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Research on dynamic inheritance and modern transformation of Honggu black pottery's skill based on interactive experience

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Abstract:
under the concept of "Intangible heritage+",the inheritance and innovation of Honggu black pottery's skill needs to be modernized. This paper takes Honggu black pottery's skill in Gansu as the research object, and starts with the problems encountered in its dynamic inheritance and transformation and development, and puts forward the innovative path of "integration of arts and sciences", "integration of culture and tourism" and "Educational Integration" in a targeted way, which provides a systematic methodology for dynamic inheritance, which is based on the traditional craft of Honggu black pottery in the new era, and helps the modern design transformation and development of Honggu black pottery's cultural heritage.

Keywords:
Honggu black pottery's skill; Interactive experience; Integrated development; Dynamic inheritance; Modern transformation

1.Introduction

In the field of intangible cultural heritage protection, the concept of "dynamic inheritance" is gradually becoming the core guiding principle. As a representative of traditional crafts in China, the inheritance and protection of pottery's skill has attracted much attention.This skill enjoys a high reputation at home and abroad for its unique technological characteristics and artistic style. It not only carries profound historical and cultural connotations, but also reflects the diversity and creativity of Chinese culture. However, under the background of rapid changes in modern lifestyle, traditional crafts are facing the dual challenges of inheritance and development. Through the innovative practice of "Intangible heritage+interactive experience" mode, the black pottery skill can expand the development space and open up new market areas, thus realize the organic combination of dynamic inheritance and modern transformation.

2.Development Status and Problems of "Intangible heritage+Interactive Experience" of Honggu black pottery's skill

Honggu black pottery is a typical branch of China black pottery art, located in Honggu District, Lanzhou City, Gansu Province. Under the impact of modern market economy, the traditional Honggu black pottery's

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skill has encountered bottlenecks in development. As a modern way to break the traditional non-genetic inheritance, interactive experience has been very popular in the market in recent years. The investigation found that the inheritance of interactive experience of Honggu black pottery's skill is relatively traditional, and the inheritance of interactive experience is low in science and technology, lacking in personalized characteristics, and the production process is complicated, which is difficult to meet the consumption needs of modern consumers, especially young people. Secondly, Gansu is a big tourist province. At present, the development of the "Intangible heritage+interactive experience of literature and tourism" of Honggu black pottery's skill is lagging behind, and the phenomenon of single inheritance of skill is serious. Without the guidance of the concept of "Intangible heritage+",the inheritance of skill cannot find a new way suitable for its own development. Thirdly, The development and dissemination of innovative inheritance of interactive education are not strong enough. In the process of non-genetic inheritance, old craftsmen and young people have a generation gap, the school's cultural inheritance system is not perfect, and the institutionalization and systematization of national education are relatively lacking. According to the statistics of Gansu Intangible Cultural Heritage Center in 2024, the average age of provincial inheritors of Honggu black pottery's skill is 62 years old, and only 7% of them are under 35 years old[1], while the proportion of young inheritors of Yixing Zisha (< 40 years old) is 29%[2]. The external interactive communication of products is seriously insufficient. All these have seriously restricted the transformation and development of Honggu black pottery's skill, and we need to reflect on them in a targeted manner.

3.Innovation path and implementation strategy of interactive experience of Honggu black pottery's skill

Honggu black pottery's skill is a traditional handicraft with profound historical and cultural heritage and higher technological value. Innovation, inheritance and integration is the only way for its modern transformation and development. In view of the shortcomings in the above three aspects of the inheritance and innovation of the interactive experience of Honggu black pottery's skill, the author believes that under the concept of "Intangible heritage+",the integration and innovation of its interactive experience needs to be improved from the following aspects.

3.1 Integration of Arts and Sciences: Technology Empowers Traditional Craft

With the development of social production, industrialization and digital informationization are gradually changing people's modern production and lifestyle, and traditional handicrafts are facing great challenges. The birth of the concept of "Intangible heritage+"and the development of digital technology provide opportunities for the development of local traditional handicraft industry. In the digital age, the effective integration of intangible cultural heritage and interactive experience can be realized by using modern technology, which can enhance the public's cognition and participation in traditional culture, make the public understand the connotation of intangible cultural heritage more intuitively and deeply, and then stimulate their awareness of protection and inheritance. For Honggu black pottery's skill, it is a realistic choice to combine with modern science and technology, promote integration and innovation, and provide the public with an immersive Honggu black pottery's skill production experience by using modern technical means such as virtual reality (VR) and augmented reality (AR), so that people can more intuitively understand the pottery-making process and

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feel the charm of traditional crafts.

Take Dunhuang's "Feitian AR" immersive experience project as an example. Through AR technology, when tourists scan specific murals with handheld devices, they can trigger the image of Feitian to jump out of the wall and dance in the air with ancient music. With VR equipment, it provides a 360-degree panoramic view at high altitude. Visitors can "leap" over Mingsha Mountain, Crescent Spring and Mogao Grottoes,and overlook Dunhuang landform and historical sites, and feel the texture details of Yadan landform through 8K ultra-high-definition images.[3] The creation of this multi-dimensional sensory interaction scene has greatly enhanced the public's cognition and experience of Dunhuang culture, an intangible cultural heritage. Honggu black pottery's skill can also learn from similar models, and use VR and AR technologies to carry out the technical research and development of digital VR project of Honggu black pottery's skill, so that the public can immerse themselves in the production process of black pottery.

In the aspect of reproduction and exhibition of cultural relics, in order to restore the Neolithic black pottery artifacts,Chengziya Ruins Museum used 3D printing technology to scan the cultural relics with high precision to obtain the surface texture and structure data, used nano-scale black pottery powder combined with binder to simulate the density and texture of traditional black pottery, and then successfully restored the cultural relics through high-temperature firing, hand polishing, antique aging and other processes.[4] This shows that 3D printing technology plays an important role in the protection and display of black pottery cultural relics. Honggu black pottery's skill can also build a virtual display platform with the help of 3D printing, which can present the production process of black pottery in an all-round way, allowing users to remotely customize the pattern parameters to generate personalized pottery blanks, participate in the production of black pottery, and feel the blending of skills and technology.

In addition, the integration of digital technology and cultural heritage protection, through mobile applications, short video platforms, virtual workshops and other settings, can effectively tell the stories of Honggu black pottery, so that participants can simulate their handcrafts, feel the fun at their fingertips, and enhance national cultural identity. "Black pottery+technology" and its close integration with daily life and optimized experience will continue to promote the modern scientific and technological innovation and transformation of Honggu black pottery art.

3.2 Integration of Culture and Tourism: Culture-driven industrial upgrading

The integration of culture and tourism provides a new opportunity for the inheritance and innovation of Honggu black pottery's skill and injects modern vitality into its development.We can deeply integrate the Honggu black pottery's skill with modern cultural tourism industry.Through innovation and transformation, with a brand-new consumption and experience mode, the characteristic interactive path of "Honggu black pottery's skill+cultural tourism" is opened up, the whole process of black pottery firing and production is integrated, and the interactive link between inheritors and tourists is added, paying attention to feeling the unique charm of black pottery handicraft culture through personal experience. Referring to the IP cross-border strategy of the cultural and creative products of the Imperial Palace,we will promote the characteristic tourism market of "Honggu black pottery's skill+Cultural tourism", so that the traditional intangible cultural heritage changed from static display to dynamic participation; At the same time, designers are encouraged to integrate

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modern aesthetic design concepts while keeping the connotation of traditional craft culture in-depth excavation, and carry out creative design of black pottery travel in modern style to help upgrade the travel industry.

Of course, cross-border cooperation is also crucial. It is necessary to actively expand the cooperation between traditional skills and fashion, home furnishing and other industries, create products with both practicality and aesthetics, and expand the application scope of black pottery in art collections, tourist souvenirs and other fields. Hold an international exhibition of black pottery art, carry out international exchange of black pottery culture, help Honggu black pottery art to enter the international stage, and enhance national cultural self-confidence.

3.3 Educational Integration: Educational Inheritance and Dissemination

Educational inheritance is an important guarantee for establishing a scientific and effective intangible cultural heritage inheritance mechanism.[5] Honggu black pottery's skill is integrated and innovated, and a multi-level education system is built with the help of Internet teaching and community experience workshops to promote the inheritance of black pottery intangible skill.

In the process of inheritance, different platforms and activities are adopted for different groups to carry out age-specific training programs. Such as online digital video productions, experience workshops, inheritor identity exchange games, etc.,to stimulate innovation vitality. Communities and families can also set up online and offline "shared classrooms" and "parent-child DIY" activities. Colleges and universities can use innternet resources to build a virtual exhibition hall experience library. Government departments should increase capital investment and policy support, encourage the implementation of the integration of non-legacy manual education, and form a systematic experience training service system through the training of inheritors and the construction of master workshops. Encourage school-enterprise cooperation, set up a series of courses and creative workshops featuring "non-legacy black pottery+education", and train a new generation of inheritors. Combining Honggu black pottery's skill with modern design concepts, black pottery works with modern artistic aesthetic value are developed, which are combined with life and applied in the fields of home decoration and art exhibition. By holding exhibitions, cultural promotion, international exchanges and other forms, we will build a diversified display platform for Honggu black pottery's skill, expand brand identity, enhance public understanding of modern Honggu black pottery's skill at home and abroad, and promote the healthy development of its cultural inheritance and dissemination internationalization.

4.Conclusion

Under the concept of "Intangible heritage+",the dynamic inheritance, integration and innovation of Honggu black pottery's skill has important practical significance. We can better protect and inherit the precious intangible cultural heritage of Honggu black pottery's skill through ways and strategies such as empowering traditional crafts with science and technology, upgrading industries driven by culture, and inheriting and spreading education. The inheritance of Honggu black pottery's skill is not only a continuation of skill, but also a scientific and cultural dynamic inheritance with "interactive experience" as the link. Touching the black pottery in the AR/VR scene, feeling the temperature of the soil in the community workshop and creating digital black pottery in the virtual space have broken the separation between tradition and modernity, allowing the younger

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generation to talk in the interweaving of virtual and reality. This mode of "interactive experience and inheritance" transforms black pottery from "the object to be watched" to "the object to be participated", so that everyone can feel black pottery. The journey of Honggu black pottery's skill proves that only by letting culture breathe in interaction can tradition truly live in the present and spread to the future.

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