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Research on the Teaching Path of Practical Teaching Model Empowered by Digital Culture: Taking the Digital Exhibition Hall of the National Museum of China as an Example

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Abstract: With the rapid advancement of information technology digital cultural resources are becoming rich source for practical teaching in education, which are creating new opportunities for contemporary educational practices. This research focuses on how to facilitate the seamless integration of digital culture with practical teaching in higher education. The digital exhibition hall of the National Museum of China is used as a case study. The goal of this paper is to address challenges in teaching and enhance the effectiveness of practical education. The study employs literature review and case analysis methodologies. The findings indicate that incorporating the digital exhibition hall into practical teaching effectively enriches the curriculum, innovates teaching methods, significantly boosts student engagement and enthusiasm, and strengthens the educational impact on college students.

Keywords: Digital Culture; Digital Exhibition Hall of the National Museum of China; Effectiveness

1. Introduction

China's rich history spanning thousands of years has given rise to a profound and exceptional traditional culture. The spirit of innovation and contemporary creativity, which have evolved through the long process of social change and development, have infused modern identity education with a deep spiritual force. In the new era, teachers must strive to innovate their classroom teaching methods and provide students with a profound learning experience. This can be achieved by harnessing the inspirational, influential, and guiding power of Chinese culture, which has the ability to inspire, influence, and guide. By seamlessly integrating the excellent traditional Chinese culture, revolutionary culture, and advanced culture into the teaching of practical identity, teachers can cultivate students' sense of righteousness, courage to face challenges, and problem-solving skills. Furthermore, they can sow the seeds of truth, goodness, and beauty in their hearts, guiding them to take the first step towards shaping their lives. In the new era, practical education must also strengthen its integration with information technology, utilizing it as a powerful tool to enhance the development of practical education and teaching.

The National Museum of China is the premier institution for collecting, researching, displaying, and explaining the material evidence that represents traditional Chinese culture, revolutionary culture, and advanced social culture. It serves as the country's foremost historical, cultural, and artistic hall, as well as a cultural hub for the nation. Utilizing cutting-edge information technology, the digital exhibition hall at the National Museum of China transcends the limitations of traditional museums by utilizing big data, 5G, virtual reality, augmented reality, and 3D images. This provides a new platform for the practical teaching of practical education in the modern era. By utilizing the digital exhibition hall, colleges and universities can transform the role of the teacher from a mere narrator of content to a designer of the teaching plot. Similarly, students can shift from passive receivers to active participants, creating a multidirectional and interactive approach to practical teaching. This offers a fresh perspective and innovative approach to the practical teaching of practical education in higher education institutions.

2. Dilemmas Facing the Practical Teaching of Practical Education in Colleges and Universities

In recent years, the reform and innovation of practical teaching of practical education in colleges and universities has made great progress, and the integration of digital culture into the practical teaching of practical education in colleges and universities has also been increasingly emphasized by front-line teachers. From the integration of digital cultural products in practical teaching, such as displaying the Liao Junbo series of integrated media products launched by the People's Daily in teaching, so that students can understand the original heart and perseverance of communists behind the miracle of China's poverty alleviation and attack; students are also being asked to combine the content of the teaching to shoot microfilms to reflect the revitalization of the countryside, the core values, and other initiatives such as courses in the museum are encouraged to do the results of the filming are then broadcasted through the social platforms favored by young people, such as B station and Zhihu. The way of exhibition and broadcasting enhances the students' sense of acquisition and experience in the practical teaching of practical education. The practical teaching of practical education in colleges and universities is exploring the combination between information technology and practical teaching of practical education. However, on the whole, there are a lot of work to be done on the teacher’s research on the empowerment of digital culture in practical teaching. To some extent, teachers are in the state of spontaneity and self-consciousness in learning and they also in the state of exploration and learning in the construction of teaching resources. The practical teaching of practical education in colleges and universities is restricted by time, space, transportation, security and many other elements.

2.1 It is Difficult to Meet the Teaching Needs in the Narrow Field of Practical Teaching of Practical Education in Colleges and Universities

The practical teaching of practical education in colleges and universities needs a certain platform and field, due to the ideological attributes of practical education itself, the practical teaching platform of practical education should have a certain representativeness, typicality and authority. Practical education is a compulsory course for all students in colleges and universities, and the number of students involved in practical teaching is huge, so the practical teaching platform needs to have a certain scale in order to meet the space demand and the demand of the number of visitors of the practical teaching of practical education. At present, the virtual simulation experiment has become a new field whit the development of information technology, and the construction of virtual simulation laboratories has also become an important direction for the reform and development of the practical teaching of practical education. At present, the virtual simulation experiment teaching mode is mostly a cooperative mode, that is, technically mature companies are responsible of designing teaching resources, teachers are responsible of using the production of good resource packages. In the actual teaching process, there is a phenomenon that those who know how to teach do not know how to use technology, and those who know how to use technology do not know how to start teaching. Virtual simulation experiments require VR equipment, there are restrictions on the number of people in the experiment. If the number of experiments is too large, then the technical specifications of the equipment requirements are also more. This limits the experimental scale of practical teaching to a certain extent. At the same time, the hardware is not flexible enough, the equipment is not intelligent enough, the hardware is not friendly enough and the hardware is not universal, and these problems also constrain the effect of virtual simulation experimental teaching of Civics and Politics courses to achieve the desired teaching goals. Practical studies are often held in museums, exhibition halls and memorial halls, as these venues have to meet the demand of the public for visits. Therefore, the number of large-scale and intensive campus practice is limited. And many cultural resources are not sufficiently concentrated geographically; In Heze City, Shandong Province, for example: immovable cultural relics are mainly located in 50 different cities, counties and villages in the city. They account for more than 85 per cent of the total. At the same time, more than 60 per cent of immovable cultural relics are displayed only

in simple physical form, with less integration with advanced science and technology and in a dull form.' This was recognized by the Shandong Provincial Department of Culture and Tourism. This all brings troubles to the practice teaching of Civics courses in colleges and universities. When organizers organize students to carry out social practice, they need to think about the safety of the students' personnel, traffic problems, and the use of funds.

2.2 The Compatibility between Ideological and Practical Teaching and Theoretical Teaching in Universities Needs to be Improved

Theory teaching is the content basis and implementation basis of practical teaching, and the design of practical teaching should be centered on learning, understanding and applying theory. Although the current forms of practical teaching in practical education are rich and diverse, such as case studies, keynote speeches, video appreciation, thematic debates, drama performances, theoretical preaching, song competitions, VR practice, etc. However, the learn rational relationship and compatibility between practical teaching and theoretical teaching are lack of scientific demonstration. The teaching effect of practical teaching as the last kilometer to bridge theory and reality has not been well demonstrated。

Students' practical learning stays at a shallow level. Their learning lacks deep thinking and effective reflection mechanisms. Students' understanding of knowledge is superficial and stays at the level of mechanical memorization, lacking in-depth exploration of problems, and students' systematic thinking on problems as well as migration and application of knowledge have not been constructed. Advanced practical teaching means, such as VR application of Civic and practical Science also exists in the short board problem of excessive simplicity of resources, lack of immersion, interactivity, and weak creativity to stimulate students. The current VR application is commonly used to make the exhibition hall and museum into a photo exhibition or video narration, which can at most be called online exhibition hall or museum. [1] Leads to teaching that is easy to form and implement. practical education practice teaching in colleges and universities is a practical activity, is the application of theories, concepts to observe reality, and use this theory, concepts, standardize their own problems to be solved, as well as ways and means of solving problems, detached from the theory or devalue the theory of the social function, "or even regard the theory as a" virtual "mystery," and the theory is not a "formality" or "superficiality". The result of this is that "there is nothing where there is nothing", which turns practical activities into blind practices and "prolongs" and "exacerbates" the problems in the process of practice.[2] "prolonging" and "aggravating" the "pains" in the process of practice." For this reason, it is very important issue to enhance the practical teaching of Civics and practical Science courses and strengthen the internal logic of the research between the theory of teaching and practical teaching.

2.3 The Level of Informatization Empowerment of Practical Teaching of Education in Colleges and Universities Needs to be Improved

Educators should promote the deep integration of the traditional advantages of work with information technology, so that the Internet can become the biggest increment in career development. Current practical teaching, such as group seminars, audio-visual broadcasting, speech scenarios and other forms, has not yet fully realized the reorganization of teaching resources by using information technology and its organic integration, and has not been able to make changes according to events, advance according to the times, and be new according to the situation. Educators need to use information technology to empower practical teaching. It is very important to lead students into historical, humanistic, social and story scenes with more vivid, image and three-dimensional sensory experiences, and it is also very important to stimulate students' emotional resonance and value recognition with digital presentation and display. Post-00 college students, as the aboriginal inhabitants of the Internet, have a very distinctive personalized pursuit of value and autonomous learning styles, fragmented information receiving habits. The traditional practice teaching mode lacks information empowerment, and this teaching method makes students lack personalized activity experience in practice teaching, and this teaching method leads to students' low

interest, experience and acquisition of practice teaching.

3. The Value Implication of Digital Red Culture Empowering Practical Teaching

3.1 Digital Culture Enriches Resources for Practical Teaching and Learning in Higher Education

By the end of the 14th Five-Year Plan period, China will have basically built a cultural digital infrastructure and service platform, and formed a cultural service supply system that integrates and interacts with online and offline services and provides three-dimensional coverage. By 2035, a national cultural big data system that is physically distributed, logically linked, quickly linked, efficiently searched, comprehensively shared, and focused on integration will be completed, and a panoramic view of Chinese culture will be presented, with the results of the digitization of Chinese culture shared by all people. Information technology-enabled digital culture has changed the way culture is preserved, presented and disseminated. Digital information acquisition, collation, excavation and editing technologies can creatively restore and reproduce cultural resources. For example, the 'Digital Intelligence Jiangbo'team of Jiangxi Provincial Museum adopts plane scanning, three-dimensional scanning and modelling, digital topography and other advanced digital technologies, and completes the high-definition image acquisition, line drawing, three-dimensional modelling, ring shooting and digital topography of the cultural relics in the museum in a non-contact, non-destructive and high-precision way, so as to preserve their geometrical forms, textures and characteristics with a high degree of fidelity. Geometric form, texture and color characteristics of cultural relics, this way can give the eternal 'digital life' to cultural relics. At the same time, knowledge map, big data, mobile Internet, artificial intelligence and other technologies were used to build a digital humanities research and service platform in Jiangxi. On 30 October 2023, National Museum of China's digital exhibition hall officially launched online. The pilot was led by digital intellectual Wenwen Ai, who led an immersive exhibition, constructing a three-dimensional, rich and interesting viewing of intelligent cultural relics display system. This activity enhances the online exhibition experience for visitors. The outstanding achievements of Chinese civilization have been brought closer to the audience in a more vivid form through digital empowerment and the innovative integration of 'culture + technology'. These developments have provided a vast amount of high-quality digital cultural resources for practical teaching in universities.

3.2 Digital Culture Innovates the Mode of Practical Teaching in Colleges and Universities

Digital museum is 'a collection of digitized images, sound files, documents and other data related to history, science or culture that can be accessed through electronic media'[3] The content of the virtual museum is systematic and full, integrating science, knowledge and fun, mainly based on digitized physical exhibits, and disseminating scientific knowledge, scientific spirit, scientific ideas and scientific methodology based on the Internet in a vivid and graphic way, It is mainly based on digitized exhibits and disseminates scientific knowledge, scientific spirit, scientific ideas and scientific methods through vivid images and illustrations based on the Internet [4]. Therefore, compared with physical museum resources, digital museum resources are more convenient for teachers and students to obtain resources and knowledge more conveniently across the limitations of time and space, and the limitations of cost. [5] The digital museum can expand the platform and field of practical teaching of Civic and practical Studies, breaking through the limitations of time, space and number of people. It alleviates the many shortcomings in the practical teaching of Civics and practical Science classes in colleges and universities, such as traffic safety, personnel safety, and insufficient use of funds.

Students can choose the content of the pavilion they are interested in according to their own wishes in combination with the teacher's teaching design and theoretical teaching content. It provides a brand-new field for students' practical teaching. This teaching method allows students to learn from passive listening to lectures, transformed into active participation; from the aimless browsing, transformed into a targeted exploration. This

approach increases students' motivation and initiative in learning. In this learning process, students are the main body of information processing, the active constructor of meaning, rather than the passive recipient of external stimuli and the object of indoctrination. The use of digital museum historical materials should be accompanied by some meaningful questions, so as to achieve the teaching objectives, and to transform the knowledge value contained in digital museum resources into students' personal knowledge and abilities. This way of teaching, with the problem of displaying the relevant museum historical materials can mobilize students' enthusiasm and inspire them to think, rather than going through the motions, the layman to see the flowers, so that the study is in form. [6]

3.3 Digital Culture Enhances the Effect of Practical Teaching in Colleges and Universities.

This teaching method realizes the restoration and reproduction of historical events through digital information technology. It shows the contradictions and perseverance of the characters in the historical events when they are faced with choices. It draws the distance between 'historical heroes' and students by experiencing the growth and journey of historical figures. The digital presentation of light and shadow allows students to appreciate that a few lines in a textbook may be the life of countless young lives. This kind of emotional resonance and shock brought about by the emotional identity enhances the effectiveness of practical teaching. In addition, digital teaching tools also take on the function of pushing information. Affective computing technology, by identifying students' emotional changes for teaching feedback, can provide accurate analyses. This technology can achieve intelligent and precise information recommendation to complete the transformation from 'people looking for information' to 'information looking for people'. 'In addition to the classification of digital museums in accordance with the traditional theme, but also by means of hypermedia links between different knowledge points organised into a non-linear mesh structure, the museum can be multi-level, multi-perspective, multi-directional clips, so that jumping to obtain information possible.' [7] By analysing the background data of students 'pavilion browsing, teachers can grasp students' concerns in practical teaching. Teachers can optimise the design ideas of practical teaching content. This approach undoubtedly improves the relevance and effectiveness of practical teaching of practical education in colleges and universities.

4. Path Analysis of Digital Culture Empowered Practice Teaching

The flourishing development of digital culture provides a brand new field for practice teaching in colleges and universities, and this paper selects the digital exhibition hall of the National Museum of China, which is the highest organisation representing the national collection, research, display and interpretation that can fully reflect the representative evidence of the excellent traditional Chinese culture, revolutionary culture and advanced social culture, as a practical platform for the research and design of the path of practice teaching.

4.1 The Theory of Practice and Situational Cognition is the Theoretical Basis for the Design of Practice Teaching

One of the shortcomings of practice teaching in colleges and universities is the lack of theoretical logic and scientific proof between theory teaching and practice teaching, which is the phenomenon of 'two layers of skin' between theory and practice. The design of practice teaching in colleges and universities using the digital exhibition hall of the National Museum of China as the field is based on the theory of practice and situational cognition theory as the theoretical basis for practice teaching. According to the practical view, human beings have natural attributes, but also have subjective initiative, and human subjective initiative is the most obvious feature that distinguishes human beings from animals. Practical teaching activities should give students the space to exercise their subjective initiative; situational cognitive theory holds that human beings carry out intellectual activities in social contexts and then internalise them for development. With the development of the research field of artificial intelligence related to the mechanism of human advanced cognition, the theory of situational cognition holds that human cognition is generated by

different stages of information processing in the process of human interaction with the environment. During the process of situational cognition, the person is influenced by both environmental and task factors. To summarise, contextual information influences the development of cognitive processes in human beings. For this reason, a practical teaching design idea based on the use of subjective initiative + task-driven is proposed.

4.2 Teachers Integrate Theoretical Teaching Content and Select Digital Exhibition Hall Exhibits as the Basis for Practical Teaching Content

This paper takes a course as an example, which elaborates on the general goal, general task, overall layout, strategic layout of social development and the basic viewpoints of development direction, development mode, development momentum, strategic steps, external conditions, practical guarantee, etc., and the basic viewpoints on the development of the economy, politics, the rule of law, science and technology, culture, education, people's livelihoods, nationalities, religions, societies, ecological civilisation, national security, national defense and the army, Theoretical overview and strategic guidance on 'one country, two systems' and the united front, diplomacy and other aspects.

Teachers take the theoretical teaching content as the starting point for practical teaching design. The design idea of teachers is that they can choose the Road to Revival - New Era Pavilion, Power of Truth Pavilion, Power of Science and Technology Pavilion, Sample of the Moon - 001 Witnessing China's Dream of Flying Pavilion, Great Change Celebrating the 40th Anniversary of China's Reform and Opening-up Pavilion, Power of Creation Pavilion, Silk Road Pavilion as the main exhibition halls. The main exhibition hall. This kind of teaching design helps students realise relying on theory, understanding theory and applying theory. It focuses on the comprehensiveness of practical teaching and highlights the scientific and contemporary nature of teaching design. This teaching design requires students to keep learning records, record their browsing records and insights in the process of practice. This will result in a unique experiential experience. 'Its source has the brand of 'self', that is, it must have obvious personal characteristics.' [8] This teaching activity enhances the effectiveness of practical teaching.

4.3 This Teaching Design Requires Clear Role Positioning and Task-driven as the Basis for the Implementation of Practical Teaching Methods

This practice teaching design changes the traditional practice mode into a network inquiry mode. The network inquiry-based teaching model includes six modules: context, task, resources, process, evaluation and summary. Practice teaching begins with the positioning of the teacher and student roles, the teacher creates an environment for students to play a subjective initiative space, while the teacher provides students with a combination of theoretical and practical scenarios, resources and practical teaching tasks. Students take the practical tasks into the provided scenarios and use the resources to complete the practical teaching tasks. In this process, the teacher is not the lecturer of the content of the practical teaching, but the designer of the practical teaching ideas and teaching sessions. Students are not the listeners of the teaching content, but the active participants of practical teaching and the constructors of practical teaching results. In the practical teaching of the digital exhibition hall of the National Museum, after receiving the practical task, students independently consult the information, choose the exhibition hall that can apply the combination of theory and practice according to their personal wishes, independently produce the video of the exhibition experience, and carry out the output of theoretical and practical knowledge.

4.4 Teachers Design a Diversified Assessment System to Evaluate the Effectiveness of Practical Teaching

Teaching evaluation has become an important part of curriculum reform, 'education needs evaluation, education without evaluation is blind education' [9], teachers design a diversified assessment system to strengthen the process assessment based on learning data. Teachers dynamically improve teaching strategies and provide timely feedback to students based on learning process data analysis. Course performance evaluation is composed of three parts: (1) teacher assessment (30%): evaluation criteria for the

close integration of theory and practice (10 points), logical and rigorous language explanation (10 points); explanation of generous and decent (10 points); (2) inter-group mutual evaluation (30%) evaluation criteria: smooth video screen (10 points), video sound quality (10 points), vivid explanation (10 points); (3)group evaluation criteria: participation in practical activities enthusiasm (10 points). Evaluation criteria within the group: participation in practical activities (10 points), effectiveness of task implementation (10 points), communication and collaboration skills (10 points); (4) Points assigned to the liking rate (10 points). This design of practice teaching evaluation increases students' multidimensional experience in practice teaching. The focus of this kind of assessment covers students' theoretical knowledge experience, skills experience, process experience, method experience, and emotional attitude and values experience. This practice requires that students need to deeply understand theoretical knowledge and familiarise themselves with short video production skills. They need to make a serious visit to the online pavilion and familiarise themselves with the skills of learning through mutual evaluation in order to complete the task of practical teaching.

5. Summary

In the new period, information technology is changing rapidly. The emergence of digital cultural resources has brought unprecedented opportunities for the practical teaching of practical education in colleges and universities. This paper clarifies the urgency and importance of the integration of digital culture through in-depth analysis of the dilemmas faced by the practical teaching of practical education in colleges and universities, such as the narrow field, the low degree of fit with theoretical teaching, and the insufficient empowerment of information technology. Digital culture has unique value and significance in enriching the practical teaching resources of practical education in colleges and universities, innovating the teaching mode, and enhancing the teaching effect. Teachers use the digital exhibition hall of the National Museum of China as a practical platform, and their teaching ideas are designed based on practical theory and situational awareness. This teaching design is based on integrating theoretical teaching content, selecting exhibits, clarifying role positioning, adopting task-driven teaching method, and constructing a diversified examination and evaluation system. This teaching design opens up a new path for the practical teaching of practical education in colleges and universities.

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