

A Study of the Interlibrary Cooperation Model with Nanjing Jiangbei Library as the Hub

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Abstract

Focusing on the current development status of library interlibrary cooperation, this framework establishes Nanjing Jiangbei Library as a hub core to address the severe imbalance between resources and demand. It integrates the special collection and educational resource advantages of university libraries with the distribution advantages of community libraries, leverages Jiangbei Library's robust information system to construct a cooperative network, and thereby provides a foundation for implementing lifelong education.

Full Text

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Abstract

This paper examines the current state of interlibrary cooperation development and proposes a cooperation framework with Nanjing Jiangbei Library as the central hub to address the severe imbalance between resources and demand. By combining the special collection and educational resource advantages of university libraries with the distribution advantages of community libraries, this model leverages the powerful information system of Jiangbei Library to construct a cooperation network that provides a foundation for realizing lifelong education.

Keywords: Interlibrary Cooperation; University Library; Special Collection; Lifelong Education; Community Library

1. Introduction

Since the 20th century, China's continuous economic and technological progress has led to rising education levels among its population and increasing demand for educational resources, bringing the concept of lifelong education back to the forefront and prompting innovation in traditional libraries. To adapt to evolving trends and changing public needs, the digitization of library document resources, promotion of interlibrary cooperation, and establishment of online resource exchange networks have become inevitable trends in modern library development. However, China's university libraries, public libraries, and community libraries remain relatively independent, lacking coordination and cooperation that would maximize their respective advantages. This isolation prevents the rich resource strengths of university libraries and the convenience advantages of community libraries from being fully utilized. How to unite various types of libraries through authoritative coordinating organizations on the basis of "openness" and "cooperation" [1,2] to construct cooperation networks represents a crucial strategic layout for the future development of libraries.

The Nanjing Jiangbei Library project, located in Jiangbei New District of Nanjing, covers a total area of 79,000 square meters, making it the largest library in Jiangsu Province. Last year, it signed a strategic cooperation agreement with the National Library of China, which now operates and manages the facility while sharing resources. Nanjing Jiangbei Library employs state-of-the-art intelligent facilities and software with a high degree of automation, and shares all resources with the National Library, including books, e-books, electronic resources, as well as cultural activities, lectures, and small theater programs. By combining commercial and cultural activities, it aims to establish itself as Nanjing's cultural center. Given its substantial funding, massive scale, and national support, Nanjing Jiangbei Library is the ideal choice to serve as the coordinating organization for interlibrary cooperation. A distributed library system with it as the core hub can promote interlibrary cooperation and resource sharing, enabling the realization of lifelong education. Therefore, this paper constructs a specific cooperation model to provide a reference for the collaboration of libraries at all levels.

2. Existing Interlibrary Cooperation Models

Broadly defined, interlibrary cooperation refers to the systematic and effective integration of information and resources from participating libraries, establishing a document and information resource guarantee system within the cooperation scope through precise cataloging and integrated networks to achieve efficient and convenient information sharing services. Traditional interlibrary cooperation services mainly include interlibrary loan and document delivery, cooperative procurement of electronic resources, resource sharing, librarian retraining, joint storage, and technical support. Different countries emphasize different aspects of interlibrary cooperation.

2.1.1 United States

Interlibrary cooperation and networking among American libraries have a considerable history. With technological development, the informatization and automation of American library cooperation have advanced rapidly, further improving efficiency and service quality upon an already mature foundation. Major aspects of American interlibrary cooperation include cooperative cataloging, interlibrary loan, joint collection development, and cooperative reference services.

Cooperative cataloging is the earliest and largest-scale activity in American library cooperation, with two basic forms: centralized cataloging and joint cataloging. Its significance lies in improving cataloging quality and enhancing the efficiency of information resource exchange.

Interlibrary loan is also a very active field in American library cooperation. The United States has established a formal and complete interlibrary loan network equipped with online interlibrary loan systems. Through computer-based interlibrary loan systems, multi-level library networks, and circulation activities of storage libraries, libraries efficiently utilize information resources from various institutions to meet diverse user needs.

Joint collection development emerged in response to library development needs. Due to the vast existing collections and limited book funds, libraries need to meet maximum demand at minimum cost while fully developing and rationally utilizing information resources. American joint collection development is often project-based, with participating libraries purchasing needed titles and uploading them to joint catalogs for interlibrary borrowing, minimizing costs while covering all needs. Another benefit is that libraries can concentrate on developing their collection priorities and distinctive features while meeting other needs through cooperation networks, ensuring readers' various demands are fully satisfied.

Cooperative reference services are increasingly important in interlibrary cooperation, with related collaborations continuously developing. Through formal reference resource mutual assistance arrangements, libraries fully develop human and material resources to provide readers with higher-quality and more complete reference services, addressing their problems and needs.

Additionally, American library networks are highly developed. The Online Computer Library Center (OCLC), established in 1967, has grown to include over 6,000 libraries in the United States, Canada, Mexico, and the United Kingdom. Its catalog database contains more than 9.1 million records, consisting of the central system and twenty-two regional library networks and service centers.

The Research Libraries Information Network (RLIN) evolved from Stanford University's library computer network and became the computer network of the Research Libraries Association in 1978, absorbing more than twenty important American universities and research libraries as formal members and providing

online services to nearly 200 libraries in California. Its cooperative activities include joint cataloging, joint collection development, interlibrary loan, and online retrieval.

The Washington Library Network (WLN), established in 1977, primarily serves approximately 100 libraries in the Pacific region of the United States, with its network center directly connecting to each library.

American library networks are characterized by numerous member libraries, extensive interlibrary cooperation projects, and wide geographical coverage, using online networks as the primary means, union catalogs as the main resource, and service fees as the main funding source [3].

2.1.2 United Kingdom

The initial development of British interlibrary lending occurred approximately between 1900 and 1945, but remained in a stage lacking coordination and sufficient funding. During this period, the National Central Library provided interlibrary lending services to urban and rural areas, while universities established specialized departments to conduct independent interlibrary lending programs. The period from 1946 to 1990 was the centralization phase of British interlibrary lending, during which scientific research literature became centralized, relevant laws were established to ensure the rationalization and legalization of interlibrary lending, the British Library Document Supply Centre (BLDSC) was established and expanded, and automated interlibrary lending services steadily developed. Between 1991 and 2000, the environment for interlibrary cooperation changed dramatically, with spiraling prices, shrinking library budgets, and flourishing publications, all of which made libraries unable to be self-sufficient and forced them to seek new paths. Commercial document delivery suppliers, electronic journals, and electronic libraries began to emerge, and British interlibrary cooperation entered a stable development period. After 2000, British interlibrary cooperation entered a decline phase, with application volumes decreasing year by year, primarily due to excessive restrictions on electronic resources, bulk ordering of electronic journals, and mandatory open access policies for research results. In response, BLDSC reformed and adapted itself, improving existing drawbacks and exploring new media and resource sharing approaches [4].

2.1.3 Germany

As early as 1893 during the German Empire period, Germany formulated the earliest interlibrary lending regulations, which were continuously revised and improved in subsequent development, strictly establishing a complete union catalog system that laid a solid foundation for further development of interlibrary lending. Due to Germany's long historical period of fragmentation and high cultural autonomy in various states, library development was unbalanced, making interlibrary cooperation an important means to ensure literature resource

supply for all libraries. Since the emergence of automated interlibrary cooperation, Germany has established a series of automated lending systems such as DBV-OSI, SVBITO, and Jason systems to meet the needs of readers in various regions. Since Germany and China share similar problems of non-unified library ownership that affects overall coordination, its perfect catalog system and interlibrary lending regulations have reference significance for us [5].

2.2.1 Japan

Japan's interlibrary cooperation is reflected in three aspects: joint cataloging, joint procurement, and joint construction, with the National Institutes of Information (NII), officially established in 1976, at the core and various universities and research institutions as supplements, jointly processing numerous academic information. In 1984, NII established the NACSIS-CAT academic literature joint cataloging system and provided information retrieval services (NACSIS-IR) in 1987. These two systems are important measures to improve Japan's literature guarantee rate. In April 2011, NII and the Japan Consortium of University Libraries (JCOLC) jointly established the Japan Alliance of University Library Consortia for E-Resources (JUSTICE) to provide members with electronic resources, grey literature, establish information resource management systems, and offer services such as joint procurement and personnel training. In July 2016, the Japan Consortium for Open Access Repository (JPCOAR) was established to construct an academic information publishing system mediated by institutional repositories, enrich and improve institutional repository data resources in Japan, promote the research and development of cutting-edge open access functions, and advance open access and open science while developing Japan's institutional repository alliance [6].

2.2.1 China

China's interlibrary cooperation was initially reflected in joint cataloging. In 1951, Shanghai News Library compiled the "Investigation Record of Newspaper Collections in Shanghai Libraries—With News Library Catalog Attached," which was the first joint catalog published through interlibrary cooperation since the founding of New China [7]. The Chinese Academy of Sciences Library was established in 1950 and later renamed the Chinese Academy of Sciences Documentation and Information Center. In 1955, it compiled the "Simplified Table of Library Classification of Chinese Academy of Sciences," meeting the needs of various libraries and other information institutions for document classification.

In April 1993, the Library and Information Network of Chinese Academy of Sciences, Peking University and Tsinghua University (APTLIN) was established to integrate the library and information networks in the Zhongguancun area. The China Academic Library and Information System (CALIS) project was approved in 1996, establishing an online cataloging and union catalog service system, sharing and delivering domestic and foreign information resources, and building a literature guarantee system for higher education institutions. In

2001, the China-American Digital Academic Library (CADAL) project was established to integrate information resources of university libraries, and in 2021, a digital knowledge service alliance was established to promote the sharing of culture, knowledge, and wisdom.

2.3 Summary

Due to various issues such as insufficient resource digitization, lack of efficient and unified organization and coordination, non-standard and non-interoperable systems across libraries, and unstable user demand, interlibrary cooperation still has considerable room for improvement. Particularly in China, interlibrary cooperation remains in the preliminary exploration stage, with extremely loose connections among university libraries, public libraries, and community libraries, resulting in extremely unbalanced resource distribution and necessitating a key hub for overall planning. Using CNKI as the data source, we screened core journals and searched for literature on interlibrary cooperation with the theme of “interlibrary cooperation” or “library cooperation,” focusing on publications from 2000 to the present. The search yielded 1,071 papers. After removing irrelevant literature, we conducted a visual analysis using VOSviewer, as shown in Figure 1 [Figure 1: see original paper]-1. Currently, research on interlibrary cooperation is relatively limited, focusing mainly on cooperation between university libraries and public libraries or among university libraries themselves, lacking collaboration with grassroots libraries such as community libraries. The main research themes are also limited to interlibrary lending, document delivery, resource sharing, and library alliances for electronic or book resources, lacking adaptation to and transformation for the new media era.

3. The Interlibrary Cooperation Model with Nanjing Jiangbei Library as the Hub

3.1 Collaboration with University Libraries

University libraries primarily serve their own students and faculty, which means their funding sources consist mainly of social donations and university allocations. Consequently, compared to Nanjing Jiangbei Library operated by the National Library of China, university libraries lag significantly in terms of intelligent facilities and resource allocation. Their book collections are basically limited to high-circulation books and subject-related materials, and they cannot afford some expensive databases. However, university libraries have much higher resource utilization rates and specialization levels than ordinary libraries. Moreover, Nanjing Jiangbei Library’s collection tends toward comprehensiveness, while university libraries’ resources focus on their respective advantageous disciplines and various teaching materials. Collaboration with Nanjing Jiangbei Library can bring tremendous advantages, enabling more full utilization and dissemination of university library resources.

3.1.1 Leveraging Special Collection Resource Advantages Special collection resources are important advantageous resources for university libraries. Although they represent a small proportion of total resources, they serve as distinguishing features that prevent homogenization. China's university library special collections mainly consist of traditional special collections such as ancient rare books, manuscripts, inscriptions, archives, and "new special collections" such as subject-specific materials. These special collections concentrate in each university's advantageous disciplines, with their advantages continuously expanding due to long-term accumulation and the influence of renowned professors or students.

However, Chinese university libraries do not make sufficient use of their special collections, basically "storing without using," and the digitization level of special collections is not high, making them even less accessible. This contrasts significantly with foreign universities that have mature applications of special collections. For example, the University of Cambridge in the UK has extremely rich special collections and digitized special collections. Furthermore, Cambridge's digitization research is not limited to text or image data but extends to different approaches based on storage media. For instance, Sumerian clay tablets are photographed using Reflectance Transformation Imaging (RTI) technology to identify surface textures, storing extremely high-precision three-dimensional data. For palimpsests—manuscripts where text was scraped off for reuse—multispectral imaging is used to capture underlying images, thereby restoring the covered text materials. Cambridge meticulously digitizes and preserves its special collections and conducts in-depth exploration using various technical means, uncovering history hidden within these resources. Collaboration with Nanjing Jiangbei Library can utilize its facilities to digitize and store special collections, enabling sharing of digitized special resources among university libraries and promoting their utilization and dissemination. Additionally, cooperative research and collection projects can be established to advance teaching and research activities using special collections or their digital versions. This cooperation and promotion can not only meet the needs of various social sectors but also disseminate the culture, history, and inspiration behind special collections, allowing future generations to appreciate the efforts and dedication of successive generations and fully leveraging the advantages and characteristics of top university disciplines.

3.1.2 Leveraging University Educational Resource Advantages University libraries serve as the literature and information centers of their institutions and academic organizations that support teaching and scientific research. Their work constitutes an important component of university teaching and research activities [8]. They play an irreplaceable role in school research and teaching, with their diverse resources providing great convenience for student learning, faculty teaching, and researchers' work. Collaboration with Nanjing Jiangbei Library can amplify these advantages by concentrating course resources from different schools and then redistributing them.

University libraries can integrate foundational open courses within their institutions. Through cooperation with Nanjing Jiangbei Library, they can complement each other to comprehensively cover various subjects, enabling more people to access needed knowledge for free. Moreover, cooperation with Nanjing Jiangbei Library as the hub can merge resources from various universities, preventing institutions from pursuing quantity at the expense of quality. Simultaneously, user group data from community libraries and Nanjing Jiangbei Library can be applied. Current open educational resources primarily target young people—namely, current university students and their peers [9]. This data can enable university libraries to improve course content for different educational targets, expand education coverage, and realize the openness and diversity of course education, truly implementing lifelong education.

Furthermore, course resources and other educational resources can be promoted through new media platforms such as Douyin, Weibo, and Bilibili. By screening and refining traditional books, papers, and other resources, integrating and processing them in combination with user needs identified through data mining, libraries can produce more efficient, vivid, and interesting popular science videos to disseminate knowledge more accurately and comprehensively. Both approaches can promote the improvement and supplementation of lifelong education and public education.

3.1.3 Leveraging National Library’s Reputation for Lectures Cultural lectures and other activities co-hosted by Nanjing Jiangbei Library and the National Library of China can also contribute to lifelong education and public education improvement. Unlike ordinary local libraries, Nanjing Jiangbei Library has abundant funding and speaker resources. Leveraging the National Library’s advantages creates a win-win situation for both invited speakers and the National Library. For the library, it can invite more influential speakers with the same or even lower funding. For the invited speakers, being invited by the National Library is also a great honor. Therefore, the library can attract more celebrities, even national leaders, to give speeches at minimal cost. These lectures by famous speakers can typically convey years of academic research results and rich professional knowledge to audiences in accessible and engaging ways, full of authority, vividness, and personal charm [10]. They can share knowledge from different fields with audiences from simple to profound levels, increasing educational diversity. Topic selection can combine each school’s focus, leveraging the National Library’s reputation to invite industry experts and even leaders for students and faculty, keeping pace with research frontiers.

Additionally, library lectures can be live-streamed and recorded. Various lectures and small theater resources can be digitized, but they need to be edited and supplemented according to online audiences’ preference for shorter, more concise content. Attention must also be paid to signing agreements with speakers to ensure resources are not used for commercial activities. Although the interactive experience of live-streamed lectures and forums differs from offline

events, live streaming and digitization enable broader dissemination, satisfying more people with learning needs. “Shortening lectures and utilizing fragmented time” becomes possible.

3.2 Collaboration with Community Libraries

Community libraries tend to focus on grassroots education and popular culture construction. Generally, community libraries are small in scale and relatively short on funds. Their service targets are relatively precise but limited, requiring relatively few but diverse types of resources. These factors have hindered the development of community libraries, preventing them from better satisfying public cultural needs. Nanjing Jiangbei Library’s extremely rich resources can better unite different community libraries, construct distributed libraries, and centrally allocate resources to meet the educational needs of various communities.

3.2.1 Building Library Networks To satisfy popular culture and grassroots cultural construction, community libraries are indispensable. These widely distributed community libraries form the foundation for library network construction, and their proximity to residents ensures accessibility and participation willingness. However, due to funding and legislative deficiencies, community libraries face many problems, especially regarding resources, mostly having only some old books that cannot meet cultural construction needs. Nanjing Jiangbei Library’s strong resource advantages can build a resource sharing network. Through union catalogs, libraries can identify their respective resources, and through interlibrary loan models with universal borrowing and returning, maximize resource utilization and circulation (especially Nanjing Jiangbei Library’s resources). Additionally, Nanjing Jiangbei Library’s massive electronic resources represent a huge treasure trove. Unlike physical book resources, electronic resource sharing is more convenient. Moreover, Nanjing Jiangbei Library’s partnership with the National Library gives it access to all of the National Library’s electronic resources. Through negotiation with resource providers, these can be shared with community libraries, effectively solving the problem of resource scarcity in community libraries.

3.2.2 Building Education Networks Integrating university online courses can provide Nanjing Jiangbei Library with an extremely large and comprehensive collection of educational resources. Additionally, Nanjing Jiangbei Library’s cultural lectures, small theater resources, and other materials are extremely rich, satisfying residents’ needs in both practicality and knowledge. These resources can be shared and disseminated to the public through community libraries, providing knowledge and information needed by residents of different levels and ages in the community. In particular, more targeted education can be provided for vulnerable groups such as people with disabilities, the elderly, and the unemployed to help them re-enter the workforce.

Furthermore, Nanjing Jiangbei Library can unite local museums, cultural centers, and other institutions, as well as local societies and clubs, to produce characteristic educational content based on regional culture, such as traditional Yunjin brocade, Jinling scripture carving, and Qinhuai lanterns. This unique local curriculum can not only enrich community residents' lives and promote grassroots cultural construction but also help inherit and carry forward traditional culture.

4. Experience and Insights

China's current interlibrary cooperation model is relatively loose, with insufficient coordination and planning among university libraries, public libraries, and community libraries. Moreover, resource demands in the new media era have gradually changed. The widespread application of video resources and even AR resources has broken traditional reading patterns, yet traditional interlibrary cooperation is mostly limited to interlibrary lending of electronic and book resources, lacking adaptation to these changes. This paper constructs an interlibrary cooperation framework with Nanjing Jiangbei Library as the central hub, enabling the full utilization and transformation of surplus resource advantages from university libraries, expanding them through the reputation and resources of the National Library, and constructing library networks and education networks through community libraries. This approach maximizes the circulation of special collection resources, educational resources, and others, enabling more targeted applications and providing ideas for innovative directions in interlibrary cooperation.

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