for some complex logistics and supply chain theories, this teaching method is still not direct and transparent enough. Students can be confused and overwhelmed by these complex concepts.

Third, Although the course provides a lot of practical operation, in practice, students often find that there is a huge gap between theoretical knowledge and practical operation. This gap can discourage them from learning, leaving them confused and disappointed.

In addition, the quality and quantity of teaching resources need to be improved; teachers' digital literacy and instructional design capabilities need to be further improved; technical facilities and technical support services need to be improved urgently; and students' information literacy, autonomous learning ability, and participation in digital teaching are also required. needs to be improved. All of these issues require educators and instructional administrators to work together to promote the development of digital teaching.

6.2. Recommendations:

In view of the current situation and existing problems, the digital teaching reform of logistics and supply chain management should start from the following aspects:

Carry out teaching evaluation and feedback: By setting up online questionnaires, testing and using the teaching and diagnosis improvement platform "Logistics and Supply Chain Management" course diagnosis and reform tools, students' feedback and suggestions on digital teaching are collected, and a digital diagnosis and improvement spiral closed loop is formed. The digital teaching reform of "Logistics and Supply Chain Management" course.

Improve students' information literacy: Provide students with information technology training to help them master the skills and strategies needed for online learning to better cope with digital teaching.

Introduce new teaching methods and technologies: such as blockchain, artificial intelligence, mobile learning, etc., and apply them in-depth in teaching to improve the fun and effectiveness of teaching.

Improve technical support services: build a stable teaching platform, provide detailed user guides and dedicated online technical support, and help students solve technical problems encountered in online learning.

6.3. Outlook

With the development of technology, digital teaching will become the mainstream. The teaching of "Logistics and Supply Chain Management" will use big data, AI, VR and other technologies to carry out in-depth learning and intelligent teaching, providing richer and more personalized learning paths to meet the learning needs of different students. At the same time, the student-centered teaching mode will be further improved, and students will participate in the whole process of teaching activities, including course design, material preparation, teaching evaluation, etc., so as to improve their active learning ability and innovation ability.

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In addition, to enhance students' sense of acquisition in the digital teaching of the "Logistics and Supply Chain Management" course, the following measures can be taken:

(1) Add interactivity:

Through the use of modern educational technology, it provides a variety of interactive methods, such as online discussion boards, live chat and virtual teamwork tools. Students are encouraged to actively participate in discussions, ask questions, and interact with teachers and classmates. At the same time, teachers should also respond to students' questions and feedback in a timely manner to increase students' participation and sense of belonging.

(2) Provide practical opportunities to:

In digital teaching, students should be given practical opportunities as much as possible to help them apply the theoretical knowledge in the course to practical situations. Virtual simulation, online case analysis and field trip videos can be used to allow students to simulate and solve actual logistics and supply chain management problems, so as to cultivate their practical ability and application skills.

(3) Personalized guidance and support:

Utilize a learning management system or online learning platform to provide personalized learning resources and guidance. Teachers can help students overcome difficulties and deepen their understanding by providing personalized feedback, advice and supplementary material based on students' learning progress and needs. At the same time, students are encouraged to have one-on-one online communication with teachers to answer questions and provide support in a timely manner.

(4) Create opportunities for collaboration:

Collaboration and team projects among students are encouraged through online collaboration tools and platforms. Design group assignments, virtual team projects, or online discussions where students can work together to solve problems, exchange ideas, and share experiences. This can cultivate students' cooperation ability, communication ability and teamwork spirit.

(5) Provide technical support:

Ensure that students can successfully participate in digital teaching and provide necessary technical support and training. Ensure students have the required technology equipment and provide technical guidance and solutions to technical problems and frustrations that may arise.

(6) Regularly evaluate and improve:

Through regular student feedback surveys, course evaluations and teacher evaluations, use the teaching diagnosis and improvement platform "Logistics and Supply Chain Management" course diagnosis and reform tools to understand students' experience and needs for digital teaching. According to the feedback results, adjustments and improvements are made in a timely manner to enhance students' satisfaction and sense of gain.

By increasing interactivity, providing practical opportunities, personalized guidance and support, creating opportunities for cooperation, and providing technical support, it can help students gain a better learning experience and sense of participation in the digital teaching of the "Logistics and Supply Chain Management" course.

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