

Research on the Problems and Optimization Paths of University Audiovisual Archives Management

Yuhe Liu, Chang Jin*

Beijing Union University, Beijing ,100080

Abstract: University audiovisual archives record major events, important figures, teaching and research activities, campus construction, and cultural life in the form of photographs, audio recordings, videos, and digital images. They are important resources for preserving institutional memory, supporting governance evidence, and strengthening culture-based education. Based on the cases of Hohai University, Peking University, China University of Geosciences, digital humanities research, the digital transformation experience of the National Film and Sound Archive of Australia (NFSA), and the full-cycle control of engineering audiovisual archives, this paper finds that current university audiovisual archives management still faces several problems: weak collection awareness, incomplete filing scope, inconsistent digitization standards, insufficient technical and security support, and a low level of compilation, research, and utilization. Universities should systematically promote the transformation of audiovisual archives management through full-cycle control, standardized description, digital platforms, interdisciplinary talent development, culture-based educational use, and social collaboration. In this way, audiovisual archives can move from "static objects of preservation" to living resources that serve university history inheritance, teaching and research, campus governance, and public communication.

Keywords: university archives; audiovisual archives; archives management; digitization; culture-based education

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1.The Value Orientation of University Audiovisual Archives Management

Audiovisual archives differ from ordinary textual archives because they preserve on-site information about university development in a direct, vivid, and perceptible form. Opening ceremonies, graduation ceremonies, scientific experiments, academic conferences, campus construction, alumni activities, international exchanges, teachers' and students' cultural life, as well as lectures, interviews, and work records of important figures may all become important evidence for understanding the historical development of a university in the future. During the construction of its university history museum, Hohai University found that many valuable photographs and physical materials could become understandable and usable university history resources only when they were interpreted together with people, places, events, and historical background^{[1][5]}. This shows that university audiovisual archives are not merely supplements to publicity materials, but an important foundation for knowledge production, cultural inheritance, and historical interpretation within universities.

From the perspective of management objectives, university audiovisual archives have at least three levels of value. The first is evidential value. Audiovisual materials can supplement the on-site details that textual archives cannot fully present, providing visual evidence for major events, engineering projects, scientific achievements, and changes in campus landscape. The second is educational value. The practice of the Archives of China University of Geosciences shows that audiovisual archives, because of their originality and emotional appeal, can enhance teachers' and students' understanding of university history, university spirit, and academic traditions. They play a distinctive role in university history education, love-of-school education, honor education, and ideological and political education^[3]. Yao Jie's study on the re-educational function of audiovisual archives also points out that the reuse of audiovisual archives can continuously release cultural and educational value^[4]. The third is communicative value. In the digital media environment, audiovisual archives can enter a broader public communication space through thematic exhibitions, cloud exhibition halls, short videos, oral history programs, and digital compilation

Author Profile: Yuhe Liu(2001.08——), female, Han ethnicity, from Linfen, Shanxi Province. Bachelor's degree; currently pursuing a master's degree.

products. They can therefore become important resources for universities to display their educational characteristics and cultural brands.

2. Main Problems in Current University Audiovisual Archives Management

2.1 Weak awareness of collection and filing leads to resource loss and an imbalanced collection structure

Taking Hohai University as an example, Wang Qianqiu notes that university audiovisual archives often suffer from incomplete information, monotonous content, and delayed filing. Existing collections are often concentrated on meetings, leadership activities, and cultural performances, while materials related to teaching and research, experimental processes, discipline competitions, engineering construction, and the everyday study and life of teachers and students are comparatively scarce ^[1]. The root of this problem lies in the dispersed nature of audiovisual archive creation. Publicity departments, schools and departments, research teams, student organizations, and individual alumni may all possess valuable images, yet many creators regard photographs and videos only as temporary publicity materials and lack an awareness of archival filing. With the popularization of mobile phones, cameras, and new media platforms, the quantity of audiovisual materials has grown sharply. If there are no clear collection boundaries and responsibility mechanisms, universities are more likely to face the paradox that "materials.

2.2 Inconsistent description and standards affect later use

The value of audiovisual archives depends heavily on contextual information. Without metadata such as time, place, people, event, photographer, and copyright status, even well-preserved images may be difficult to identify and use. Hohai University proposed expanding the collection scope into categories such as party and administrative affairs, teaching, scientific research and academic activities, foreign affairs, products and instruments, sports and cultural activities, campus construction, awards, and figures. It also emphasized description based on elements such as event, time, place, people, background, and photographer ^[1]. This experience shows that audiovisual archives management should not stop at "saving files." It should enable images to enter a knowledge system that is searchable, connectable, and interpretable.

2.3 Digitization still has institutional, technical, and security weaknesses

The case of Peking University shows that the digitization of university audiovisual archives generally goes through stages such as catalogue database construction, categorized digital conversion, system upgrading, and data application. In practice, however, many problems remain, including inconsistent digitization standards, an incomplete talent team, insufficient data backup, mismatch between software and hardware, poor format compatibility, and insufficient development of compilation and research services ^[2]. Some old photographs, audio tapes, and video tapes have already shown fading, embrittlement, breakage, and difficulty in finding playback equipment. If rescue digitization is not carried out in time, the archival carriers will continue to deteriorate. On the other hand, if digitization only pursues quantity and neglects acquisition parameters, file formats, backup strategies, access permissions, and security auditing, it will create new management risks.

2.4 The level of development and utilization remains low, and the culture-based educational function has not been fully released

Many university archives still focus mainly on physical preservation and passive consultation. Audiovisual archives are often called upon temporarily for anniversary celebrations, exhibitions, or promotional films, but there is a lack of continuous compilation, thematic planning, and service design for teachers and students. China University of Geosciences has explored culture-based educational paths through rescue restoration, digital migration, cross-sector cooperation, university-based resource platforms, and derivative cultural products ^[3]. He Hui, from the perspective of digital humanities, proposes compilation and research ideas centered on platforms, intelligence, visualization, and crowdsourcing participation^[6]. Together, these studies suggest that the endpoint of university audiovisual archives management should not be "storage." Instead, after organization, interpretation, and

communication, audiovisual archives should return to teaching, research, campus culture, and social service.

3. Optimization Paths for University Audiovisual Archives Management

3.1 Universities should establish a full-cycle management mechanism covering creation, collection, arrangement, preservation, and use

Although the case of full-cycle control of water conservancy engineering audiovisual archives does not belong directly to the university context, its models of "real-time remote submission" and "key-node control" are useful for universities [7]. Universities can embed audiovisual filing requirements into the workflows of major events, research projects, infrastructure projects, enrollment publicity, alumni activities, and annual departmental work. The principle of "whoever creates collects, transfers, and provides the initial description" should be clarified. For large conferences, academic forums, anniversaries, graduation ceremonies, and releases of major research achievements, filing checklists and node-based review can be established. Schools, administrative departments, and student organizations can submit photographs, videos, descriptions, and authorization materials through a remote filing system. The university archives can then review quality, supplement description, assign unified numbers, and ensure long-term preservation. This approach can avoid rushed collection after events, reduce material fragmentation, and prevent the loss of contextual information.

3.2 Universities should improve classification, description, and quality standards, transforming audiovisual archives from a "collection of files" into "usable data."

Each university should design a classification system for audiovisual archives in light of its own educational characteristics. Drawing on Hohai University's experience, categories may cover party and administrative management, teaching activities, scientific research and academic activities, international exchange, campus construction, sports and cultural activities, portraits and figure-related images, award achievements, instruments and equipment, alumni activities, and oral history^[1]. At the level of description, a unified metadata template should be established. At minimum, it should include title, creation time, place, people, activity background, creating department, photographer or videographer, carrier type, file format, retention period, copyright or authorization status, and related textual archive numbers. For the photographs, videos, audio recordings, news releases, meeting minutes, and physical materials of the same event, associated numbers should be used to form a chain of evidence and avoid isolated preservation. For digital files, universities should also specify resolution, bitrate, format, naming rules, checksums, and backup methods to ensure that digital outputs are traceable, migratable, and readable over the long term.

3.3 Universities should build secure and reliable digital management platforms

The digitization of university audiovisual archives should not be understood only as scanning and conversion. It should include integrated construction across acquisition, restoration, storage, retrieval, permissions, backup, use, and compilation. For endangered carriers such as old photographs, video tapes, and audio tapes, rescue digitization should be carried out according to preservation condition, with priority given to non-renewable materials, frequently used resources, and carriers at high risk of damage ^{[2][3]}. For resources that have already been digitized, master backups, off-site backups, and regular verification should be implemented to prevent data loss caused by server failure, format obsolescence, or system upgrading. In terms of platform functions, the system should support multidimensional retrieval, thumbnail browsing, online audio and video playback, permission grading, use registration, copyright reminders, and log auditing. For audiovisual archives involving personal privacy, research secrets, unpublished meetings, or sensitive scenes, an access review mechanism should be established so that use can be expanded gradually while security is protected.

3.4 Universities should improve compilation, research, and communication through digital humanities methods

Digital humanities emphasizes using technology to activate the value of humanistic resources, and it is

especially suitable for the in-depth development of multimedia and unstructured resources such as university audiovisual archives [6]. On the basis of digital platforms, universities can gradually introduce image recognition, speech-to-text transcription, text mining, knowledge graphs, and visualization technologies. These tools can support association analysis of people, places, events, disciplines, institutions, and timelines, leading to compilation products such as university history topics, discipline development maps, oral histories of famous scholars, visual records of campus spatial change, and image databases of major scientific research achievements. At the same time, compilation results should not remain only as internal collections. They can be opened to teachers and students through virtual university history museums, online thematic exhibitions, immersive displays, short video columns, and course resource packages. Technology must serve humanistic interpretation. Audiovisual archives should not be simply packaged as "digital exhibits"; instead, thematic planning and narrative design should explain the university spirit, academic tradition, and historical context behind the images.

3.5 Universities should cultivate interdisciplinary archival talent and build cross-departmental collaboration networks

University audiovisual archives management involves archives science, information technology, image processing, communication studies, university history research, intellectual property, and security management. If archival staff are familiar only with traditional collection and preservation work, it is difficult for them to independently undertake digital restoration, audio and video editing, intelligent indexing, and new media communication. Universities should build teams that understand both archival standards and digital technology as well as campus culture through training, job rotation, project cooperation, and talent recruitment [2][6]. At the same time, the university archives should not bear all responsibilities alone. It should form coordination mechanisms with the publicity department, academic affairs office, research administration, student affairs departments, alumni association, library, museum, information technology department, and individual schools. Externally, universities can also learn from the NFSA experience by strengthening cooperation with educational institutions, technical teams, media platforms, alumni, and volunteers, thereby broadening channels for audiovisual archive collection, restoration, exhibition, and use [8].

3.6 Universities should design continuous use scenarios around culture-based education

The ultimate goal of university audiovisual archives management is to make archives serve real education while preserving authentic history. The practice of China University of Geosciences shows that audiovisual archives can become direct transmitters of historical culture, emotional stimulators of spiritual culture, carriers of humanistic education, and builders of university image and brand [3]. Therefore, universities should integrate audiovisual archives into freshman orientation, graduation education, university history courses, ideological and political courses, teacher ethics education, alumni cultural activities, and campus public exhibitions. For example, a group of old photographs can be used to tell the story of changes in campus space; oral history videos can present the development of academic disciplines; images of major research projects can show how a university serves national strategies; graduation images and alumni interviews can strengthen identity and belonging. In this way, audiovisual archives are no longer merely materials kept in an archives repository, but important media through which teachers and students understand the university and participate in campus cultural construction.

4. Conclusion

University audiovisual archives management is a systematic project that combines historical preservation, technical governance, and cultural communication. In the face of the rapid growth of audiovisual resources, the continuous aging of carriers, the rising demand for digitization, and the increasingly important task of culture-based education, universities cannot continue to rely on the traditional model of scattered collection, passive preservation, and temporary use. They should take full-cycle control as the foundation, standardized description and secure digitization as the support, and digital humanities-based compilation and culture-based education as the direction. A

cross-departmental, cross-carrier, and cross-scenario management system for audiovisual archives should be built. Only in this way can audiovisual archives truly move from "images that are preserved" to "university memory that is understood, used, and communicated," and thus play a more lasting role in university governance, academic research, and moral education.

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