

# On the Role and Responsibility of Higher Education Institutions in Cultural Heritage Protection

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**Abstract:** The protection of cultural heritage is not only a cultural work, but also a work with political significance, which is related to a country's cultural sovereignty, cultural status, and cultural security. With the vigorous development of cultural relics protection and the continuous improvement of technological innovation capabilities, higher requirements and expectations have also been put forward for higher education institutions. This study focuses on the systematic functions and implementation paths of higher education institutions in cultural heritage protection, proposes a five-dimensional support system to ensure the implementation of responsibilities, and ultimately verifies that higher education institutions have become the core strategic force driving the sustainable development of cultural heritage by balancing the protection of historical authenticity and innovative activation and utilization.

**Keywords:** Higher education institutions; Cultural heritage; Cultural heritage protection

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## 1. Introduction

Cultural heritage is divided into tangible cultural heritage and intangible cultural heritage. Material cultural heritage refers to tangible cultural carriers with historical, artistic, and scientific value, and is a tangible witness to the development of human civilization. It includes both immovable and movable heritage, such as historical sites, architectural complexes, ruins, outstanding artworks, manuscripts, ancient books, artifacts, etc.<sup>[1]</sup> Intangible cultural heritage refers to all creations from a cultural community that are based on tradition, expressed by a group or individuals, and considered to be expressions of their cultural and social characteristics that meet the expectations of the community. Its principles and values are orally transmitted through imitation or other means<sup>[2]</sup>. Both tangible and intangible cultural heritage have historical, artistic, and scientific value. Cultural heritage is a non-renewable resource that witnesses the progress of human civilization

and plays an important role in the current socio-economic and cultural development <sup>[3]</sup>. In the grand picture of the continuation and innovation of human civilization, the protection of cultural heritage, as the foundation of national identity and the treasure trove of historical wisdom, is crucial. Cultural heritage, as a witness to history, is a treasure of human civilization, carrying the collective memory of a country and a nation. Protecting cultural heritage is not only a respect for the past, but also an investment in the future. Therefore, the development and protection of cultural heritage has become a hot topic in the economic, cultural, and educational development of countries around the world. From the overall situation of the current development of cultural heritage protection, developed countries in Europe have a long history and tradition of cultural heritage protection. Whether it is the concept and restoration technology of cultural heritage protection, or the level of education, they are in a leading position in the world, especially in Western European countries such as Italy, France, Germany, and the United Kingdom <sup>[4]</sup>.

In the acceleration of globalization and modernization, cultural heritage is facing unprecedented challenges. Higher education institutions, as temples of knowledge and cradles of talent, play an indispensable role in the protection of cultural heritage. They are an important component of the cultural heritage protection force and play an irreplaceable role in the construction of the theoretical system and talent cultivation of cultural heritage protection. They are not only the center of academic research, but also a key force in cultural inheritance and social services. However, in practical protection work, there is still a common phenomenon of unclear understanding of the role and function of higher education institutions in cultural heritage protection, as well as their responsibilities and functions. This seriously affects the role of higher education institutions in cultural heritage protection and the formation of the overall social protection force, resulting in a certain degree of lack of guidance theory and human resources urgently needed for protection work. To change this situation, it is necessary to address the role and implementation methods of higher education institutions in cultural heritage protection work.

## **2. The role and function of higher education in the protection of cultural heritage**

Currently, higher education institutions, with their unique resources, mission, and social functions, have become an indispensable cornerstone and core engine for the protection of cultural heritage. They play multiple and critical roles, building a complete ecosystem that covers research, education, innovation, and practice, and their role runs through the entire chain of cultural heritage research, protection, inheritance, innovation, and dissemination.

### **2.1. Core research and development base for knowledge and technological innovation**

#### **2.1.1. Frontier technological exploration**

Higher education institutions are hotbeds for interdisciplinary research. The close cooperation between science and engineering, and humanities and social sciences has promoted the innovation of cultural heritage protection technology. This includes developing safer cleaning and reinforcement materials and methods, applying technologies such as hyperspectral imaging, non-destructive testing, 3D laser scanning, and digital modeling, artificial intelligence-assisted restoration and virtual reconstruction, etc., to provide a precise diagnosis and scientific basis for cultural relic protection.

### **2.1.2. Research on protection theory and methodology**

Scholars in the fields of humanities and social sciences delve into the value, significance, and threats faced by cultural heritage, exploring the ethical framework, legal norms, policy formulation, management strategies, and theoretical basis for cultural adaptive reuse of protection. These studies provide theoretical support and value guidance for conservation practices.

### **2.1.3. Interdisciplinary solutions**

Complex cultural heritage issues often require comprehensive solutions. Higher education institutions can organize experts from multiple disciplines, such as history, archaeology, architecture, and cultural relic protection technology, to break down disciplinary barriers, integrate wisdom from all parties, and conduct comprehensive and in-depth research on cultural heritage. For example, to address the impact of climate change on ancient architecture, it is necessary for climatologists, material engineers, and experts in historical building preservation to collaborate on research. The protection of intangible cultural heritage may involve the joint participation of anthropologists, communicators, community planners, and digital technology experts.

## **2.2. The cradle of professional talent cultivation**

### **2.2.1. Systematic education**

Higher education institutions are the main channel for cultivating professionals in cultural heritage protection. Higher education institutions offer majors such as cultural relic protection, museum studies, and cultural heritage management to cultivate talents with professional knowledge and skills. Through systematic course learning and practical training, students can master skills in cultural relic restoration, protection planning, and cultural heritage tourism development. At the same time, by setting up bachelor's, master's, and even doctoral degree programs, a systematic professional knowledge system, rigorous method training, and practical skill development can also be provided.

### **2.2.2. The bridge between theory and practice**

Higher education institutions not only impart theoretical knowledge, but also enable students to master professional skills in real or simulated environments through laboratory operations, field archaeological internships, restoration studios, museum/heritage site internships, and other methods, organically combining theory with practice. In addition, higher education institutions cooperate with museums, cultural relics protection units, and other institutions to provide students with practical teaching and internship opportunities, allowing them to learn and practice in a real cultural heritage protection environment, and improve their ability to solve practical problems.

### **2.2.3. Lifelong learning platform**

Higher education institutions can provide opportunities for on-the-job practitioners to update their knowledge and improve their skills through short-term training, professional certificate courses, seminars, and other forms, meeting the needs of sustainable industry development.

## **2.3. Cultural heritage itself and its practical carriers**

### **2.3.1. Guardians of physical heritage**

Many higher education institutions are themselves important historical buildings, scenic gardens, or cultural

landscapes, and are important witnesses to the history of cities or regions. They shoulder the direct responsibility of restoring, maintaining, interpreting, and sustainably managing their own cultural heritage, becoming demonstration sites for “dynamic” protection. Campus heritage, such as the ancient college buildings of Oxford and Cambridge, and the early modern architecture of Wuhan University, has become a practical example for the protection of theory and technology. There are also numerous unique intangible heritages that continue to exist, such as Cambridge’s collegiate tradition, Harvard’s graduation ceremony, and Peking University’s academic spirit of “freedom of thought and inclusiveness”, all of which have been passed down from generation to generation as institutional memories.

### **2.3.2. Guardians of institutional memory and cultural traditions**

The unique traditions, rituals, values, campus culture, and academic spirit formed by higher education institutions over a long history are themselves valuable intangible cultural heritage that needs to be understood and inherited.

### **2.3.3. The center of museums and archives**

Higher education institutions usually have important departments such as museums, art galleries, archives, and libraries. These institutions not only preserve precious material and intangible cultural heritage, but also carry out research, protection, exhibition, and public education projects, which are important nodes in the cultural heritage protection chain.

## **2.4. The bridge between social services and public education**

### **2.4.1. Public participation advocates**

Higher education institutions disseminate cultural heritage knowledge through diverse forms such as lectures, exhibitions, guided tours, workshops, publications, and digital projects open to the public, enhancing public awareness of protection, aesthetic literacy, and a sense of identity and pride in their own culture.

### **2.4.2. Community collaboration partners**

Researchers and students from higher education institutions can delve into the communities where heritage sites are located, participate in community-led conservation projects, respect and protect local knowledge systems, and collaborate with communities to carry out cultural heritage tourism projects, promote local economic development, and use tourism revenue to support cultural heritage protection and promote sustainable development of cultural heritage. In addition, higher education institutions can also transform professional knowledge into a social action force, bringing the public closer to cultural treasures through projects such as digital museums, intangible cultural heritage community workshops, and volunteer services at heritage sites.

### **2.4.3. Policy consultation and think tank function**

Higher education institutions can provide professional intellectual support and decision-making consultation for governments at all levels and international organizations to formulate cultural heritage protection regulations, plans, policies, and standards based on their profound research accumulation and expert teams.

## **2.5. A platform for global communication and cooperation**

### **2.5.1. Knowledge sharing network**

Higher education institutions have a natural international nature and are important hubs for cross-border and cross-cultural academic exchange and cooperation. The mobility of scholars and students, international collaborative research projects, joint degree programs, international conferences, etc., promote the rapid dissemination, experience sharing, and common improvement of protective technologies, concepts, and methods on a global scale.

### **2.5.2. Addressing global challenges**

Many threats to cultural heritage, such as climate change, illegal trafficking, and large-scale construction, are global in nature. Through international cooperation, higher education institutions can integrate global resources, jointly seek solutions, and promote the establishment of more universal ethical norms and practical guidelines for protection.

In summary, higher education institutions are not a single participant in the cultural heritage protection system, but a comprehensive core force that integrates multiple roles such as research engines, talent cradles, carrier demonstrations, public bridges, and international hubs. They are deeply embedded in every aspect of cultural heritage protection with their unique academic research capabilities, educational and training systems, social service missions, and cross-cultural perspectives, from basic research, technological innovation, theoretical exploration, to talent cultivation, physical protection, public education, and international cooperation. In contemporary society, the protection of cultural heritage is becoming increasingly complex and urgent, and the fundamental support and innovative leadership role of higher education institutions will be more prominent. They are not only material carriers for preserving the past, but also key driving forces for endowing cultural heritage with knowledge and life, enabling it to sustainably nourish the present and future. Higher education institutions solidify their foundation through academic cultivation and give new life to their heritage through talent and innovation. Only by fully recognizing and leveraging the core roles of higher education institutions can a more scientific, sustainable, and dynamic cultural heritage protection system be constructed.

## **3. The responsibility of higher education institutions in the protection of cultural heritage**

Higher education institutions bear multi-level and cross-dimensional systematic responsibilities in the protection of cultural heritage, which stem from their academic mission, social functions, and their own attributes as cultural subjects.

### **3.1. Educational responsibility: Building a talent ecological chain**

Higher education institutions have the responsibility to popularize cultural heritage knowledge to students and enhance their awareness of cultural heritage protection. By offering relevant courses, hosting lectures, organizing visits, and other forms, students can understand the value and significance of cultural heritage and cultivate their sense of cultural responsibility. From professional education to lifelong learning, higher education institutions need to establish a complete talent cultivation system: establish interdisciplinary degree programs; provide on-site training for archaeological excavations, cultural relic restoration, and other related activities; and design on-the-job competency modules. This lifecycle chain ensures that practitioners continue to receive a cutting-edge knowledge supply.

### **3.2. Research responsibility: Innovative theory and technology**

Higher education institutions have a responsibility to conduct in-depth research on cultural heritage, revealing its historical, cultural, artistic, and social values. The research results should serve the practice of cultural heritage protection and provide a scientific basis for government decision-making. Higher education institutions must break through the cognitive and technological boundaries of the protection field, such as developing non-invasive repair technologies at the material level, building a digital twin system, deepening the research on ethical theory, establishing risk prediction models, etc. These actions provide innovative methodologies for global conservation practices.

### **3.3. Guardianship responsibility: To preserve the essence and memory**

If higher education institutions have cultural heritage, such as historical buildings, cultural relics collections, etc., they have a responsibility to protect and manage it. A comprehensive protection plan should be formulated, and effective protection measures should be taken to ensure the safety and integrity of cultural heritage. Higher education institutions are primarily guardians of their own cultural heritage, with a direct obligation to preserve their historical buildings, academic archives, and intangible traditions. This includes developing scientific restoration plans, establishing digital projects for endangered literature, and ensuring the sustainability of campus memory through institutional inheritance.

### **3.4. Public responsibility: Activate the public value of heritage**

Higher education institutions have the responsibility to inherit cultural heritage and revitalize it in the new era. By developing cultural and creative products, organizing cultural activities, and conducting cultural heritage tourism, more people can understand and love cultural heritage. Higher education institutions can break down academic barriers and promote heritage sharing, such as developing public participation projects, supporting community revitalization practices, and empowering local government decision-making. Transforming heritage into a spiritual bond of modern society through knowledge transfer.

### **3.5. Ethical responsibility: Practicing protective principles**

Higher education institutions should become exemplars of industry ethics: upholding authenticity in their actions, ensuring cultural fairness, and implementing intergenerational equity. These practices establish ethical benchmarks for global protection.

### **3.6. Collaborative responsibility: Building a global protection network**

Faced with the crisis of transnational cultural heritage, higher education institutions need to establish collaborative platforms, such as leading international rescue efforts, promoting open-source technology, and developing universal standards. This network consolidates dispersed protective forces into a protective community for human civilization.

In short, the core mission of higher education institutions is to use academic strength to resolve the contradiction between traditional preservation and modern innovation in heritage protection to uphold authenticity when replicating Dunhuang murals with digital technology, and to maintain historical dignity when revitalizing and utilizing industrial heritage. This requires higher education institutions to not only serve as the “Noah’s Ark” to prevent the extinction of cultural memory, but also as the “innovation engine” to catalyze the rebirth of heritage, ultimately making cultural heritage an eternal force driving human development.

## **4. The Implementation of responsibilities of higher education institutions in cultural heritage protection**

### **4.1. Institutional rigidity guarantee**

Embedding the responsibility to protect into the core architecture of higher education institution governance, legalizing it through the development of statutes, and formulating clear policies to incorporate cultural heritage protection into its mission and strategic planning, establishing the institution's responsibility for cultural heritage protection in research, education, public services, and institutional operations <sup>[5]</sup>.

### **4.2. Collaborative flow of resources**

Break down disciplinary and institutional barriers, and build a shared ecosystem. Such as creating a cross-platform for arts, science, and engineering, opening up key laboratory resources, and establishing diversified funding pools. This can ensure the cross-domain circulation of technology, data, and funds.

### **4.3. Capability closed-loop construction**

Building a three in one competency chain of “education technology practice”: offering relevant courses, reforming the curriculum system, and enhancing students' understanding of the value and importance of cultural heritage protection; Promote technological transformation, provide funding and resource support, and ensure the smooth progress of research projects; Encourage on-the-job training and encourage students to participate in practical projects for cultural heritage protection, thus forming a closed loop of ability building from classroom to on-site.

### **4.4. Social network activation**

Building a diverse collaborative network for governance: establishing community empowerment mechanisms, building cooperative relationships with local communities, and raising public awareness of cultural heritage protection through community services and volunteer activities; Develop a public participation platform to increase the sense of experience and participation; Join the Global Responsibility Alliance to root conservation actions in the soil of society.

## **5. Conclusion**

Higher education institutions play an important role and responsibility in the protection of cultural heritage. ICOMOS (International Council on Monuments and Sites) relies on a global network of university experts to develop emergency protection plans for heritage damaged by the Syrian war; The Dunhuang Academy has collaborated with numerous research institutes and universities to tackle the digitization technology of cultural relics <sup>[6]</sup>. Together, they have created the “Digital Dunhuang” project, which utilizes the most advanced digital technology to comprehensively and permanently record, preserve, and study precious cultural relics such as Dunhuang grottoes, murals, and sculptures in digital format, providing high-precision digital access and sharing services for the global public. These collaborations not only accelerate the dissemination of technology but also promote the formation of a joint action mechanism to address global threats such as the climate crisis and armed conflict. This multidimensional support system enables the millennium heritage to break through the

limitations of time and space, continuously providing cultural identity and spiritual nourishment for humanity, and maintaining the vitality of civilization in the changing times. Higher education institutions are not only the preservers of civilization's genes, but also the reconstructors of cultural vitality. Only by fully leveraging the advantages of higher education institutions can we better protect cultural heritage, inherit, and continue civilization.

## Disclosure statement

The author declares no conflict of interest.

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