Teaching online-offline mixed mode of traditional Chinese medicine courses at Linyi Vocational College

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Abstract

The purposes of this research were to 1）study the current state of mixed online-offline teaching at Linyi Vocational College, 2) identify factors influencing mixed online-offline teaching at Linyi Vocational College, and 3) find the importance of mixed learning for resource sharing. The target group consisted of 110 individuals, from 30 traditional Chinese medicine teachers and 80 students (40 freshman-year and 40 sophomore-year students) in the first semester of the 2024 academic year. The research instruments were 1) questionnaires for students, 2) questionnaires for teachers, 3) semi- structural interviews, and 4) observation checklist. The data were statistically analyzed by using mean, standard deviation, percentage, data analysis, and content analysis.

The research findings indicated that current State of Mixed Online-Offline Teaching: Linyi Vocational College actively explores and practices a blended teaching model of online and offline in traditional Chinese medicine (TCM) courses. This model combines online course platforms with classroom teaching, conducting online teaching through video, live streaming, interactive courseware, and other forms, while emphasizing offline practical exercises and teacher-student interaction. 2. Factors Influencing Mixed Online-Offline Teaching: The effectiveness of blended learning mode is influenced by various factors. The improvement of technical support and infrastructure is key, but the adaptability and innovation ability of teachers and students towards technology are also crucial. The ability and participation of students in self-directed learning directly affect teaching effectiveness, while the adaptability of curriculum design and content determines the organic integration of online and offline teaching. 3. Mixed learning's diverse and complementary resources enhance sharing by combining online and offline resources, mixed learning offers a richer teaching environment that fosters effective resource sharing. Online and offline resources complement each other, improving utilization efficiency. This approach also promotes resource sharing and exchange between teachers and students, increasing accessibility and utilization, ultimately improving teaching effectiveness and learning experience. Insights gained from the surveys and interviews provided valuable information on how the implementation of mixed learning at Linyi Vocational College can be improved for better outcomes.

Keywords: Online-Offline learning, blended teaching, resource sharing, traditional Chinese medicine, vocational education.

Introduction

The current era is a knowledge economy characterized by global intelligent connectivity,

full of changes, uncertainty, complexity, and ambiguity. Internet technology is changing people's lives at an astonishing speed, and education is no exception. "Internet" education is a new form of online education. By using the Internet and mobile information systems, it breaks through the restrictions of time and space, making education more humane and personalized. Compared to traditional teaching methods, it has significant differences in form, methods, and other aspects. The introduction of this form of education is not only a technological update and reform, but also brings about a transformation in educational concepts and teaching models. Through "Internet" education, people can more conveniently acquire knowledge and meet diverse knowledge needs, without being limited by time and location. This transformation is of great significance for the field of education.

Traditional Chinese medicine is a key component of Chinese traditional culture, and its unique theoretical system and rich medical practice experience have been widely applied and continuously developed in China's thousands of years of history. As a unique medical system, traditional Chinese medicine has been recognized by countries around the world and has become a hot topic in the field of medical technology worldwide. Vocational education in traditional Chinese medicine is of great significance in cultivating talents in the field of traditional Chinese medicine and inheriting traditional Chinese medicine culture. However, with the rapid development of society and the updating of educational concepts, traditional classroom teaching models have gradually revealed their limitations, such as limited teaching resources, low student interest in learning, and difficulty in comprehensively evaluating teaching effectiveness. The traditional offline teaching mode is obviously unable to adapt to the new situation and needs. The teacher-centered teaching mode needs to be transformed into a student-centered independent inquiry teaching mode. The rapid popularization and application of information technology have brought new opportunities and challenges to the field of education, and the mixed online-offline teaching mode model, as a new type of teaching model, has gradually received widespread attention. How to convey the essence of a subject to students in the shortest possible time, while cultivating their interest in traditional Chinese medicine theory and encouraging them to explore and learn, is a topic that should be discussed in traditional Chinese medicine teaching in vocational College (Wang, Chen, Yu & Jing, 2024).

The traditional education model is a product of long-term historical development, which focuses on imparting basic knowledge and cultivating discipline. In traditional education of traditional Chinese medicine, the classroom is led by teachers, and students are required to memorize many classic Chinese medicine works. This teaching method emphasizes the one-way transmission of knowledge, and students are often passive recipients of knowledge, making it difficult to effectively present rich knowledge content to students. In addition, the practicality of traditional Chinese medicine is strong, and students need to improve their skills through practical operations and clinical internships. However, traditional teaching methods have limitations in time and space, often unable to meet the practical needs of students.

The mixed learning model is student-centered, supported by teachers, and centered around building a student competency system. It combines online and offline activities for extracurricular learning for classroom teaching, combining information technology with traditional classroom teaching. Online teaching includes course teams creating and publishing courses on an online teaching platform, as well as guiding students to learn independently. Offline teaching refers to teachers teaching in the classroom, organizing classroom learning, and solving student problems face-to-face. The knowledge content in the field of traditional Chinese medicine is complex. How to effectively combine modern information technology with traditional classroom teaching based on the characteristics of traditional Chinese medicine courses, and effectively apply mixed teaching of traditional Chinese medicine courses to vocational education is an urgent problem that

needs to be solved. Research has shown that mixed online-offline teaching mode combines the two teaching modes mentioned above, ensuring the leading role of teachers in guiding and monitoring the teaching process, and fully reflecting the enthusiasm and initiative of students as learning subjects, complementing each other's advantages. It is an effective method to improve teaching quality. Research has shown that after adopting a mixed learning model, students majoring in traditional Chinese medicine can learn practical basic knowledge of traditional Chinese medicine through online learning platforms, and apply the practical knowledge learned on the platform to offline classrooms, fully combining knowledge and skills to maximize the medical service capabilities of medical students. There are only practical problems in traditional Chinese medicine education related to clinical medicine, such as insufficient teaching time, relatively weak teaching teachers, insufficient learning atmosphere for traditional Chinese medicine, lack of learning resources for traditional Chinese medicine, insufficient emphasis on the construction of traditional Chinese medicine courses, and insufficient practical foundation for traditional Chinese medicine teaching (Agustina, 2021; Tan, Yue & Fu, 2017).

Research Objectives

1) To study the Current State of Mixed Online-Offline Teaching at Linyi Vocational College

2) To Identify Factors Influencing Mixed Online-Offline Teaching at Linyi Vocational College

3) To find the Importance of Mixed Learning for Resource Sharing
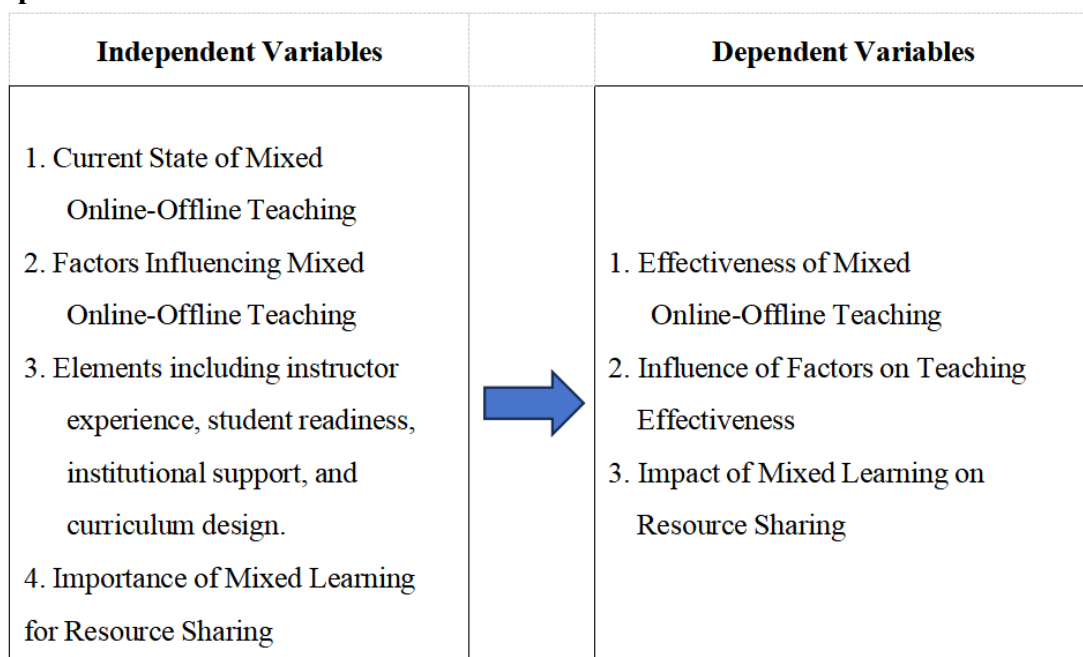
Conceptual Framework

Independent Variables	Dependent Variables
1. Current State of Mixed Online-Offline Teaching 2. Factors Influencing Mixed Online-Offline Teaching 3. Elements including instructor experience, student readiness, institutional support, and curriculum design. 4. Importance of Mixed Learning for Resource Sharing	1. Effectiveness of Mixed Online-Offline Teaching 2. Influence of Factors on Teaching Effectiveness 3. Impact of Mixed Learning on Resource Sharing

Figure 1 Conceptual framework

Literature Review

Humanistic learning theory is an educational theory that emphasizes individual development, self-actualization, and personal growth. This theory highlights the importance of learners' emotions, experiences, and self-awareness in the learning process, viewing learning as an active engagement rather than passive knowledge acquisition. It was initially proposed by American psychologist Carl Rogers, who introduced the learner-centered theory of learning, emphasizing the importance of learners' initiative and self-actualization. He believed that the learning environment should provide support and respect to facilitate students' self-awareness and growth (Bangbon et al., 2023; Rogers, Carl Ransom, & H. Jerome Freiberg, 1994). Maslow and A. H. (1981) proposed the hierarchy of needs theory, emphasizing the influence of basic human needs on behavior and motivation. He suggested that meeting higher-level needs can promote individuals' self-actualization and growth.

Teachers should value learners' internal feelings and needs, understand, and respect their individual differences, and tailor their teaching accordingly. This approach can stimulate each learner's intrinsic motivation for learning and thinking, creating a highly efficient and high-quality learning process and outcomes. Traditional Chinese medicine (TCM) has a long history and rich theoretical system, covering basic theories, clinical practice, health preservation, and preventive healthcare. In the traditional offline teaching mode, TCM courses are typically taught by experienced and skilled teachers. However, students are less engaged in classroom interactions and discussions, and the brief class hours limit their opportunities to understand the rich cultural background behind TCM, thereby slightly lacking in enriching, shaping students' knowledge, and influencing their inner character (Osadcha, Kateryna P, Osadchyi, Viacheslav, & Spirin, Oleg, 2021).

In contrast, in the mixed learning mode, the transmission and dissemination functions of information technology are fully utilized to present various TCM course videos on online platforms. Moreover, personalized learning paths and content can be provided based on students' learning needs and levels, allowing each student to learn according to their own circumstances, meet individual needs, and achieve personalized teaching. From the perspective of humanistic learning theory, the mixed learning mode is an extension and application of its theoretical foundation. This teaching mode emphasizes students' autonomy in learning and embodies the concept of individual development and self-actualization in humanistic thought. Through mixed learning, students can explore new knowledge autonomously, participate in the learning process, and deepen their understanding of the knowledge. In practice, teachers should take students as the main body, starting from their learning foundations and needs, carefully design courses and teaching activities, and promote students' active participation and autonomous learning. This teaching philosophy reflects the scientific teaching concept of "teacher-led, student-centered," and contributes to improving students' learning effectiveness and learning experience.

Jean Piaget's constructivist theory holds a crucial position in the field of cognitive development and has played a significant role in the advancement of education. Constructivist theory emphasizes student-centered learning, highlighting the active construction of cognitive structures by students themselves. According to this theory, students' learning activities should be based on their existing cognitive structures, actively Exploring and discovering new knowledge, Understanding and interpreting new knowledge rationally, thereby constructing their own understanding in the brain and achieving the goals of absorbing and digesting new knowledge. Constructivist learning theory believes that cooperative learning is of great significance for students to learn and explore new knowledge, and active learning and cooperative inquiry are crucial for learners' cognitive development.

During online learning, teachers provide face-to-face targeted guidance in the classroom based on students' online learning feedback, thereby enriching, updating, and developing students' internal knowledge structures in a cycle of balancing one imbalance with another, helping to optimize students' internal knowledge framework and improve learning quality (Yue & Weining, 2019). Scholars have explored the feasibility of applying constructivist learning theory in online education. Teaching methods based on constructivist theory can enhance students' engagement and motivation, strengthen their understanding and application of knowledge, thereby promoting their knowledge construction and skill development (Fletcher, J. A., 2007). Peng and Fu (2021) argue that using a project-based learning approach based on constructivist learning theory can promote students' deep learning and understanding. Through project-based learning, students can engage in real-world problem-solving and task completion processes, autonomously explore, discover, and construct knowledge. This learning approach stimulates students' initiative and creativity, enhancing their motivation and learning effectiveness.

By utilizing online internet platforms, students can access abundant knowledge resources, helping them expand their knowledge scope and establish profound knowledge structures. Meanwhile, online platforms feature feedback mechanisms that enable students to engage in timely interaction with teachers, enhancing their logical and independent thinking skills when contemplating problems and accurately establishing knowledge frameworks. In the classroom learning process, teachers can provide personalized face-to-face guidance based on students' learning situations, stimulating students' active Thinking, promoting their continuous updating and enrichment of their knowledge structures, thereby improving learning effectiveness.

In the early 1990s, with the development of the internet and network technology, some educators began to experiment with combining online learning with traditional face-to-face teaching to provide a more flexible learning approach. This marked the emergence of mixed learning. In 1997, American educator Christensen (1997) proposed the "Innovation Theory," further developed in his 2000 work "The Innovator's Dilemma." He introduced the idea of combining online and traditional education, laying the foundation for the theory of mixed learning. With the continuous development and maturity of educational technology, as well as ongoing exploration of educational methods and learning theories, mixed learning gradually became a research hotspot in the field of education. Scholars began to propose different models and theoretical frameworks for mixed learning, conducting extensive practice and research.

Research Methodology

Population and Sample

The target groups are 110 individuals: 30 traditional Chinese medicine teachers and 80 students (40 Freshman and 40 sophomore year students) from the Program of Traditional Chinese Medicine Rehabilitation Technology, School of Medical and Health Care, Linyi Vocational College, Shandong Province, during the first semester of the 2024 academic year.

Research Instruments

The research and instruments used in this research were 1) questionnaire for students, 2) questionnaire for teachers, 3) semi-structural interviews, and 4) observation checklist. Details of the construction and quality of each research instrument are as follows:

1) Questionnaire for students

1.1) There are 2 parts of it: Part 1 is used for gathering quantitative data on students, consisting of personal information about the respondent's gender, professional category, and grade totaling 3 items and Part 2 is used for collecting the respondents' learning information, opinions, and satisfaction that are related to the research objective   1 - 3, totaling 20 items as shown in Appendix D.

1.2) Choose appropriate question formats: Utilize closed ended (Likert scale) questions to gather both quantitative and qualitative data.

1.3) Draft the questionnaire: Organize the questions in a logical sequence and create an initial draft of the questionnaire.

1.4) Review and revise: The researcher presented the draft questionnaire to the advisor to check the content accuracy for clarity, relevance, and comprehensiveness. The researcher then revised the questionnaire and presented it to 3 experts to examine the quality of research instrument to check the accuracy and appropriateness and assess the index of consistency (IOC).

2) Questionnaire for teachers

2.1) There are 15 items for collecting the respondents' insights from university faculty on their experience with blended learning (combining online and offline teaching), the challenges they face, and their views on resource sharing. that are related to the research objective 1 – 3 as shown in Appendix D.

2.2) Choose appropriate question formats: Utilize closed ended (Likert scale) questions to gather both quantitative and qualitative data.

2.3) Draft the questionnaire: Organize the questions in a logical sequence and create an initial draft of the questionnaire.

2.4) Review and revise: The researcher presented the draft questionnaire to the advisor to check the content accuracy for clarity, relevance, and comprehensiveness. The researcher then revised the questionnaire and presented it to 3 experts (who were the same group of experts that checked and evaluated the questionnaires for students) to examine the quality of research instrument to check the accuracy and appropriateness and assess the index of consistency (IOC).

4) Observation Checklist

An observation checklist is used to measure behavior with a checklist that allows the observer to record events or behaviors quickly and efficiently without assessing the quality or frequency of the behavior that occurs. The advantage is that it helps to make the data highly reliable, while the disadvantage is that it may waste time when the behavior occurs in a short period of time and may interfere with the true answers from the respondent in the questionnaire.

For this observation checklist, the researcher will evaluate the implementation and effectiveness of teaching strategies in real-time, and has organized it into 3 sections as shown in Appendix D.

Section 1: General information of the respondents

Section 2: This section related to course design and structure, student engagement and participation, instructor's use of technology, interaction and communication, and overall teaching effectiveness.

Section 3: Summary of observation related to Strengths Identified and Areas for Improvement

Conclusion

The research reveals that the mixed teaching method at Linyi Vocational College encompasses various aspects including Course Design and Structure, Student Engagement, Instructor's Use of Technology, Interaction and Communication, and Overall Teaching Effectiveness. In terms of course design, it highlights the integration of online and offline content, alignment of teaching objectives, effective use of course materials, and student participation. Student engagement is observed both in offline and online classes, with prompt responses to teachers' questions and high-quality interactions among students. Instructors demonstrate

proficiency in using online teaching tools, smooth transitions between online and offline modes, effective utilization of multimedia and digital resources, and competence in handling technical issues. Interaction and communication between instructors and students are frequent and effective, with clear and efficient communication channels.

Overall, the teaching effectiveness is evaluated based on student engagement and motivation, learning outcomes, instructors' adaptability to mixed teaching challenges, and the overall effectiveness of the course.

1.2 The study identifies several key factors, including the technological proficiency of instructors, student engagement and responsiveness, course design elements, and instructor adaptability. Technological proficiency directly impacts the smooth implementation of mixed teaching. Student engagement and responsiveness are crucial in determining the effectiveness of mixed teaching. Course design, including the integration of online and offline content, alignment of teaching objectives, and effective use of course materials, also plays a significant role. Instructor adaptability to mixed teaching challenges is another important factor influencing the overall teaching effectiveness.

1.3 The research emphasizes the diversity and complementarity of resources in mixed learning, which enhances the sharing mechanisms. Mixed learning provides a richer array of teaching resources by combining online and offline resources, fostering effective resource sharing. Online resources complement offline resources, and vice versa, improving resource utilization efficiency. Mixed teaching promotes resource sharing and exchange between teachers and students, enhancing resource accessibility and utilization, thereby improving overall teaching effectiveness and learning experience.

Research Discussion

Linyi Vocational College has made certain explorations and practices in implementing a blended teaching model that combines online and offline learning. With the rapid development of information technology, especially after the outbreak of the COVID-19 pandemic, the college has actively promoted the construction and application of online teaching platforms, gradually achieving the digital transformation of teaching content and methods. The college adopts a combination of online and offline teaching methods based on the characteristics of different subjects. Online courses are mainly conducted through online course platforms, allowing students to learn anytime and anywhere through videos, live broadcasts, interactive courseware, and other formats, while offline teaching takes place in the classroom, focusing on practical exercises and interaction with teachers. In terms of course arrangement, theoretical courses are mostly conducted online using recorded lessons, live broadcasts, and discussions to deliver knowledge, while practical courses are still conducted offline, with an emphasis on hands-on experience, experiments, training, and project-based learning to enhance students' practical and application skills. In addition, the college continuously strengthens teaching resources, teacher training, and technical support to ensure the smooth implementation of the blended teaching model (Peng, 2011).

The transition to a mixed online-offline teaching model for Traditional Chinese Medicine (TCM) courses at Linyi Vocational College presents several challenges. First, the inherent complexity and practical nature of TCM knowledge pose difficulties in effectively transferring theoretical knowledge to practical skills through online platforms. Although online resources such as videos and digital textbooks can provide theoretical understanding, students

often struggle with translating this knowledge into tangible skills without sufficient in-person practice opportunities. Moreover, the varied levels of student engagement in online learning also pose challenges. While some students may benefit from the flexibility of online modules, others may struggle with self-regulation and time management, which are essential for succeeding in a mixed learning environment (Yu & Wang, 2023).

The technological and infrastructural limitations of Linyi Vocational College also play a significant role in the challenges of implementing mixed online-offline teaching for TCM. While the college has made strides in integrating digital tools and platforms into its curriculum, some students report difficulties in accessing high-quality online content due to issues such as limited internet bandwidth, outdated devices, or lack of proper technical support. These barriers significantly affect the effectiveness of online learning, making it difficult for students to fully engage with the course materials and participate in virtual activities (Vaughan, Cleveland-Innes, & Garrison, 2013). Furthermore, the lack of seamless integration between online and offline components often leads to fragmentation in the learning experience. Students may find it difficult to bridge the gap between the theoretical knowledge gained online and the practical skills they need to develop in the classroom. This disjointed learning experience could potentially lead to confusion or frustration, especially for those students who are not accustomed to independent online learning environments.

Technical support is one of the key factors influencing the successful implementation of the blended teaching model (Wongmajarapinya et al., 2024). Linyi Vocational College has established an online teaching platform that provides educational resources, including recorded videos, live classes, and interactive courseware. However, despite the continuous improvement of the college's technological infrastructure, some students and teachers still face challenges in adapting to the technology. For instance, some teachers may lack experience in using online platforms for interaction, while students may occasionally face issues such as unstable internet connections or insufficient devices. This indicates that technical support is not only about the construction of platforms but also requires training and ongoing support for both teachers and students to ensure that technology truly enhances the effectiveness of teaching.

Teacher adaptability and innovation in teaching methods are another crucial factor impacting the effectiveness of blended teaching. In Chinese Medicine courses, the integration of practical operations and theoretical knowledge is particularly important. Therefore, teachers need not only to be proficient in Chinese Medicine but also to possess the ability to flexibly apply a combination of online and offline teaching strategies. Research has shown that some teachers face a conflict between traditional teaching methods and modern online education tools when transitioning to blended teaching, which affects the improvement of teaching outcomes. To better adapt to the blended learning model, teachers need to not only become more familiar with the technology but also continuously innovate their teaching methods, leveraging the advantages of online platforms. For example, they could increase practical learning opportunities for students through virtual experiments or simulated diagnosis and treatment.

A significant advantage of the blended teaching model is its ability to provide greater autonomy in learning. However, student autonomy and engagement largely influence the effectiveness of this model. Research has found that although online courses offer flexible learning time and space, some students lack self-management and proactive learning abilities,

which leads to poorer outcomes in online learning. This issue is especially pronounced in Chinese Medicine courses, which require strong practical skills and comprehension. In the absence of face-to-face guidance, students may feel lost or confused. Therefore, improving students' self-directed learning abilities and motivating them is key to enhancing the effectiveness of blended teaching.

Curriculum design and the adaptability of teaching content are also key factors in the successful implementation of the blended teaching model. The nature of Chinese Medicine courses demands a close integration of theory and practice, so designing a blended curriculum that balances the transmission of theoretical knowledge, and the cultivation of practical skills is an important topic of this research. In this study, we found that placing foundational theoretical courses online, delivered through recorded videos and interactive discussions, effectively addresses the time and space limitations of traditional teaching. However, courses with a strong practical component, such as Chinese Medicine diagnosis, acupuncture, and massage, still require in-person instruction to focus on hands-on practice and face-to-face guidance from teachers. Therefore, the appropriate allocation of course content and the organic integration of online and offline elements is fundamental to ensuring the effectiveness of the blended teaching model.

The attitudes and acceptance of both students and teachers towards the blended teaching model are important factors that influence its effectiveness. Research shows that while some students and teachers hold a positive attitude towards blended learning, believing it enhances learning flexibility and efficiency, others are resistant to the new model, particularly when faced with unfamiliar technology or difficulty in adapting to online learning. The acceptance and adaptability of both teachers and students directly impact their engagement and enthusiasm in the teaching process. Therefore, when implementing the blended teaching model, the college should focus on gathering feedback from both students and teachers, making timely adjustments and optimizations to enhance the acceptance and effectiveness of the teaching model.

The successful implementation of blended teaching also requires strong support and effective organization from the school management (Sirathanakul et al., 2023). Research shows that during the promotion of blended teaching, the college has been able to provide policy support and resource guarantees, ensuring the update of teaching equipment and the training of teachers. This has provided a strong foundation for the successful implementation of the blended teaching model. The college should continue to strengthen its management and organizational support for blended teaching, ensuring that each teaching process runs smoothly and further improving teaching quality and student learning outcomes.

One of the most significant advantages of mixed-mode learning is the ability to expand access to learning resources. In TCM education, many instructional materials - such as rare texts, instructional videos, and expert demonstrations - can be challenging to access in a traditional classroom setting. Through online platforms, these resources can be made available to students at any time and from anywhere. This greatly benefits students who may have difficulty attending in-person sessions due to geographic, financial, or other constraints. For example, TCM students in remote areas can access video lectures by renowned practitioners, digital versions of ancient medical texts, and other supplementary materials that they might otherwise not have access to.

Additionally, TCM education often involves a wealth of multimedia resources (e.g., instructional videos, 3D models of acupuncture points, herbal medicine identification guides,

etc.). With a mixed learning approach, students can use online platforms to explore and interact with these resources, allowing them to better understand complex TCM concepts that are difficult to convey through traditional textbooks alone.

Mixed learning environments encourage greater collaboration among students, which is essential in TCM education, where learning is often enhanced through discussion, exchange, and practical application of knowledge. Online platforms provide students with opportunities to share resources, ask questions, and collaborate on case studies, even if they are not physically present in the same location. Forums, group chats, and shared virtual spaces allow students to connect, share experiences, and learn from each other.

Mixed learning fosters a culture of lifelong learning, which is essential in a dynamic field like TCM. The integration of online learning materials in TCM education allows students to continue learning beyond the classroom and formal training. In a profession where new research, techniques, and practices emerge regularly, the ability to access up-to-date information online ensures that students and practitioners can stay current with the latest developments in the field. Moreover, mixed learning offers the flexibility to revisit and review past content at any time, allowing both students and practitioners to continuously refresh their knowledge. This is especially valuable for TCM professionals who may be working full-time in clinics but still wish to stay updated on new practices, medicinal herbs, or diagnostic techniques through accessible online courses or webinars.

Mixed learning allows for more dynamic and interactive teacher-student interactions. Online components, such as video conferences, live webinars, and virtual office hours, provide students with direct access to their instructors for personalized support, feedback, and guidance. This is especially beneficial in TCM education, where instructors' expertise in diagnosing and treating complex conditions is vital. Through mixed learning, students can submit assignments, ask questions, and receive instant feedback from instructors, even outside of regular class hours. This continuous feedback loop ensures that students stay on track with their learning and are able to clarify misunderstandings promptly.

Mixed learning can also facilitate cross-disciplinary resource sharing within the field of TCM. By integrating online platforms and digital resources, students can not only engage with TCM-related content but also access information from related fields such as nutrition, pharmacology, or medical ethics. This approach allows for a more holistic understanding of the interconnections between different areas of healthcare and encourages students to think critically about how TCM integrates with other medical practices. For example, students studying TCM may take online courses in anatomy, biochemistry, or nutrition to enhance their understanding of the human body and better inform their TCM practices. This cross-disciplinary learning approach broadens students' knowledge base and enriches their overall education, preparing them for a more integrated approach to patient care.

TCM is a field deeply rooted in tradition, but modern advancements in technology provide new opportunities for enhancing teaching and practice. Mixed learning is an effective way to bridge the gap between traditional TCM knowledge and modern technological tools. For instance, TCM practitioners can use online platforms to access modern research on herbal medicines, acupuncture techniques, or diagnostic tools, while still maintaining their commitment to traditional practices. Additionally, modern tools such as mobile apps, AI-powered diagnostic devices, or telemedicine platforms can be integrated into the teaching of TCM to offer students a more comprehensive and contemporary perspective. This ensures that students not only preserve the ancient wisdom of TCM but also stay abreast of technological advancements that can improve patient outcomes.

Research Suggestions

1. To improve the effectiveness of blended teaching, it is recommended that the school provide more comprehensive information technology training for teachers to help them master the use of teaching platforms and various online teaching tools effectively. This will not only improve teachers' digital literacy but also enhance their ability to design and organize blended courses, which in turn can increase student engagement and learning outcomes. Additionally, the school should offer continuous technical support to ensure that any issues encountered during teaching can be resolved in a timely manner.

2. Although the blended learning model has enhanced resource sharing efficiency, the current online resources and platform development are still inadequate, especially for specialized resources in traditional Chinese medicine courses. It is recommended that the school focus on enhancing the digital resource development for traditional Chinese medicine courses, increasing the availability of video lessons, simulation experiments, and case studies, so that students can continue learning and reviewing outside the classroom. Furthermore, the school should optimize the interactivity and user-friendliness of the online platform to ensure that students can easily access and use these resources.

3. Course design should better integrate the strengths of both online and offline teaching to ensure that the two complement each other. It is suggested that when designing blended courses, attention should not only be given to theoretical knowledge delivery but also to strengthening practical components, allowing students to apply the knowledge they have learned in real-world scenarios. The online component can be used for learning foundational knowledge and self-exploration, while the offline component should focus on personalized guidance and hands-on practice. Additionally, course design should be more flexible, taking into account students' different learning paces and needs, and offering personalized learning paths to enhance overall teaching effectiveness.

4. To improve the effectiveness of blended teaching, it is recommended that the school provide more comprehensive information technology training for teachers to help them master the use of teaching platforms and various online teaching tools effectively. This will not only improve teachers' digital literacy but also enhance their ability to design and organize blended courses, which in turn can increase student engagement and learning outcomes. Additionally, the school should offer continuous technical support to ensure that any issues encountered during teaching can be resolved in a timely manner.

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