

The Construction of Photography Library Collection in University Libraries in the Digital Age and the Cultivation of College Students' Innovative Ability

Shuai Pan¹, Lingjuan Song¹, Beibei Zhou², Yudi Liu²

¹Shandong Jianzhu University Library, Jinan 250101, China

²School of Business, Shandong Jianzhu University, Jinan 250101, China

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: The rapid development of digital technology has reshaped the form of the construction of the university library literature resources, and also provided a new way for the cultivation of the innovation ability of college students. Photographic literature, as a special category of literature with both visual transmission characteristics and cultural record value, its collection construction quality directly affects the quality of talent cultivation in colleges and universities. This paper is based on the background of the digital era, analyzes the realistic predicament of the construction of the photography literature collection in the university library, explores the practical path of the collection optimization, and puts forward the specific strategy of using the photography literature collection to build the empowerment of the cultivation of college students' innovation ability, aiming to provide theoretical reference and practical reference for the coordinated development of the university library resources construction and talent cultivation.

Keywords: The digital age; University libraries; Photographic archives; Collection development; Innovation ability cultivation

Online publication: February 12, 2026

1. Foreword

The digital era has brought about a fundamental change in the mode of information transmission, which has put forward higher requirements for the cultivation of talents in colleges and universities. Cultivating high-quality talents with innovative thinking and practical ability has become the core purpose of higher education. As the center of literature and information resources, the structure and quality of the collection of the university library directly affect the effect of talent training. Photographic literature, with images as its core medium, combines artistic aesthetics and cultural documentation, offering unique advantages in stimulating college

students' intellectual vitality and fostering innovative literacy^[1]. Digital technology has provided convenience for the collection and arrangement of photographic documents, but also made the construction of photographic document collections in university libraries encounter new challenges.

2. The realistic dilemma of the construction of photography collections in university libraries in the digital age

2.1. Imbalance of collection resources and lagging development of digital resources

At present, most of the photography collections in university libraries are still dominated by traditional paper resources, including photography albums, photography theory monographs, and photography techniques, while the reserve of digital photography resources is seriously insufficient. With the spread of digital photography technology, the demand for digital resources such as digital photography works, digital photography tutorials, and electronic photography journals is increasing, but there are some defects in the collection and construction of digital photography literature in university libraries. On one hand, the copyright regulations for digital photography archives are complex, and the acquisition costs are high, making it difficult for many university libraries to acquire high-quality digital photography resources on a large scale due to budget constraints. On the other hand, the lack of systematic guidelines for organizing digital photography archives results in insufficient capabilities for screening, integrating, and processing publicly available high-quality photographic resources online. Consequently, the digital photography collections in these libraries remain fragmented and disorganized, failing to form a coherent system that meets the diverse learning and innovation needs of college students^[2].

2.2. Unclear positioning of collection development and insufficient alignment with teaching and research

Some university libraries lack a clear orientation in the construction of photography literature collection, and blindly purchase all kinds of photography literature, which fails to fully combine the characteristics of the university's discipline and the needs of teaching and research. Students from different majors have distinct needs for photographic literature. For instance, journalism and communication majors require extensive news photography resources, while art and design students prioritize creative and commercial photography materials. History and culture majors, on the other hand, need folk photography and documentary photography to support their research^[3]. However, the photography collection of the university library is often lacking in specificity, general documents are in the majority, and professional characteristic documents are in short supply, which makes the collection resources not fit with teaching and research, and it is difficult to effectively support the professional learning and innovative practice of college students.

2.3. The service model is monotonous, and the resource utilization efficiency is low

In the digital era, the ways of college students to obtain information become more convenient and diversified, and the demand for library services also changed from the traditional pattern of document borrowing to an information service with personalized and intelligent characteristics. However, most university libraries currently offer limited services for photographic archives, primarily relying on traditional offerings like document lending and in-house reading. They lack in-depth development and utilization strategies for photographic resources. No specialized information service platform has been established, nor have targeted value-added services such as interpretive guidance or creative application support been implemented^[4]. At

the same time, because of the lack of effective publicity and promotion methods, many college students are not aware of the photographic literature resources in the library, resulting in a large number of high-quality photographic literature resources in idle state, the utilization efficiency of resources is low, and it is difficult to fully release the role of the efficiency in the process of innovation ability cultivation.

2.4. Lack of professional talent, insufficient capacity for construction and service

The construction of photography archives in the digital era requires a team of professionals who are well-versed in both library science and digital technology, as well as photography expertise. However, most of the staff engaged in the construction of literature resources in university libraries are lacking in professional knowledge of systematic architecture photography, and their ability to judge, select, and integrate photographic literature is insufficient. Meanwhile, the application of digital technology faces limitations, making it challenging to accomplish tasks such as collecting, processing, storing, and retrieving digital photographic archives. The shortage of specialized professionals directly constrains the quality and service level of photographic collections in university libraries, failing to meet the diverse needs and innovative demands of college students in the digital era for photographic resources.

3. Optimization path of construction of photography literature collection in university library in the digital age

3.1. Optimize the collection structure and promote the construction of the digital resource system

The university library should be based on the background of the digital era, break through the existing limitations of the traditional collection mode, and construct a collection system of photographic literature with the coordinated development of paper resources and digital resources. In the construction of paper resources, it is essential to integrate the distinctive features of our school's disciplines, implement targeted procurement of photography literature with clear professional characteristics, and prioritize the collection of classic photography albums, theoretical monographs, and specialized photographic materials closely related to teaching and research, which possess both academic and artistic value. This ensures the integrity and authoritative nature of core paper resources. In the development of digital resources, educators implement two key strategies. First, educators optimize budget allocation by actively acquiring premium digital photography databases, including specialized journals, digital portfolios, and instructional videos. Simultaneously, educators strengthen partnerships with other university libraries to share resources and reduce procurement costs. Second, educators establish standardized documentation protocols for digital photography, forming dedicated teams to curate, integrate, and refine publicly available high-quality photographic materials. This initiative aims to build a distinctive digital photography repository system that reflects our institution's unique academic identity.

3.2. Accurately locate the collection and connect with the teaching and research needs

The university library should establish the concept of "demand-oriented" collection construction, deeply investigate the teaching and research needs of the university and the learning and innovation needs of the university students, and accurately determine the direction of the collection of photographic literature. Strengthen the communication and cooperation with each college, know the different professional curriculum, the implementation of scientific research projects, and the practical innovation needs of students, and

make a targeted purchase plan of photographic literature accordingly. For instance, for the journalism and communication program, the focus is on acquiring literature related to news photography and documentary photography; for the art and design program, the emphasis is on collecting literature pertaining to creative photography, commercial photography, and post-production; for the history and culture program, the priority is to gather literature on folk photography, archaeological photography, and local historical imagery.

3.3. Innovate service mode and improve resource utilization efficiency

The university library should break through the traditional service paradigm and build a diversified and personalized service system around the use of photographic literature resources. Firstly, educators set up a special photography literature information service platform, which integrates the paper resources and digital resources, and provides the services of resource retrieval, online reading, and downloading. Meanwhile, educators also open an online consultation window to provide guidance for college students on the use of photography literature resources. Secondly, educators will develop diversified value-added services, including photography, literature interpretation, lectures, creative photography workshops, and exhibitions of outstanding photographic works. These initiatives aim to help college students gain a deeper understanding of the significance and value of photographic literature while enhancing their ability to utilize such resources. For students with innovative project needs, educators will provide personalized literature recommendation services to offer targeted resource support for their creative endeavors. Finally, educators should strengthen the publicity and promotion of the photographic literature resources, introduce the photographic literature resources, service items, and activity information of the library through the library's official website, WeChat public account, campus announcement, and other channels, so as to improve the awareness and utilization rate of the photographic literature resources among college students.

3.4. Strengthening talent training, improving construction and service capacity

University libraries should pay more attention to the construction of professional talents, and build a team of professionals with the knowledge of library science, digital technology, and photography, so as to provide talent guarantee for the construction and service of photography collection. On the other hand, the training of the existing staff should be strengthened, and the training activities on professional knowledge of photography, application of digital technology, and information service skills should be organized regularly to improve their professional quality and professional ability. On the other hand, the team is being strengthened by recruiting professionals and hiring external photography experts as consultants to address the professional gaps among current staff. Meanwhile, a robust talent incentive mechanism is being established to encourage staff to proactively acquire new knowledge and skills, actively participate in the development of photographic archives and service innovation, thereby elevating the overall quality of construction and service.

4. Specific strategies of empowering college students' innovation ability cultivation by photographic library collection

4.1. Building the integration mode of "photographic literature + course teaching"

University libraries should strengthen collaboration with academic departments to integrate photographic archives into specialized curricula. For instance, in journalism photography courses, students can analyze case studies using the library's archival materials; similarly, in art and design courses, creative photography archives

can inspire students' design concepts. At the same time, the library can cooperate with professional teachers to open public elective courses or lectures related to photography, taking the photography literature in the library as the core teaching resources, systematically explaining the photography theory and techniques, and improving the photography literacy and innovation ability of college students.

4.2. Create a platform for creative photography practice

With the carrier of the photography literature resources in the museum, the platform structure of the college students' photography innovation practice is constructed, and the diversified photography innovation practice activities are implemented. For example, the competition of college students' photography creation is held to encourage students to carry out the creative behavior of theme content with the creative ideas and techniques in the photography literature of the library. The library should establish the photography innovation club, provide a platform for students to communicate and learn, and support the club activities with photography literature resources and venue. The workshop on photography practice invites experts in the field to guide students in the process of photography creation and post-production, using the library's collection of literature and materials, to enhance students' practical and innovative abilities.

4.3. Deep development and utilization of photographic literature resources

The university library should organize the professional team to carry out the in-depth development of the collection of photographic literature resources, explore the innovative elements and cultural value contained in the collection, compile the photographic literature guide manual, the collection of innovative cases and other secondary literature carriers, and give guidance to the innovative learning and practical activities of college students. Meanwhile, digital technology is used to make the photographic documents in the collection visualized, such as a digital exhibition of photographic documents, an interactive photography tutorial, etc.

5. Conclusions

The background of digital technology brings both opportunities and challenges to the construction of photography collection in the university library, and also opens up a new path for the cultivation of college students' innovation ability. As the center of literature and information resources, the university library should face the current predicament of photography collection construction in the digital era, and improve the quality of photography collection construction by optimizing the collection structure system, accurately determining the collection orientation, innovating the service mode, and strengthening the talent training mechanism. Meanwhile, educators should make full use of the unique advantages of photographic documentation to construct a fusion model of "photographic documentation resources + curriculum teaching system + innovative practical activities", so as to achieve a deep integration between the construction of photographic documentation collections and the cultivation of college students' innovative abilities, effectively improve the quality of talent training in colleges and universities, and provide strong support for the high-quality development of higher education.

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Wu WT, Si RR, 2025, Innovative Application of 360-Degree Panoramic Photography Technology in Library Digital Services. *Tourism and Photography*, 2025(11): 153–155.
- [2] Liu X, 2022, A Brief Discussion on the Role of Microfilm Technology in the Preservation and Utilization of Rare Documents: A Case Study of Guizhou Provincial Library. *Digital and Microfilm Imaging*, 2022(3): 25–27.
- [3] Zhang WM, 2022, Application of Information Literacy Education in Cultivating College Students' Innovative Abilities-Recommended Reading: Research on Information Literacy Education for College Students in University Libraries Based on Innovative Talent Cultivation. *Information Theory and Practice*, 45(6): 211.
- [4] Ma S, 2022, Strengthening the Construction of University Libraries to Promote the Cultivation of College Students' Innovative Abilities. *Science and Technology Vision*, 2022(9): 154–156.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.