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Research on the Digital Pathways for the Protection and Inheritance of Intangible Cultural Heritage

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Abstract

This study aims to explore how local vocational colleges in Yueyang, Hunan Province, protect and inherit Intangible Cultural Heritage (ICH) through digital means. By analyzing the current status and challenges of ICH protection and considering the development trends of digital technology, the study focuses on the unique role of vocational colleges in the digital protection of ICH. Using literature reviews, interviews, and case studies, the study proposes specific pathways for the digital protection of ICH in Yueyang, including the construction of digital archives, digital education and training, digital display and dissemination, and social participation and interaction. The study finds that vocational colleges have multiple advantages in ICH protection, such as resource integration, talent cultivation, and technology application. The application of digital means will effectively enhance the efficiency of ICH protection and the breadth of its dissemination. Finally, the paper proposes relevant policy recommendations and implementation strategies to provide theoretical and practical references for promoting the digital protection of ICH.

Keywords

Intangible Cultural Heritage, Digital Protection, Vocational Colleges, Yueyang, Hunan

1. Introduction

With the acceleration of globalization, Intangible Cultural Heritage (ICH) faces unprecedented challenges. As a unique cultural resource, ICH not only carries rich historical memories and cultural values but also serves as an important link in maintaining cultural diversity. However, with the advancement of modernization and urbanization, many ICH projects are facing the crisis of

discontinuity and extinction. Therefore, how to effectively protect and inherit ICH has become an urgent issue in today's society.

ICH encompasses a wide range of cultural expressions, including oral traditions, performing arts, social practices, rituals, festive events, knowledge, and practices concerning nature and the universe, as well as traditional craftsmanship. These elements are not only vital to the identity and continuity of cultures but also contribute significantly to the world's cultural diversity and richness. However, the pressures of economic development, changing lifestyles, and external influences often lead to the erosion of these traditional practices.

In recent years, the rapid development of digital technology has provided new opportunities for the protection and inheritance of ICH. Through digital means, not only can ICH data be permanently preserved and easily disseminated, but technologies such as Virtual Reality (VR) and Augmented Reality (AR) can also vividly recreate cultural scenes of ICH, giving new life to it. Digital archives, for instance, can store vast amounts of information about ICH, including videos, audio recordings, photographs, and textual descriptions, ensuring that this knowledge is not lost to future generations.

Especially in local vocational colleges, combining educational resources and technical advantages to carry out digital protection and inheritance of ICH is of great practical significance. These institutions can serve as hubs for the community, bringing together students, educators, and ICH practitioners to collaborate on projects that document and promote traditional cultural practices. By incorporating digital tools into their curricula, vocational colleges can equip students with the skills needed to create digital representations of ICH, from simple databases to immersive VR experiences.

As a historic and cultural city, Yueyang in Hunan Province has rich ICH resources. This city is home to numerous traditional crafts, folk performances, and cultural practices that have been passed down through generations. Local vocational colleges in Yueyang have already carried out a series of explorations and practices in the protection and inheritance of ICH. They have engaged in activities such as recording traditional performances, creating digital archives, and developing educational programs that teach students about local ICH.

However, current research and practice mainly focus on static protection of ICH, lacking systematic and long-term digital pathways. Most of the efforts have been fragmented and short-term, without a comprehensive strategy that integrates various digital technologies and methodologies. Therefore, this study aims to explore how local vocational colleges in Yueyang can construct effective pathways for the digital protection and inheritance of ICH through digital means. It will investigate the potential of a more holistic approach that leverages digital tools to create sustainable and dynamic records of ICH.

The research content of this paper mainly includes the following aspects: first, analyzing the definition, classification, and protection status of ICH, and exploring the necessity and feasibility of digital technology in ICH protection; second, analyzing the main challenges and current status of digital protection of ICH in Yueyang; then, discussing the role and advantages of local vocational colleges in ICH protection; finally, verifying the feasibility of the proposed pathways through case studies and

proposing corresponding countermeasures and suggestions.

The definition and classification of ICH will involve a thorough review of existing literature and international guidelines, such as those provided by UNESCO. This will help to establish a clear framework for understanding what constitutes ICH and how it can be categorized for digital preservation efforts. The protection status will be assessed through surveys and interviews with local practitioners and experts, providing insights into the current practices and challenges faced by those working in the field.

The challenges and current status of digital protection in Yueyang will be examined through case studies of specific ICH projects. These case studies will highlight the successes and limitations of current approaches, identifying gaps and opportunities for improvement. The role of local vocational colleges will be explored in depth, considering their educational mission, technical capabilities, and community connections.

The study will propose specific digital protection pathways. This model emphasizes a comprehensive approach to ICH preservation that includes gathering digital data, creating digital representations, transmitting knowledge through educational programs, and utilizing digital tools for ongoing cultural activities. These pathways will be tested through pilot projects and evaluated for their effectiveness.

Finally, the study will offer countermeasures and suggestions to address the challenges identified, providing a roadmap for local vocational colleges to follow. This will include recommendations for policy changes, funding strategies, and collaborative efforts with other institutions and organizations.

Through this study, we hope to provide theoretical basis and practical guidance for local vocational colleges in the digital protection and inheritance of ICH, promoting the sustainable development of ICH in the new era. By doing so, we aim to ensure that the rich cultural heritage of Yueyang and similar regions can be preserved and appreciated by future generations, maintaining the cultural diversity that is so essential to our global society.

2. Overview of Intangible Cultural Heritage in Yueyang

Definition and Classification of Intangible Cultural Heritage: Intangible Cultural Heritage (ICH) refers to various cultural traditions and expressions existing in forms such as oral traditions, practices, performances, knowledge, and skills. ICH has unique cultural value and historical significance, reflecting the rich cultural diversity of humanity. However, with the acceleration of modernization and the influence of globalization, many ICH projects face difficulties in inheritance and the risk of disappearing. China, with its long history and rich cultural heritage, has made great efforts in protecting and inheriting ICH. The country has issued numerous policies and regulations, such as the “Law of the People’s Republic of China on Intangible Cultural Heritage”, to promote the protection, inheritance, and development of ICH. Yueyang in Hunan Province is one of the regions in China rich in ICH resources, with many unique ICH projects. However, traditional protection methods have issues such as incomplete information preservation and single transmission channels, requiring the introduction of

modern technological means for improvement.

Protection Status of Intangible Cultural Heritage: With the modernization and globalization of society, ICH faces many challenges. Traditional lifestyles and cultural environments have undergone significant changes, leading to the disappearance of many ICH projects. For example, oral traditions have been lost with the passing of older generations, and traditional crafts are on the verge of extinction due to a lack of market and inheritors. Additionally, urbanization has destroyed many traditional cultural spaces, severely impacting the transmission environment of ICH. Currently, various measures have been taken globally to protect ICH, including legal protection, project recognition, inheritor training, and cultural space protection. Since China joined the "Convention for the Safeguarding of the Intangible Cultural Heritage" in 2005, significant progress has been made in ICH protection. For instance, the establishment of national ICH lists, government support for ICH projects and inheritors at all levels, and various forms of ICH exhibitions and educational activities have greatly promoted ICH protection.

Necessity of Digital Protection of Intangible Cultural Heritage: The rapid development of digital technology has provided new means and pathways for ICH protection. The necessity of digital protection of ICH can be seen in the following aspects:

Permanent Preservation: Digital means can accurately record and preserve the sounds, images, texts, and other information of ICH projects, preventing loss over time.

Convenient Dissemination: Digitized ICH materials can be widely disseminated via the internet, increasing public awareness and participation and enhancing the social impact of ICH.

Educational Inheritance: Digital technology can vividly recreate cultural scenes of ICH through VR and AR, providing rich resources and platforms for education and inheritance.

Innovative Development: Digital technology offers new space and possibilities for the innovative development of ICH, such as integrating ICH with modern life through the digital creative industry, creating new cultural products and services.

3. Application Status of Digital Technology in the Protection of Intangible Cultural Heritage in Yueyang

Current Status of Intangible Cultural Heritage Protection：With the modernization and globalization of society, Intangible Cultural Heritage (ICH) faces numerous challenges. Traditional lifestyles and cultural environments have undergone significant changes, leading to the risk of many ICH projects disappearing. For example, oral traditions are lost with the passing of older generations, and traditional crafts are on the verge of extinction due to a lack of market and inheritors. Additionally, urbanization has destroyed many traditional cultural spaces, severely impacting the transmission environment of ICH. Currently, various measures are being taken globally to protect ICH, including legal protection, project recognition, inheritor training, and the protection of cultural spaces. Since China joined the "Convention for the Safeguarding of the Intangible Cultural Heritage" in 2005, significant progress has been made in ICH protection. For instance, the establishment of national ICH lists, government support

for ICH projects and inheritors at all levels, and various forms of ICH exhibitions and educational activities have greatly promoted the protection of ICH.

With the rapid development of information technology, digital technology has provided new means and pathways for ICH protection. The necessity of digital protection of ICH can be seen in the following aspects:Permanent Preservation: Digital means can accurately record and preserve the sounds, images, texts, and other information of ICH projects, preventing loss over time.Convenient Dissemination: Digitized ICH materials can be widely disseminated via the internet, increasing public awareness and participation and enhancing the social impact of ICH. Educational Inheritance: Digital technology can vividly recreate cultural scenes of ICH through Virtual Reality (VR) and Augmented Reality (AR), providing rich resources and platforms for education and inheritance.Innovative Development: Digital technology offers new space and possibilities for the innovative development of ICH, such as integrating ICH with modern life through the digital creative industry, creating new cultural products and services.

In recent years, Yueyang City has actively explored the application of digital technology in the protection of Intangible Cultural Heritage (ICH) and has achieved certain successes. For example:

Digital Archive Construction: Yueyang City has systematically digitized its ICH projects, establishing a comprehensive digital archive. These archives not only include high-resolution images, videos, and audio recordings but also detailed textual descriptions, historical backgrounds, and information about the inheritors. Through these high-fidelity digital archives, ICH materials are preserved for the long term and can be accessed by researchers and the public at any time. The archive system also supports various search methods, allowing users to quickly find the information they need.

Virtual Exhibition Platform: Yueyang City has established a virtual exhibition platform for ICH, showcasing various local ICH projects in digital form on the internet. This platform not only provides high-definition images and videos but also utilizes 3D modeling and virtual reality technologies to vividly recreate the production processes and performance scenes of ICH projects. The public can intuitively understand and learn about ICH culture through online browsing, virtual tours, and interactive experiences. Additionally, the platform includes special exhibitions and online forums, enhancing user engagement and interactivity.

Digital Educational Resources: To enhance public awareness and interest in ICH, Yueyang City has developed a variety of digital educational resources. These resources include multimedia courseware, online courses, virtual labs, e-books, and interactive learning applications. Through these rich educational resources, ICH knowledge is systematically integrated into school education and social education. For example, by collaborating with local schools, ICH education is incorporated into the school curriculum, allowing students to engage with and understand their local traditional culture from an early age. Online courses and virtual labs also provide opportunities for remote learning, enabling more people to participate in ICH education.

Interactive Experience Projects: Utilizing advanced technologies such as Augmented Reality (AR) and

Virtual Reality (VR), Yueyang City has developed a series of interactive ICH experience projects. These projects include virtual festival activities, traditional craft interactive experiences, and ICH cultural explorations, providing immersive experiences that allow the public to appreciate the charm of ICH in a virtual environment. For instance, users can “attend” traditional festivals through VR devices, experiencing the lively atmosphere of the celebrations, or observe and learn the production process of traditional crafts through AR applications, even trying their hand at making them. These interactive experiences not only enhance the attractiveness of ICH but also increase public participation and recognition.

Despite the achievements in ICH protection, Yueyang City still faces numerous challenges:

Generational Gap Among Inheritors: Many ICH projects have inheritors who are relatively old, and the younger generation shows little interest in traditional culture, leading to a gap in the transmission of ICH. To address this issue, measures need to be taken to attract and train more young inheritors. For example, establishing ICH inheritor training programs, providing scholarships, and organizing exchange activities can stimulate young people's interest and enthusiasm for ICH. At the same time, supporting and protecting existing inheritors is crucial to ensure they can better pass on their skills.

Insufficient Funding: The protection and transmission of ICH require substantial funding, including for archive construction, educational resource development, and interactive project development. However, existing financial support and social donations are insufficient to meet the actual needs. Therefore, it is necessary to explore diversified funding sources, such as establishing special funds, attracting social capital, and enhancing international cooperation. Additionally, organizing ICH cultural festivals and charity sales can attract more social donations and sponsorships.

Inadequate Promotion: Although some progress has been made in ICH protection, promotion and publicity efforts are still lacking, leading to low public awareness and participation in ICH. To address this, it is crucial to increase promotional efforts through various channels and forms to raise the visibility and influence of ICH. For example, leveraging social media platforms for promotional activities, producing ICH documentaries and promotional videos, and organizing ICH-themed exhibitions and competitions can attract more public attention and involvement. Additionally, collaborating with the tourism sector to integrate ICH culture into tourism products can expand its influence.

Impact of Modernization: The processes of modernization and urbanization have impacted traditional cultural spaces and lifestyles, affecting the survival environment of ICH. To protect ICH, urban planning and development must fully consider the preservation of traditional culture, creating an environment conducive to the survival and development of ICH. For example, preserving and restoring traditional cultural spaces and protecting historical buildings and traditional neighborhoods during urban construction are essential. Additionally, exploring new ways to integrate ICH into modern life, such as developing cultural and creative products related to ICH, ensures its transmission and development in contemporary society.

4. The Role and Functions of Vocational Colleges in ICH Protection

4.1 Educational Resources and Advantages of Vocational Colleges

Program Setup: Vocational colleges have great flexibility and specificity in setting up programs. They can establish relevant programs based on local needs. For example, some vocational colleges in Yueyang have specifically set up programs in cultural industry management, art design, and traditional crafts, which directly relate to the protection and inheritance of Intangible Cultural Heritage (ICH). By establishing these programs, vocational colleges can cultivate talents with relevant knowledge and skills, providing strong talent support for ICH protection.

Faculty Strength: The faculty strength of vocational colleges is also an important resource for ICH protection. Many vocational colleges hire experienced ICH inheritors, artists, and scholars as teachers to impart traditional skills and cultural knowledge. These teachers not only possess rich professional knowledge and practical experience but also integrate the concepts and methods of ICH protection into their teaching, cultivating students' awareness and practical abilities in protection. Additionally, vocational colleges can continuously improve the professional quality and teaching ability of their faculty through training and further education, providing strong intellectual support for ICH protection.

School-Enterprise Cooperation: Cooperation between vocational colleges and enterprises is an important pathway for promoting ICH protection. Through school-enterprise cooperation, vocational colleges can introduce ICH projects into the campus, conducting practical training and teaching activities. At the same time, enterprises can provide financial and technical support to jointly advance ICH protection work. For instance, some vocational colleges in Yueyang have established cooperative relationships with local cultural enterprises and ICH protection institutions to jointly conduct research, development, and promotion activities for ICH projects. This cooperation model not only enhances students' practical abilities but also promotes the sustainable development of ICH protection.

4.2 The Necessity of Vocational Colleges Participating in ICH Protection

Vocational colleges play an indispensable role in the protection of Intangible Cultural Heritage (ICH). In Yueyang City, vocational colleges have made significant contributions to the protection and transmission of ICH by providing technical support, talent cultivation, and educational promotion. Specifically, the necessity of vocational colleges' involvement in ICH protection is reflected in the following aspects:

Technical Support: Vocational colleges possess abundant technical resources and professional knowledge, which enable them to provide technical support in the digital protection of ICH. For instance, by utilizing multimedia technology, Virtual Reality (VR), and Augmented Reality (AR) technology, they can vividly recreate cultural scenes of ICH projects. Vocational colleges are equipped with advanced facilities and laboratories that can conduct high-quality digitization and data processing. They can develop virtual exhibitions and interactive experience projects, allowing the public to experience and learn about ICH in innovative ways. Additionally, vocational colleges can create specialized databases and digital archive systems to ensure the long-term preservation and easy

retrieval of ICH materials.

Talent Cultivation: Vocational colleges cultivate a cohort of ICH protection talents with professional knowledge and skills by offering courses and programs related to ICH. These courses include traditional craft techniques, cultural heritage management, and digital media technology, aiming to develop students' comprehensive abilities in ICH protection and transmission. These talents can participate in practical ICH protection work, such as document sorting, artifact restoration, and digitization. They can also provide intellectual support for the innovative development of ICH. For example, they can engage in the innovative design of ICH products, combining traditional crafts with modern design concepts to develop market-potential cultural and creative products. Furthermore, vocational colleges can collaborate with ICH inheritors and conduct school-enterprise cooperation projects, offering students practical opportunities to enhance their hands-on skills.

Educational Promotion: Vocational colleges can enhance students' and the public's understanding and interest in ICH by organizing ICH-themed lectures, exhibitions, and practical activities, promoting the dissemination and popularization of ICH culture. These activities can include ICH cultural festivals, workshops, and interactive exhibitions, attracting more people to participate. For instance, ICH inheritors can be invited to the school for live demonstrations and teaching, providing students with a direct understanding and hands-on experience of ICH projects. Additionally, vocational colleges can organize students to conduct ICH research, documentation, and promotional activities, allowing students to deeply appreciate the importance of ICH protection through active participation. Through these educational promotion activities, not only is the cultural literacy of students and the public improved, but a favorable social atmosphere for ICH protection and transmission is also created.

The involvement of vocational colleges not only enhances the professional level of ICH protection but also promotes the innovative development and social recognition of ICH. Through technical support, talent cultivation, and educational promotion, vocational colleges play an irreplaceable role in ICH protection, providing strong support for the sustainable development of ICH.

4.3 Analysis of Existing Cases of ICH Protection in Vocational Colleges

In Yueyang, vocational colleges have implemented several successful initiatives in the protection and transmission of Intangible Cultural Heritage (ICH). Here are more detailed examples:

Yueyang Vocational and Technical College

Collaboration with Local ICH Inheritors: Yueyang Vocational and Technical College has established cooperative relationships with local ICH inheritors, such as those specializing in the Yueyang Flower-drum Opera. The college has set up a dedicated ICH transmission base within the campus where students can learn directly from these inheritors. The college provides facilities and technological support to document and preserve the performances using high-definition video and audio recordings. This not only ensures the preservation of these art forms but also creates educational materials that can be used for teaching and promoting ICH.

Digital Archiving Projects: The college has undertaken several digital archiving projects. For instance,

the traditional techniques of Yueyang Lacquerware have been meticulously recorded through multimedia documentation, including detailed video tutorials and interviews with master craftsmen. These digital archives are stored in a dedicated database accessible to both students and the public, ensuring the long-term preservation of these skills.

Integration into Curriculum: Courses specifically focused on ICH have been integrated into the college's curriculum. For example, students enrolled in the Cultural Industry Management program are required to participate in projects related to the preservation and promotion of local ICH. This includes developing business plans for ICH-based products, which helps in creating a sustainable market for these traditional crafts.

Community Engagement and Public Workshops: The college regularly organizes community engagement activities and public workshops where local residents can learn about and participate in ICH activities. These workshops are often held in collaboration with local cultural organizations and schools, fostering a community-wide appreciation and participation in ICH preservation.

Use of Advanced Technology: The college has leveraged advanced technologies such as VR and AR to create immersive experiences of ICH. For instance, a VR project was developed to simulate the traditional Yueyang Dragon Lantern Dance, allowing users to experience the dance virtually. This project not only helps in preserving the choreography and music but also makes it accessible to a broader audience.

Research and Publications: Faculty and students at the college actively engage in research on ICH topics. Their findings are published in academic journals and presented at conferences, contributing to the broader body of knowledge on ICH preservation. For example, research on the economic impact of revitalizing traditional Yueyang ceramics has been instrumental in developing strategies to promote these crafts.

These specific initiatives demonstrate how vocational colleges can effectively contribute to the protection and transmission of ICH through a combination of traditional and modern methods. They also highlight the importance of community involvement and the use of digital technologies in ensuring that these cultural treasures are preserved for future generations.

5. Research on Digital Protection Pathways for Intangible Cultural Heritage

Digital preservation technologies utilize information technology to record, preserve, and disseminate ICH projects. The main technologies include:

Multimedia Recording Technology: This technology uses various forms such as text, images, audio, and video to comprehensively record and preserve ICH projects. It captures the detailed aspects of ICH projects, providing a multi-dimensional recording system. For example, high-definition photography and videography can document every step of traditional craftsmanship; audio recordings can preserve oral traditions like stories and songs. Text records can provide detailed background information and explanations, ensuring the complete preservation of the historical and cultural significance of each ICH

project.

Virtual Reality (VR) Technology: By creating virtual environments, VR technology vividly recreates cultural scenes of ICH projects, allowing users to experience ICH culture immersively. VR can transport users into a realistic virtual world where they can feel the atmosphere of ICH projects. For example, users can “attend” a traditional festival through VR headsets, experiencing its lively and festive atmosphere. This immersive experience not only enhances public interest in ICH but also serves as an effective educational tool, helping more people understand and pass on ICH culture.

Augmented Reality (AR) Technology: AR combines virtual content with the real environment, providing new ways to display and disseminate ICH projects. Through AR, users can see virtual ICH project displays in real environments using smartphones or tablets. For example, in an ICH museum, visitors can use an AR app to view 3D models and animations of exhibits, learning about their production processes and historical backgrounds. This interactive method greatly enhances the visitor experience, making ICH culture more vivid and understandable.

Big Data and Cloud Computing Technologies: These technologies manage and analyze ICH project data through big data analysis and cloud computing platforms, improving the scientific and effective protection of ICH. Big data technology can collect and analyze large amounts of ICH data, uncovering patterns and trends in preservation and transmission. Cloud computing provides powerful storage and computing capabilities, ensuring the safe and efficient management of ICH data. For example, big data analysis can reveal the transmission status and audience demographics of an ICH project, enabling more precise protection and dissemination strategies.

5.1 Case Studies of Digital Preservation Technologies in ICH Protection

There are numerous examples of digital preservation technologies applied in ICH protection, including:

The Palace Museum: As one of China’s most important cultural heritage protection institutions, the Palace Museum has comprehensively recorded and protected its artifacts and architecture through digital means. The museum has developed several digital projects, such as the Virtual Palace Museum and Palace Museum AR, allowing the public to visit the museum via the internet or mobile devices. These projects not only preserve the history and culture of the Palace Museum but also enhance public engagement through interactive experiences. For example, the Virtual Palace Museum uses high-precision 3D modeling and virtual reality technology to recreate the museum's architecture and artifacts, allowing users to explore the virtual environment and learn detailed information about each exhibit.

Dongba Culture in Lijiang, Yunnan: The Dongba culture, unique to the Naxi ethnic group, has been comprehensively digitally preserved and showcased using multimedia recording and virtual reality technologies. For instance, VR technology enables users to “attend” Dongba religious ceremonies, experiencing their unique spiritual atmosphere. Multimedia recordings have preserved a vast amount of Dongba literature and oral traditions, breathing new life into this ancient culture. Additionally, Lijiang has developed digital educational resources for Dongba culture, spreading it globally through online

courses and virtual museums.

5.2 Digital Preservation Models and Paths of Vocational Colleges in Yueyang

Vocational colleges in Yueyang have adopted several models in digital preservation of ICH, including:

School-Enterprise Cooperation: Vocational colleges collaborate with technology companies, leveraging their advanced technology and equipment to digitally record and showcase ICH projects. For example, vocational colleges in Yueyang have partnered with local tech firms to develop several digital ICH projects, using 3D scanning and modeling technology to meticulously digitize traditional crafts and recreate their production processes and usage scenarios through VR technology. This cooperation model not only enhances the technical level of ICH protection but also provides valuable practical opportunities for students, improving their practical skills.

School-Local Cooperation: Vocational colleges collaborate with local governments and ICH inheritors to jointly undertake ICH protection projects and establish ICH transmission bases. For example, vocational colleges in Yueyang have set up an ICH protection research center in collaboration with local cultural departments, focusing on recording and studying local ICH projects. The colleges also maintain long-term partnerships with ICH inheritors, inviting them to teach and guide at the schools, ensuring the authentic transmission of ICH skills. Additionally, colleges organize students to conduct community surveys and promotion activities, enhancing their social responsibility and cultural identity.

Educational Integration: Vocational colleges integrate ICH protection with educational teaching by offering ICH-related courses and organizing student participation in ICH practical activities to cultivate ICH protection talents. For instance, colleges offer majors in ICH culture and digital preservation, covering traditional culture theories, digital technology applications, and ICH protection practices. Students not only learn systematic ICH protection knowledge but also gain valuable experience through participation in actual projects. Colleges also regularly hold ICH cultural festivals and workshops, inviting experts and inheritors to give lectures and demonstrations, increasing students' interest and understanding of ICH culture.

Paths for Digital Preservation of ICH by Vocational Colleges in Yueyang:

Establishing ICH Protection Alliances: Forming ICH protection alliances with governments, enterprises, and ICH inheritors to jointly develop ICH protection plans and implementation schemes. This alliance can integrate resources and strengths from all parties, creating a synergistic effect that enhances the overall level of ICH protection. For example, alliance members can hold regular meetings to share their experiences and achievements, jointly addressing issues and solutions in ICH protection.

Implementing Digital ICH Projects: Utilizing the technological advantages of vocational colleges and the resources of enterprises to undertake digital recording, showcasing, and dissemination projects for ICH. For instance, vocational colleges can collaborate with enterprises to develop digital ICH museums and online exhibitions, spreading local ICH culture globally through the internet. Schools can also involve students in these projects, honing their practical skills and innovative thinking.

Promoting ICH Education: Offering ICH-related courses and majors in vocational colleges to cultivate

ICH protection and transmission talents and enhancing students' awareness and skills in ICH protection through practical teaching. For example, schools can establish ICH research scholarships to fund students' research and project development in ICH. They can also provide more internship and employment opportunities through school-enterprise cooperation, encouraging students to pursue careers in ICH protection.

5.3 Digital Protection Models and Pathways for ICH in Vocational Colleges in Yueyang

Vocational colleges in Yueyang have adopted several models for the digital protection of intangible cultural heritage (ICH). The main approaches include:

School-Enterprise Cooperation: Vocational colleges collaborate with technology companies to leverage their advanced technology and equipment for the digital recording and display of ICH projects. This cooperation includes:

Technology Integration: Through partnerships with technology companies, vocational colleges integrate cutting-edge technologies such as high-definition video recording, 3D scanning, and digital archiving into ICH protection efforts. For instance, high-definition cameras and professional audio recording equipment are used to document traditional performances and craftsmanship processes. 3D scanning technology is employed to create detailed models of ICH items, and digital archiving techniques are used to systematically preserve these data. These technological tools not only accurately capture every detail of ICH projects but also provide high-quality digital resources for future research and dissemination.

Joint Development Projects: Vocational colleges and technology companies work together to develop Virtual Reality (VR) and Augmented Reality (AR) experiences that allow users to interact with and learn about ICH in immersive ways. For example, they might develop a VR application where users, by wearing VR headsets, can "attend" a virtual traditional festival, experiencing its lively atmosphere and cultural significance. Alternatively, AR applications could enable users to see virtual ICH project displays in real environments, learning about their history and craftsmanship. These joint development projects enhance the accessibility of ICH and increase public interest and engagement.

Resource Sharing: In the course of their cooperation, vocational colleges and technology companies can share their financial, technical, and human resources, enhancing the quality and reach of ICH protection efforts. Technology companies provide advanced equipment and technical support, while vocational colleges offer professional knowledge and talent. Through resource sharing, ICH protection projects can be conducted more efficiently, achieving mutual benefits.

School-Local Government Cooperation: Vocational colleges work closely with local governments and ICH inheritors to carry out protection projects and establish ICH transmission bases. This cooperation involves:

Policy and Funding Support: Through collaboration with local governments, vocational colleges secure more policies and funding support to ensure the smooth implementation of ICH protection projects. Local governments can introduce relevant policies that prioritize ICH protection and provide necessary

financial resources and support. For example, governments can establish special funds for the digital recording and protection of ICH projects and offer tax incentives to encourage the participation of enterprises and social organizations in ICH protection.

Community Involvement: Vocational colleges, in collaboration with local governments and ICH inheritors, ensure that the planning and execution of ICH protection projects fully consider the opinions and needs of local communities. For instance, during the digital recording of ICH projects, ICH inheritors and community representatives can be invited to participate in discussions and decision-making processes. This approach not only ensures the cultural relevance of the projects but also enhances community recognition and involvement.

Public Awareness Campaigns: Vocational colleges and local governments can jointly organize various public awareness campaigns to increase public knowledge about the importance of ICH and the efforts being made to preserve it. Examples include organizing ICH cultural festivals, exhibitions, and lectures, where ICH inheritors demonstrate and explain their crafts, enhancing public participation and interest. Additionally, promotion through television, radio, newspapers, and social media can broaden the impact and reach of ICH protection efforts.

Educational Integration: Vocational colleges integrate ICH protection into their educational curriculum through various methods:

Course Offerings: Vocational colleges develop and offer courses specifically focused on ICH, such as traditional crafts, cultural heritage management, and digital preservation techniques. These courses not only cover theoretical knowledge but also emphasize practical skills development. For example, in traditional crafts courses, students learn various traditional craftsmanship techniques; in cultural heritage management courses, students understand ICH protection policies and management methods; in digital preservation techniques courses, students acquire skills in using modern technological tools for ICH recording and protection.

Practical Training: Vocational colleges provide students with hands-on opportunities to participate in ICH protection projects, allowing them to apply theoretical knowledge in real-world contexts. For instance, colleges can collaborate with local ICH protection agencies and communities, organizing students to participate in the digital recording and display of ICH projects

6. Countermeasures and Suggestions

Government Support and Policy Assurance: The government should increase support for ICH protection by formulating policies and increasing funding to ensure the smooth implementation of ICH protection projects. Additionally, the government should strengthen publicity and promotion of ICH protection to enhance public awareness and participation.

Building ICH Protection Capacity in Vocational Colleges: Vocational colleges should enhance their own capacity by introducing advanced technology and cultivating professional talents to improve the technical level and management capabilities of ICH protection. Additionally, colleges should strengthen

cooperation with external institutions to jointly carry out ICH protection projects.

School-Enterprise Cooperation and Social Participation: Vocational colleges should actively cooperate with enterprises to utilize their technology and resources to jointly carry out ICH protection and transmission work. Additionally, they should strengthen cooperation with communities, ICH inheritors, and social organizations to promote the socialization of ICH protection.

Continuous Improvement and Innovation: Vocational colleges should continuously summarize experiences in ICH protection, improve working methods and technical means, and promote innovative development in ICH protection. Schools should encourage teachers and students to conduct research and practice in ICH protection, exploring new protection pathways and models.

7. Conclusion

This study analyzes the current status and challenges of ICH in Yueyang and proposes the necessity and specific pathways for vocational colleges' participation in digital ICH protection. Yueyang vocational colleges have achieved certain results in ICH protection through cooperation, technological innovation, and educational integration, but there are still some issues to be addressed. In the future, vocational colleges should continue to play an important role in ICH protection through government support, school-enterprise cooperation, and social participation, continuously improving the scientific and effective protection of ICH. This study aims to provide references and insights for the practice of vocational colleges in ICH protection, promoting the sustainable development of ICH in the new era.

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Fund Projects:

June 2023: Principal Investigator of the general project of the Hunan Provincial Association of Educational Science Researchers, "Research on the Construction of Master Studios for Employment

and Entrepreneurship Guidance in Vocational Colleges" (Project No. XJKX23B268), ongoing.

June 2023: Principal Investigator of the project of the Yueyang Federation of Social Science Circles, "Research on the Digital Pathways for the Protection and Inheritance of Intangible Cultural Heritage in Local Vocational Colleges" (Project No. 2023Y146), ongoing.

October 2023: Principal Investigator of the key youth special project of the Hunan Provincial Basic Education Teaching Reform Research Project, "Research on the Training Path of Rural Music, Physical Education, and Art Teachers Based on the 'GCTU' Model in the Context of Rural Revitalization" (Project No. Z2023040), ongoing.