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Secondary Vocational School Dilemmas and Strategies for Digital Transformation of Teaching and Learning in Professional Courses

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Abstract: The continuous innovation and gradual integration of digital technology into all aspects of society, economy and politics have triggered a systematic change of education and teaching in the concept, method and governance system of talent cultivation. Understanding and grasping the realistic dilemma of digital transformation of teaching and learning in specialized courses in secondary vocational schools and its strategic path is an important part of education reform. This paper first analyses the background to the digital transformation of vocational education in secondary vocational schools. It includes an analysis of the national digital transformation in education, which attaches great importance to the growth of the digital economy, digital economy is driving change in vocational education. Digital transformation fits the concept of integration between industry and education. Subsequently, given the strong willingness of teachers to embrace digital transformation, it is imperative to improve their digital literacy. First, secondary vocational school institutions do a good job of coordinated planning, improve the digital development mechanism; second, strengthen the connection between institutions and enterprises, the implementation of the concept of integration of industry and education; third, deepen the concept of digital transformation, strengthen the digital training of teachers. The future vision of teaching digital transformation is demonstrated.

1. Introduction

Various types of information technology based on the Internet continue to change the way human beings produce, live and learn. As the scale of the global digital economy continues to expand and the social demand for various types of talents adapted to the new economy becomes more and more urgent, more and more countries and regions are aware of the important value of the digital transformation of education, and have taken steps towards the digital transformation of education. At present, scholars at home and abroad generally agree on the definition of digital transformation as "the process of optimizing and transforming an institution's operations, strategic direction, and value proposition through a deep and coordinated shift in culture, workforce, and technology"[1]. The strategy of using Internet resources to build ubiquitous classrooms, improve the

quality of education, and strengthen students' information literacy is gradually expanding in primary and secondary schools, but there is still little research in the field of vocational education, especially in the digital transformation of the professional courses of secondary vocational education, The digitization of secondary vocational education is to improve the education system based on digital technology, combining the teaching needs of different specialized courses in secondary vocational education, the needs of students and the needs of the industry, which is highlighted in the transformation of the information technology in the education mode and teaching.

1.1. China attaches great importance to the digital transformation of education

President Xi, General Secretary of the People's Republic of China, made an important deployment for the digitization of education in China at the 20th Party Congress, pointing out that promoting the digitization of education and building a learning society and a learning power with lifelong learning for all people[2]. At the same time, the Ministry of Education and other six departments have put forward new requirements for the construction of a new type of infrastructure for education that is structurally optimized, intensive, efficient, safe and reliable by 2025, in response to the goal of digital transformation of education[3]. This new infrastructure is proposed on the basis of informatization, pointing to the construction of digital resources, smart campuses, and other digital education platforms and thus driving education transformation. The Ministry of Education of the People's Republic of China has also proposed the implementation of strategic actions for the digitization of education in the "Key Points of the Ministry of Education in 2022", so that information technology and education and teaching can promote each other and be mutually beneficial and symbiotic, and has pointed out the direction of digitization of education in terms of the enhancement of the construction of facilities, the construction of public platforms, the supply of network resources, the construction of smart campuses, and so on[4] .

1.2. Development of the digital economy as a catalyst for change in vocational education

With the emergence of new products of the information age such as artificial intelligence, the Internet of Things, and big data, and the increasing frequency of people's access to digitized information and devices, major economies around the world are accelerating the development of the digital economy[5] . More and more informatized education platforms have emerged one after another, which inevitably makes people think about the trend of change in education under the background of informatization. Education should be in line with the times, conform to the development of the times and promote the development of the times with it. At present, more and more industries are steadily entering the stage of digitalization, vocational education as part of China's education system with the most direct and close contact with industry, should on the one hand, take the initiative to adapt to the changes in the development of the market, to keep up with the trend of industrial digitalization, deepen the concept of integration of industry and education, and realize the transformation of digitization; on the other hand, the classroom education and teaching in secondary vocational schools and colleges are faced with the constant impact of the digitization of the industry. The traditional way of education has been unable to meet the needs of most industries for high-end technical personnel, under the pressure of market informatization, secondary vocational colleges and universities have to think about the direction and path of development that fits with the times.

1.3. Digital transformation fits the concept of integration of industry and education

The concept of industry-education integration refers to the combination of vocational education teaching and corresponding industrial work, and classroom teaching corresponds to the actual

situation of the industry. Industry-education integration is an important direction and guiding ideology for the teaching of specialized courses in secondary vocational schools and colleges, and it is also an important difference between modern vocational education and the teaching ideology of general secondary school subject education. At present, the construction of various digital venue resources, virtual simulation laboratories and other information-based educational facilities has enriched the implementation mode of the professional courses in secondary vocational schools, so that students of secondary vocational colleges and universities can come into greater contact with the working mode of the professionally related industries, and experience the current state of development of the enterprises and their work requirements. Therefore, strengthening the digital transformation of secondary vocational colleges and universities can lay a good foundation for students to work in enterprises in the future.

In summary, digital transformation of secondary vocational education is a trend of contemporary educational reform and further development. This study analyzes the contemporary background of digital transformation of secondary vocational schools' professional courses, points out the current situation of digitalization of secondary vocational schools' professional courses, and puts forward strategic suggestions on how to realize the digital transformation of secondary vocational schools' professional courses.

2. The current situation of digital transformation of teaching and learning in secondary vocational schools Analysis

In order to understand the current application of digitalization in education and teaching in secondary vocational school institutions, this study designed a questionnaire with teachers of specialized courses in secondary vocational school institutions (see Table 1).

Table 1: The situation of the study participants in the questionnaire survey of teachers on digital transformation of specialized courses in secondary vocational schools

Option Category	options	number of people	percentage
(a person's) age	20-30 years old	45	80.4%
	31~40 years old	9	16.1%
	41-50 years	2	3.6%
	51 years and over	0	0.0%
Subjects taught	Agriculture, Forestry and Fisheries Specialization	31	55.36%
	Civil Engineering and Hydraulics Specialized Courses	6	10.71%
	Specialized courses in information technology	9	16.07%
	Medicine and Health Care Specialty Courses	10	17.86%

The questionnaire was set up with questions from four dimensions, namely, for the willingness of digital transformation, the dilemma of digital transformation in institutions, the degree of understanding of digitalization, and the current status of digital resource application (see Table 2).

In the end, the number of valid questionnaires was determined to be 56, and this questionnaire survey was used to provide a realistic basis for the digital transformation of secondary vocational school institutions.

Table 2: Distribution of Teacher Questionnaire Questions for Exploring Digital Transformation of Teaching Profe`ssional Courses in Secondary Vocational Schools

dimension (math.)	title number	note
Willingness to digitally transform	4	Includes 5 subtopics
Institutional Digital Transformation Dilemma	5	multiple-choice question
Teachers' knowledge of digitization	6, 7, 8	Question 6 consists of 2 sub-questions, questions 7 and 8 are multiple choice questions.
Status of application of digitized resources	9, 10, 11	Question 9 consists of 4 sub-questions, questions 10 and 11 are multiple choice questions.

2.1. Most teachers have a high level of willingness for digital transformation1.2Achieving the Goal of Optimising the Company's Economic System

Teachers are the main body of education and teaching reform, playing a leading role in the teaching process, teachers in education and teaching embodied in the educational ideology and concepts and teaching methods will have an impact on students in terms of concepts, knowledge, ability and other aspects.

Teachers' willingness to digitally transform education is an important aspect of teachers' digital literacy. The questionnaire set up a multiple-choice question with five sub-questions on the dimension of "Teachers' willingness to digitally transform education" and set it up as a 5-point scale question, with 1 indicating strongly disagree, 2 indicating relatively disagree, 3 indicating average, and 4 indicating relatively agree; 5 said they strongly agree. According to teachers' feedback, most teachers believe that digital technology can optimize classroom teaching (average score:4.27) and are willing to participate in smart campus practice activities as pilot teachers (average score:4.00). From the perspective of students, most teachers believe that digital resources can reduce students' burden to a certain extent (average score:3.84) and encourage students to use digital technology to collect and manage information (average score:4.27). In terms of teachers' own development, teachers generally believe that digital transformation can improve their professional competence (average score:4.11), with a total average score of 4.06 for the five questions, of which 82.59% of the teachers chose to agree with it and agree with it very much (see Fig. 1), This shows that most secondary vocational school teachers have a high willingness to digital transformation of secondary vocational school education and teaching, and recognize the importance of digital transformation for improving teaching quality, promoting students' all-round development and adapting to the needs of social development, which is quite important to meet the needs of society and secondary vocational school colleges and universities for secondary vocational school teachers' digital literacy, and very useful for the digital transformation of secondary vocational school education.

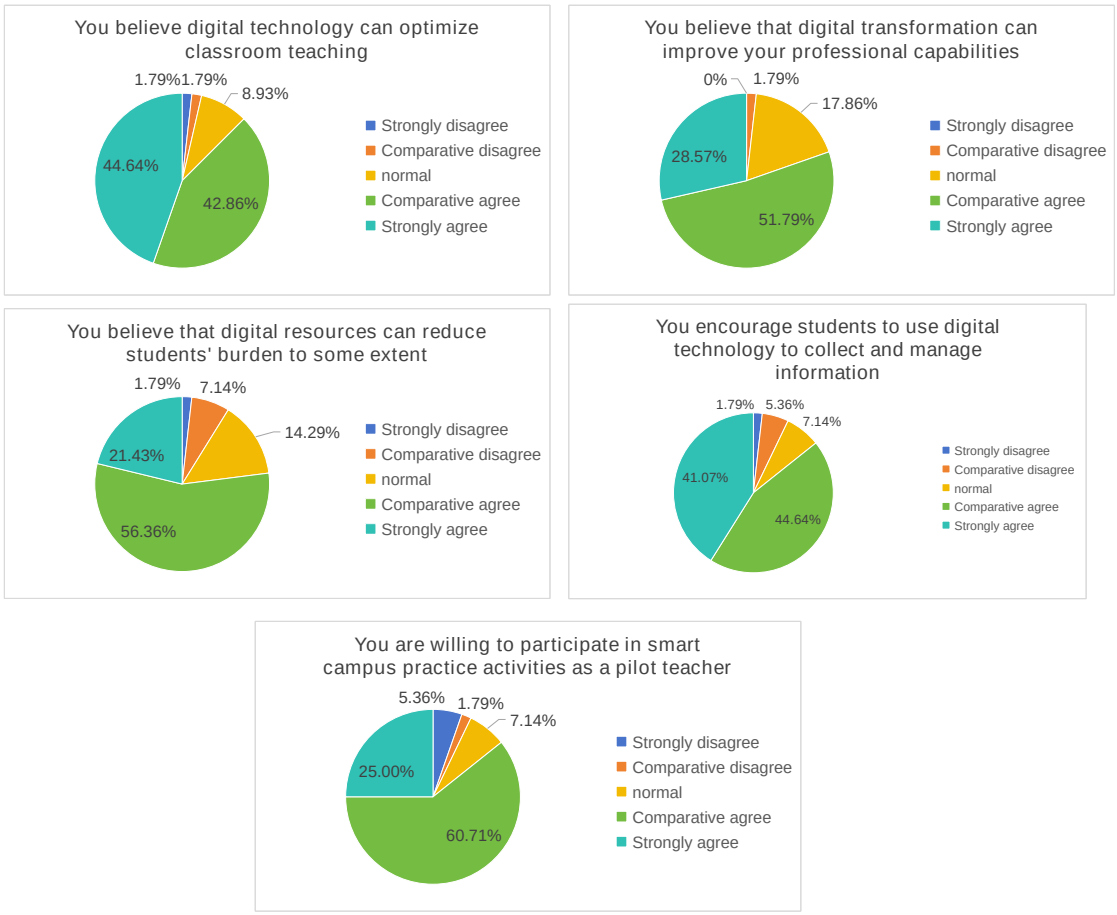

Figure 1: Analysis of the questionnaire on the dimension of "Teachers' willingness to digital transformation".

2.2. Digital literacy of teachers in secondary vocational school institutions needs to be improved

Teachers' digital literacy includes two aspects of teachers' digital awareness and practical ability, which is very important for the digital transformation of education and teaching, and teachers with high digital literacy can use modern information technology means to enrich teaching means and methods and improve teaching quality. At the same time, they can use Internet resources to provide students with richer and more diverse learning resources, which helps to broaden students' knowledge.

2.2.1. Teachers in secondary vocational schools need to be more aware of digital transformation

In order to understand secondary vocational school teachers' confidence in digital transformation and their attitudes towards digitization, the questionnaire asked "What do you think are the main challenges that may be encountered in the process of digital transformation of education?" and "What do you think is the role of digitization?" The purpose of setting multiple choice questions is to understand more comprehensively and collect information about teachers' awareness of digital transformation in education. For the question of challenges encountered in the process of digital transformation of education, each option in the question was chosen by more than 60 per cent of teachers., among which the concern about students' tendency to become addicted to electronic

devices was the most obvious, with 42 people choosing it, accounting for 75% of the total number of survey respondents, and the proportion of secondary vocational school teachers who thought that the conditions of the students' families were the dilemma of the digital transformation of education was the smallest, but it also amounted to 60.7% (see Fig. 2), which indicates that secondary vocational school teachers show obvious concern and lack of confidence in the digital transformation of education in secondary vocational school institutions.

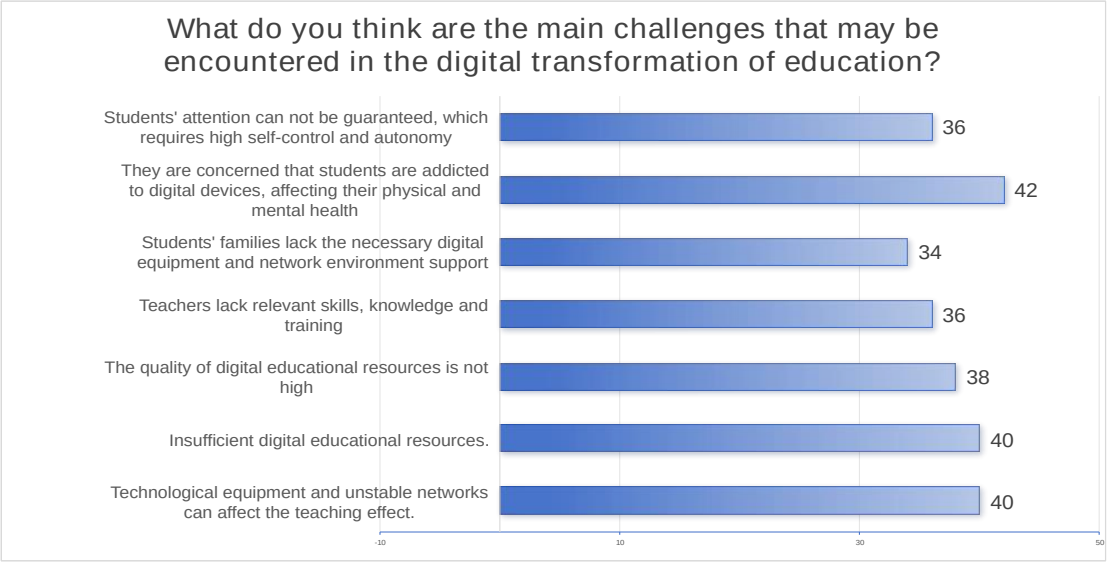

Figure 2: "What do you think are the main challenges you may encounter during the digital transformation of education?" Analyze the chart

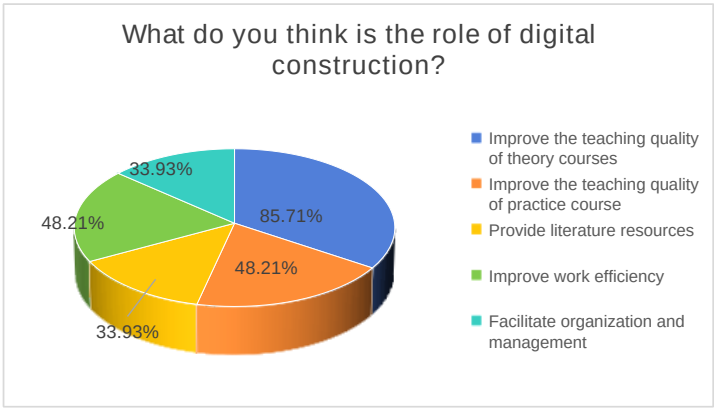

Figure 3: "What do you think is the role of digital construction?" Analytical chart

In the multiple choice question "What do you think is the role of digitization?" In the multiple choice question "What do you think the role of digital construction is?", the largest number of secondary vocational school teachers chose the option of "Improving the quality of teaching theoretical courses", with 48 teachers, accounting for 85.71% of the total, while the smallest number of secondary vocational school teachers chose the options of "Providing documentary resources" and "Facilitating organization and management", both with 19 teachers, accounting for 33.93% of the total. "This shows that most teachers in secondary vocational schools are aware of the application of digital technology in theory classes to improve the quality of teaching, but lack the awareness of the application in other aspects of education and teaching, and that teachers do not have a comprehensive understanding of the application of digital technology and lack an overall grasp of the application of digital technology overall grasp.

2.2.2. Teachers in secondary vocational schools need to strengthen their practice of digitization

In order to understand the application of digital resources by secondary vocational school teachers in the classroom, the questionnaire set up the multiple choice question "What information technology do you often use in classroom teaching?". The analysis found that most secondary vocational school teachers are still at the level of simple operation, such as making PPTs, and are not skilled in the operation of more cutting-edge technological tools, such as smart campus and other platforms. Therefore, the digital literacy of secondary vocational school teachers needs to be further strengthened (see Figure 4). In recent years, most teachers have improved their level of teaching online classes, but there is still much room for improvement.

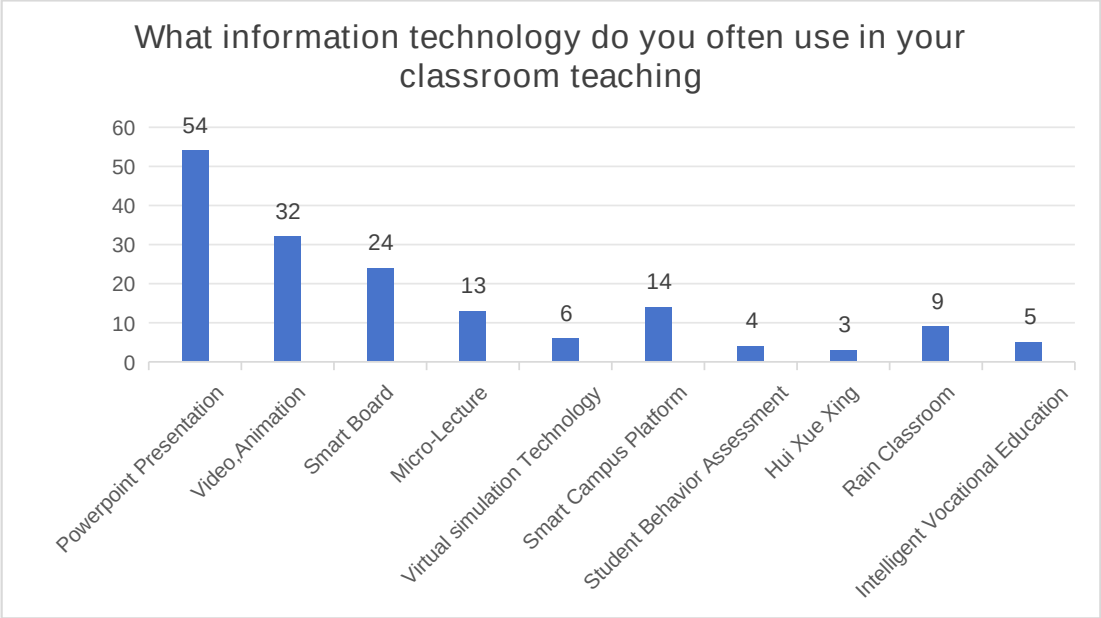

Figure 4: Analysis of "What information technology do you often use in classroom teaching"

In summary, the current secondary vocational school teachers' digital literacy needs to be improved, the reason may lie in the teacher's concept, some teachers' digital awareness is insufficient or dependence on the traditional education and teaching methods, that is, there is inertia in the educational thinking and educational strategies, which leads to the lack of teaching methods of change and innovation consciousness, do not see the substantive value of the digital transformation, or do not realize the mismatch between the teaching methods and the real production needs. In practice, the lack of digital resources or the low quality of the institution leads to insufficient access to digital channels for teachers, and due to the lack of unified systematic training, teachers are deficient in digital theory and practical knowledge. Therefore, the current informatization literacy of vocational education teachers needs to be further cultivated, and there is a gap between teachers' existing abilities and the high digital literacy requirements for secondary vocational school teachers in the digital era.

2.3. Lagging digital resources in secondary vocational school institutions

2022, the state enacted the Vocational Education Law of the People's Republic of China, which explicitly emphasizes the need to enhance the development of resources for vocational education and learning[6] . With the implementation of this law, the increasingly upgraded and updated digital facilities and equipment of vocational education have reached an unprecedented height, the digital

support conditions of vocational colleges and universities have been improved, the digital teaching ability of teachers has been continuously improved, the construction of the governance system and governance mode in the information age has begun to bear fruit, the types of digital education and teaching platforms have tended to be diversified, and the fusion of information technology and education, from the management system to the classroom teaching mode, has been increasingly Strengthening. However, in the survey on the current application of digital resources, it is found that there are still problems to be solved in the teaching practice of digital resources.

2.3.1. Digital resources neglect the role of business orientation

In the five-level scale question of "Do you have some knowledge of the current situation of the industry corresponding to the specialty you teach", 1 indicates that you strongly disagree; 2 indicates that you relatively disagree; 3 indicates that you generally agree; 4 indicates that you relatively agree; and 5 indicates that you strongly agree, and the result shows that the average score of this question is 3.29. According to the results of Fig. 2-5, 4 teachers chose "strongly agree", accounting for 7.14% of the total number. According to the results of Fig. 2-5, 4 teachers, accounting for 7.14% of the total number of teachers, chose "strongly agree", while teachers who chose "relatively agree" and "generally agree" accounted for the majority of teachers, accounting for 37.5% and 32.14% respectively (see Fig. 5). 32.14% (see Figure 5), which shows that teachers in secondary vocational schools generally lack a certain understanding of the current situation of the industry corresponding to the specialty they teach, and also reflects the fact that when teachers use digital technology, a large number of resource platforms are oriented to serve classroom teaching, ignoring the guiding role of technological change in the enterprise, or most of them are oriented by the traditional industrial model, compared to the current high-speed development of automation and intelligentization of industrial structure, vocational education digital resources exist in a variety of different ways. Compared with the current high speed development of automation and intelligentization of industrial structure, there is a certain lag in the digital resources of vocational education.

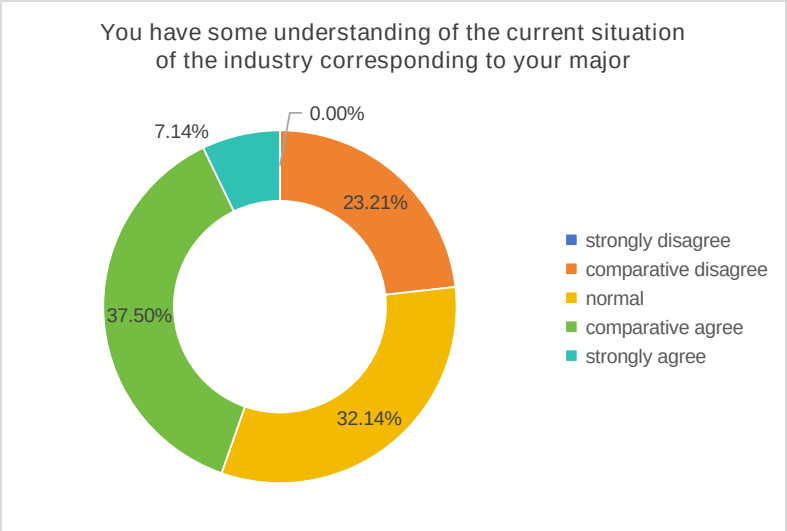

Figure 5: Analysis of "You have some knowledge of the current situation of the industry corresponding to your major".

2.3.2. The quality and penetration of digitized resources need to be improved

In the question "What do you think are the main challenges that may be encountered in the

process of digital transformation of education?", 71.43% of teachers chose "insufficient digital education resources". In the multiple choice question, 71.43% of teachers chose "insufficient digital educational resources", while 67.86% chose "poor quality of digital educational resources". In the subjective question "What do you think exists in the current digitalization of vocational education? What are your suggestions for improvement?" In the subjective question "What do you think exists in the current digitalization of vocational education? What are the suggestions for improvement?", some teachers responded that the digital resources in secondary vocational schools and colleges "are not popular" and "the equipment is old and there is a problem of updating", which indicates that the popularity of digital resources in secondary vocational schools and colleges needs to be improved and the application of the resources needs to be improved as well.

2.3.3. Digital resources are not widely used in secondary vocational school institutions

In order to understand the current situation of digital resources in secondary vocational schools and colleges, the questionnaire set a multiple-choice question "What aspects of education do you often use information technology? The analysis found that most of the teachers in secondary vocational schools would apply digital technology in the field of theoretical teaching, 51 teachers chose "theoretical teaching", accounting for 91.01% of the total number of teachers, while teachers tend to neglect the application of digital technology in home-school exchanges, 12 teachers chose this option, accounting for 21.42% of the total number of teachers (see Figure 6), while in the questionnaire "What aspects of education do you often use IT tools for?", the questionnaire set "What aspects of education do you often use? The number of teachers who chose this option was only 12, accounting for 21.42% of the total number of teachers (see Figure 6). Meanwhile, in the question "What do you think exists in the current digitalization of vocational education? What are the suggestions for improvement?" In this subjective question, some teachers said that the application of digitalization in vocational education is not extensive enough and needs to be further promoted, which indicates that teachers' application of digitalization is not extensive and needs to be further strengthened.

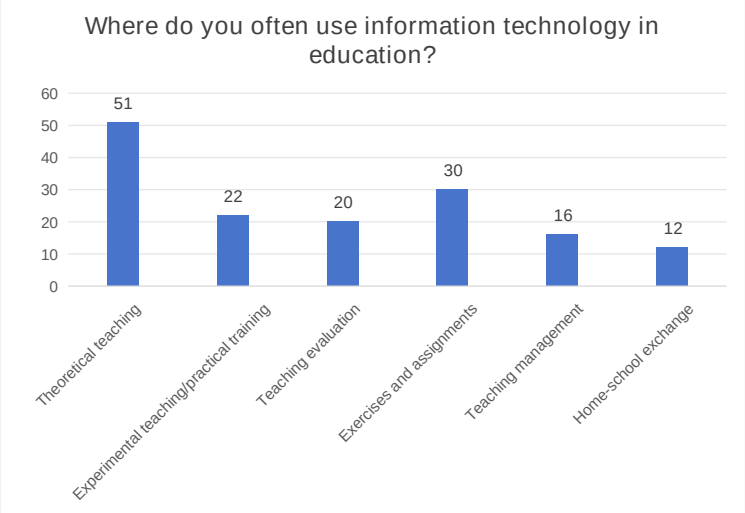

Figure 6: Analysis of "You have some knowledge of the current situation of the industry corresponding to your major".

In summary, the secondary vocational school digital resources lagging behind, mainly in a large number of service-oriented classroom teaching, ignoring the role of enterprise technology change orientation, information technology in the training of students to play the function of the classroom teaching is mainly focused on cultivating the interest of students and deepen the students on the

learning of theoretical knowledge, and in the students' practical training aspects of the involvement of a lack of students from the classroom to master the theoretical knowledge and the real industry needs there is a certain disconnect between the phenomenon. The theoretical knowledge acquired by students in the classroom and the practical requirements of the industrial sector present a certain discrepancy. Consequently, the potential of digital technology for students remains to be fully explored and utilised by education professionals.

3. The digital transformation of teaching professional courses in secondary vocational schools strategic pathway

3.1. Secondary vocational schools and colleges to do a good job of integrated planning and improve the digital development mechanism

Secondary vocational schools and colleges need to take the initiative to adapt to and follow closely the trend of digitalization of teaching, strengthen the importance of professional courses in vocational education, incorporate the digital transformation of teaching in professional courses into the career development plan as a strategic hand in running a good modernized vocational education, and formulate a strategic plan for digital education in accordance with the long-term development goals of the school, so as to clearly define the school's position and direction in the digital education. Actively formulate and plan for the digital transformation of teaching and learning in professional courses in terms of organizational structure, institutional system, teaching support services, technical environment and other regulations and implement them.

The first is the change in the way of thinking. The digital transformation of education not only requires the support of technical equipment, but more important is a change in the conceptual thinking. Therefore, it is necessary for digital teaching platforms to be truly accepted by educators and educators, and to integrate digital thinking into school management and governance work. At the same time, it should actively strengthen resource sharing, break down information barriers, and establish cooperative relationships with other institutions, enterprises and research institutes, so as to jointly promote the research and application of digital education and overcome the digital divide.

Secondly, digital teaching infrastructure is the cornerstone of digital transformation of secondary vocational schools and colleges.[7] The digitalization of teaching in secondary vocational schools and colleges requires a matching digital platform to support it. Institutions should actively introduce digital resource platforms, improve the quality of teaching digital resources, fill the digital resource gaps, and actively introduce, for example, smart campus platforms, virtual simulation laboratory bases, and professional experimental and practical bases, etc., which combine with the relevant teaching professional courses and promote the digitalization and upgrading of the professional level. Vocational education professional courses have a strong practical and industrial nature, therefore, institutions can train or recruit relevant technical personnel and management personnel to participate in all aspects of the timely updating and improvement of facilities and equipment, in order to lay the foundation for the construction of the digital curriculum, digital teaching and the implementation of digital literacy training of teachers. At the same time, digital resources should focus on professionalism, oriented to the specific industry corresponding to the profession, highlighting the specificity of vocational education, emphasizing students' skill cultivation, and realizing online and offline skills practical exercise.

3.2. Strengthening links between institutions and enterprises and implementing the concept of integration of industry and education

Vocational education professional course curriculum is the closest connection with the enterprise,

the digitalization of professional course teaching requires the joint efforts and support of multiple subjects, the government, enterprises, vocational colleges and universities should be based on the main responsibility to build the corresponding system[8]. With the rapid development of information technology, industries in various fields are facing unprecedented changes, manufacturing plants are steadily moving towards intelligence, industrialization, automation of the production process, which involves a lot of cutting-edge digital equipment and technology, and this part of the equipment in secondary vocational schools and colleges are often unable to introduce due to the cost, site and other conditions, and the traditional practical teaching equipment and teaching mode can not meet the needs of students' training, which leads to the secondary vocational schools and colleges. The training needs of students are not aligned with the times., which result in the lack of professional skills and technology among secondary vocational school students. This will ultimately lead to students' knowledge and skills outdated. Furthermore, the current level of digitisation in secondary vocational school colleges and universities cannot meet the demand for talents in the factory intellectualisation.

Taking the Chinese medicine pharmacy specialty in secondary vocational schools as an example, the positions for this specialty are mainly based on the extraction of Chinese medicine, the production and processing of Chinese medicine tablets and preparations, and the quality inspection and management of Chinese medicine, covering the entire production chain from tablets to proprietary Chinese medicines[9]. It covers the whole production chain from tablets to proprietary Chinese medicines. The processing and manufacturing process of traditional Chinese medicine is complicated, and it is difficult for school resources to meet the demand for intelligent talents for students' future work, so it is necessary for secondary vocational schools and related enterprises to cooperate deeply, follow the OBE teaching concept, take the current situation of enterprise development as the guide, take the production demand as the goal, carry out the digital transformation of secondary vocational schools in-depth, and create a new direction for the development of secondary vocational school education, and the school and enterprises will jointly develop the productive learning tasks.

Subsequently, institutions need to carry out both "bringing in" and "going out". In the aspect of "bringing in", institutions can hire enterprise experts and full-time technicians to enter the campus and participate in the digital construction and teaching activities of the institution to broaden the horizons of teachers and students, and convey the ideas and methods of digital transformation that are in line with the times, so as to promote the concept of "Entering the campus with enterprises" to reach and implement the concept of "Entering the campus". The idea of "Enterprises on Campus" can be realized and implemented. Concurrently, educational institutions may establish a digital platform for the exchange of information between schools and enterprises. This technology-based platform would facilitate communication and collaboration between teachers and enterprise, enabling teachers to gain a deeper understanding of the enterprise's current status and challenges in the digital domain. Furthermore, students could benefit from the similar platform, where they could observe the operation of the enterprise and gain comprehensive understanding of enterprise work. This would facilitate the integration of enterprise institutions into the educational landscape, offering a unique opportunity for mixed teaching, including both online and offline components.

In terms of "going out", institutions should encourage teachers to actively enter enterprises to participate in enterprise work, take part in national, provincial (district) and municipal digital teacher training programs, and learn advanced technologies from enterprises, etc. Institutions need to make it clear that "dual-teacher type" is not only a "dual-certified" teacher with a teacher's qualification certificate and a vocational skill level certificate, but also an organic integration of teachers and technicians in terms of knowledge, ability and attitude. Institutions need to be clear that "dual-teacher" is not only a "dual-certified" teacher with a teacher's license and a vocational

skills level certificate, but also an organic integration of teachers and technicians in terms of knowledge, abilities and attitudes[10]. Instead, it should be an organic integration of teachers and technicians in terms of knowledge, ability and attitude. In this process, institutions can stimulate the enthusiasm and initiative of teachers by linking their practical experience in enterprises and assessment results with their performance, merits and titles. Concurrently, institutions and enterprises may engage in collaborative projects, transcending communication barriers, thereby enabling teachers and students to participate in hands-on practice and to gain first-hand experience of the digitalisation process and the direction of the institution. This will enhancing the scientific research capabilities of teachers and students.

3.3. Deepening the concept of digital transformation and strengthening digital training for teachers

At the level of cognitive concepts, most teachers of professional courses are aware of the importance and timeliness of digital transformation and are willing to try relevant practical activities, but they are generally concerned about digital transformation in terms of their own technical skills and classroom effects, presenting a negative psychology. In this context, secondary vocational schools can play an active role in organising digital teacher skill competitions to attract the participation of teachers. In addition, they should serve to encourage teachers to engage in the promotion of practices and innovations. This will facilitate the deep integration of information technology and vocational education. Furthermore, the development of vocational school teachers' digital teaching ability will be promoted as a result. Besides, institutions should facilitate the sharing of experiences among exemplary teachers, fostering collaboration and mutual support. This will contribute to a positive and constructive working environment, which in turn will facilitate the professional development of teachers in the digital transformation process.

Additionally, teachers themselves should actively try to apply digital technology means in the classroom, seek the digital construction path suitable for classroom teaching, and on this basis, constantly reform and innovate, in-depth research, and take the initiative to integrate digital technology means into education and teaching, to enhance students' enthusiasm and participation, and to improve the quality of education and teaching. At the same time, it actively explores other technological means that contribute to education and teaching, and sees new applications of digital technology in all aspects of education, such as teaching assessment and home-school cooperation.

At the level of technical skills, most secondary vocational school teachers report that one of the fundamental reasons for their difficulty in carrying out the digital transformation of specialized courses is the lack of technical skills and related systematic training mechanisms. Schools should rationally coordinate teachers of different courses at different stages of each position, actively respond to the requirements and goals of the national policy on secondary vocational school teachers, put teachers' digital training in place, through systematic training and operation, teachers not only need to understand the principles of the digital technology platform knowledge and concepts, but also need to master the operation methods, learn to use the relevant equipment and software and be able to reasonably integrate into the practice of the classroom. In secondary vocational schools, teachers and teachers should also cooperate with each other, teachers with high levels of digital technology to lead the relatively low level of teachers to learn and cooperate, to form a positive mutual assistance. For teachers themselves, they should constantly keep themselves in an open and innovative learning environment, actively promote the integration of digital technology and professional education and teaching, and grow their knowledge and practical ability of digital transformation in practice.

The construction of digital competence of teachers in secondary vocational schools not only requires teachers to pay attention to the needs of the real industry, but also requires teachers to have the ability to independently update their growth and adaptability, so as to timely cope with the test

of the times and the digital needs that they will face in the future. Intelligent information technology provides convenience and new development for the industry and at the same time, it also puts forward new challenges for the secondary vocational school institutions and the teaching and learning of teachers, so that the teachers should establish a lifelong learning and development concept. Teachers should establish a lifelong learning concept of development, constantly update and adapt to the new changes in technology, and strive to seek a stable balance and independent development in a world of rapidly changing development.

4. Conclusion

In recent years, China's digital education has been developing rapidly, and digital teaching can enrich the teaching content through multimedia and Internet technology, provide personalized learning paths, help students better understand and master knowledge, and thus improve the efficiency and quality of teaching. However, in practice, the digital transformation of teaching in specialized courses in secondary vocational schools has the problems of insufficient digital resources and low quality in institutions, and low digital literacy of teachers. The digital transformation of teaching in secondary vocational schools requires the mutual cooperation and positive response of secondary vocational school institutions, teachers and related enterprises.

Based on the questionnaire survey, this paper analyzes the current status of research and practice of digital transformation of teaching and learning of professional courses in secondary vocational schools, and puts forward the strategic research on digital transformation of teaching and learning in secondary vocational schools.Promoting the digital transformation of teaching and learning in secondary vocational schools is a complex project involving multiple subjects and multiple factors, as well as a long-term and gradual process, and therefore, it is bound to face a number of challenges, which require the need to higher education teaching stakeholders to make concerted efforts and systematic promotion.

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