

Status and Reflections on Subject Librarians' Participation in Disciplinary Resource Development: A Case Study of Beijing University of Civil Engineering and Architecture Library (Postprint)

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Abstract

[Purpose/Significance] This study analyzes the current status and existing problems of subject librarians' participation in subject resource development in university libraries, aiming to construct an optimal subject resource allocation. [Method/Process] Through questionnaire surveys and case analysis, this paper elaborates on the necessity and feasibility of subject librarians' involvement in subject resource development, and summarizes the practical processes, experiences, and issues encountered in the participation of subject librarians in subject resource development at Beijing University of Civil Engineering and Architecture Library. [Results/Conclusion] Subject librarians play an irreplaceable role in subject resource development. In the digital era, the role of subject librarians has undergone significant transformation, playing increasingly important roles in multiple aspects of subject resource development.

Full Text

Current Status and Reflections on Subject Librarians' Participation in Subject Resource Construction in University Libraries: A Case Study of Beijing University of Civil Engineering and Architecture Library

Abstract

[Purpose/Significance] This study analyzes the current status of subject librarians' participation in subject resource construction in university libraries

and identifies problems requiring solutions, aiming to construct an optimal subject resource layout. **[Method/Process]** Through questionnaire surveys and case analysis, this paper expounds on the necessity and feasibility of subject librarians' participation in subject resource construction, and summarizes the practical process, experiences, and problems of subject librarians' participation in subject resource construction at Beijing University of Civil Engineering and Architecture Library. **[Result/Conclusion]** Subject librarians play an irreplaceable role in subject resource construction. In the digital age, the role of subject librarians has changed, requiring them to play an even more important role in multiple aspects of subject resource construction.

Keywords: subject librarian; resource construction; subject resource construction; subject service; library

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The subject librarian system is a high-level information service system specifically established to meet users' professional needs, with the subject librarian position at its core. Tsinghua University Library formally introduced this system in 1998, and subsequently nearly a hundred university libraries in China gradually adopted it, marking widespread recognition and acceptance of this new service model. With the establishment of the subject librarian system, the business focus of university libraries has shifted from being library-centered to user-centered. Subject librarians hold a very important position and play an extremely crucial role in library development; indeed, without subject librarians, there would be no library in the contemporary sense.

In recent years, research and practice on subject librarians and subject services have received unprecedented attention, achieving important progress in both theory and practice. A search of CNKI and Wanfang Data using "subject librarian" and "subject resource construction" as keywords yielded 25 journal papers (as of September 2018). These studies systematically discuss the necessity and feasibility of subject librarians' participation in subject resource construction in university libraries, exploring application cases of the subject librarian system. Some research examines the role positioning and pathways of subject librarians in subject resource construction, including establishing subject information navigation databases, participating in research project collaboration, involvement in professional program demonstration and discipline planning, and cooperation in curriculum development. Other studies summarize current models and implementation steps for subject librarians' participation, proposing three organizational models: transmission, intervention, and leadership. Most existing research focuses on investigating and analyzing subject librarians' work patterns, establishing subject resource construction policies, formulating working methods for subject librarians' participation in resource construction, and discussing how to leverage readers' recommendation roles and participate in resource evaluation. However, practice reveals that subject librarians in some university libraries have a low degree of participation in subject resource construction, their

role has not received due attention, and there is a lack of necessary institutional design. Therefore, it is necessary to address the disciplinary limitations of acquisition librarians by studying how to leverage subject librarians' disciplinary advantages and initiative, enhance their participation in subject resource construction, and adopt effective measures to avoid unreasonable collection structures and maximize the role of collections in supporting disciplines.

Subject librarians undertake multifaceted work and play multiple roles in subject services, among which the most important, core, and critical task is subject resource construction. Based on an investigation of the current status of subject librarians' participation in subject resource construction in domestic university libraries, combined with preliminary attempts at subject librarian system construction at Beijing University of Civil Engineering and Architecture Library, this paper analyzes and discusses implementation models and detailed rules for subject librarians' deep participation in subject resource construction under existing conditions, summarizes experiences and lessons learned, and proposes several thought-provoking issues.

1. Current Status of Subject Literature Resource Construction and Subject Librarians' Roles

1.1 Current Status and Existing Problems in Subject Literature Resource Acquisition

For a long time, libraries have maintained a traditional subject literature resource acquisition model dominated by acquisition librarians. Based on the language and carrier format of subject literature resources, resource acquisition can be divided into several categories: Chinese and foreign language paper books, Chinese and foreign language journals and newspapers, audio-visual products and electronic publications, literature databases, and university unpublished resources, with corresponding procurement personnel assigned to each category. With the increasing diversification and specialization of literature resources and users' rising demands for literature information access, subject librarians have begun to participate in subject literature resource construction to break through the limitations of the acquisition librarian-dominated model and provide fast, comprehensive, and accurate literature resource services.

To understand the current status of subject literature resource construction in libraries, this study selected 100 domestic universities and conducted an online survey of the participation of subject librarians in subject literature resource construction as described under the "Reader Services," "Scientific Research," and "Subject Services" sections of each library's website. The top 100 universities from the "2017-2018 Chinese University Ranking" were selected and their library websites were individually visited. The survey was conducted on March 1, 2018, focusing on institutional formulation, resource usage, resource selection and acquisition, and subject service team formation.

The survey results are detailed in Table 1 . The table shows that 56 university libraries had subject librarians conducting collection analysis and demand surveys, 3 had subject librarians participating in subject resource selection and acquisition, 20 had subject librarians participating in characteristic subject resource construction, 9 had subject librarians participating in the formulation of subject collection construction strategies and systems, 5 and 1 universities respectively hired faculty and student consultants to assist in resource construction, 12 libraries established subject service teams, and 5 established subject service groups. Subject service teams and groups participate in subject resource construction by collecting readers' suggestions and opinions, but few are responsible for subject resource selection and procurement. In 44 university libraries, all subject literature resource construction work is completed by the Acquisition and Cataloging Department. Overall, subject librarians not only have a low degree of participation in subject literature resource construction but also often act merely as a mouthpiece for users in subject resource selection and evaluation, lacking their own analysis and judgment, thus playing a limited role in resource construction.

With the deepening diversification and digitization of subject literature information resources and the gradual development of subject services, the traditional acquisition model no longer meets the development and requirements of modern subject literature resource construction, specifically manifested in three aspects:

First, it cannot adapt to the diversified development of subject literature resources. The horizontally dispersed acquisition model artificially separates the relationships among various carrier formats of literature and cannot adapt to the diversified development of literature carriers in the network environment. Currently, with the rapid development of the publishing industry, the same literature is increasingly published in multiple carrier formats with overlapping content. If acquisition librarians focus solely on ordering resources within their business scope without effective coordination and communication, duplicate procurement is likely to occur, resulting in waste of library acquisition funds.

Second, it cannot resolve the contradiction between the relatively single knowledge structure of acquisition librarians and the disciplinary diversity of subject literature resources. In the traditional literature resource acquisition model, acquisition work is divided by literature carrier and language rather than by discipline, meaning acquisition personnel must select content across all disciplines. In reality, however, procurement staff cannot have sufficient understanding of all disciplines, leading to inadequate grasp and frequent deviations in literature for unfamiliar disciplines. Libraries recognized this contradiction years ago and adopted remedial measures, such as using reader recommendations for Chinese books to supplement urgently needed titles and inviting faculty and experts to select foreign language books. However, reader-recommended books tend to focus on bestsellers and literature, rarely involving professional titles, while expert selection of foreign language books suffers from narrow specialization and research direction limitations. Participating experts and teachers tend to

emphasize personal professional interests and research directions rather than selecting from a holistic disciplinary perspective, which is detrimental to the long-term, systematic development of professional resource systems.

Third, the contradiction between procurement and selection is becoming increasingly acute. For university libraries, understanding their own collections and building characteristic collections that meet the requirements of university disciplinary development according to subject development plans is an important responsibility of acquisition staff. However, under the traditional acquisition model, acquisition librarians devote most of their energy to dealing and communicating with suppliers, leaving no time to conduct in-depth research on their library's collections or conduct detailed surveys on the information needs and usage habits of their university's users outside the library. Consequently, literature screening and selection cannot fully meet the needs of collections and readers.

1.2 Subject Librarians' Roles in Subject Resource Construction Services

Subject librarians' role positioning is closely related to their responsibilities. Currently, subject librarians mainly undertake responsibilities in collection development, user liaison, reference consultation, and bibliographic instruction, with corresponding role positioning in four areas:

First, as subject resource builders, subject librarians are responsible for integrating and planning various types of literature information resources for their assigned disciplines. Based on the demand characteristics of the discipline, they provide reasonable suggestions for library book procurement and assist acquisition librarians in scientifically allocating collection resources to continuously improve the layout and development of subject resources.

Second, as subject information liaisons, subject librarians serve as the link between the library and corresponding academic departments, with core competencies in discipline-based communication and public relations. On one hand, they can understand literature needs through contact with faculty and students in assigned departments; on the other hand, they can maintain contact with book and database vendors to capture resource publishing trends, actively track the development trends of assigned disciplines, and improve the match between demand and supply.

Third, as subject consultants, they differ from general reference librarians in that their consultations involve questions related to specific disciplines rather than general information inquiries. This aligns with the disciplinary development trend of subject librarians and represents the deepening of reference consultation. The core competencies are information and consultation abilities, requiring subject librarians to move their service positions to the front lines of users and integrate services into education and embed them in research.

In the information digitization era, the original responsibilities of subject librarians can no longer fully meet the demands of the new environment. Particularly in the Web 2.0 environment, users' demands for information diversity and knowledge-based services have placed higher requirements on subject services. The widespread application of blogs, tags, and social networks has endowed subject librarians with new responsibilities. On the technical platform provided by Web 2.0, subject librarians also need to undertake new roles: (1) as leaders in subject literature selection, taking charge of overall planning and primary selection tasks in subject literature resource acquisition, as well as leading subject collection resource evaluation, reselection, improvement, promotion, and advocacy; (2) as subject data managers, facing massive amounts of subject data that require classification, storage, and processing, from which potential user needs for subject literature can be mined to provide more reliable data support for scientific research; (3) as subject information literacy educators, embedding information literacy education into specific disciplinary teaching practices through multi-level and multi-dimensional activities such as offering subject literature information retrieval courses, specialized training on electronic resources, and lectures on finding background materials and database search skills; and (4) as teaching and research support personnel, providing timely, thoughtful, and comprehensive services for teaching courses and research projects using new Internet technologies, while also serving as partners, consultants, technical experts, and assistants to faculty in the teaching and research process.

2. Development of Subject Librarian Services at Beijing University of Civil Engineering and Architecture

Beijing University of Civil Engineering and Architecture currently has 10 schools with over 1,000 faculty members and more than 10,000 students. It is a multi-disciplinary university with distinctive architectural characteristics and a focus on engineering, and the only institution of higher education specializing in architecture in the Beijing area. The library holds 1.5 million printed volumes and abundant digital resources. To promote connections between the library and academic departments and help faculty effectively utilize library resources and services, the library established subject liaison positions in 2004, selecting nine librarians (mainly heads of library departments) as part-time subject liaisons and assigning one liaison to each school (the university had nine schools at that time). Their primary responsibilities were to publicize and recommend the latest paper books, journals, and newspapers to assigned schools, and to collect and categorize feedback from schools on library work each quarter for library leadership.

With a new round of appointments and new library leadership in 2007, the library first proposed qualification requirements and job responsibilities for subject librarians and subject liaisons. Subject librarians were required to have librarian series professional titles, identify their service discipline direction, and have a good understanding of that discipline; personnel from other series gen-

erally served disciplines they had previously engaged with and should achieve the equivalent of associate senior professional technical positions or above in that discipline; and they should have good foreign language proficiency. Subject liaisons were required to have librarian series professional titles, identify the teaching unit they served, and understand its teaching and research situation; personnel from other series generally served disciplines they had previously engaged with and should achieve intermediate professional technical positions or above in that discipline; and they should have certain foreign language proficiency. Subject librarian responsibilities included understanding teaching and research conditions, information needs, latest achievements, and research project progress in assigned disciplines; providing guidance and training on utilizing library resources and services for faculty and students; conducting reference consultations; soliciting opinions from departments on collection construction; organizing reading activities for students; and teaching literature retrieval courses. Subject liaisons were responsible for assisting subject librarians in their work.

Due to historical reasons, few library staff met the subject librarian qualifications in 2007. Consequently, the library launched pilot subject librarian services in the School of Architecture and Urban Planning and the School of Environment and Energy Engineering, while maintaining the status quo of subject liaisons in other schools. Simultaneously, the library began training existing staff and implementing a talent recruitment strategy. After two years of effort, although the number of staff meeting subject librarian qualifications increased significantly, there remained a substantial gap with actual needs. During the 2009 library position appointment, library leadership formulated the “Library Appointment and Subject Service Proposal” (hereinafter referred to as the “Service Proposal”) based on actual library conditions and departmental needs. This proposal selected 20 basically qualified personnel, including 10 part-time subject librarians and 10 part-time subject liaisons (the School of Marxism was added after 2004), assigning one subject librarian and one subject liaison to each school to assign specific tasks to individuals. Their work content included new student orientation, reference consultation, publicizing library resources and services, conducting reading activities once per semester, teaching literature retrieval courses, and soliciting opinions and suggestions from departments on library literature resource construction. Although subject librarians and liaisons achieved certain results and accumulated experience over the years, problems remained, such as insufficient subject services for major research projects and programs, inadequate communication between the library and schools, and basically individual operations without forming service teams.

To facilitate better subject librarian services, the library established five subject service teams in the 2015 round of appointments and defined their responsibilities: understanding users’ information needs in assigned disciplines through user surveys and data analysis, and providing resource guarantee and information intelligence services for research projects and programs. To leverage subject librarians’ role in literature resource construction, library leadership formulated the “Subject Librarian Solicitation of Department Opinions on Book Ordering Plan”

(hereinafter referred to as the “Ordering Plan”) in 2015. The main contents included: (1) the Acquisition and Cataloging Department would summarize and organize bibliographic information once a month or every two months for the library leader in charge; (2) the leader would send the bibliographic information to subject librarians for corresponding disciplines; (3) subject librarians would forward the information to faculty in each school, who would provide opinions on Chinese book orders based on the list; (4) subject librarians would compile and summarize the returned ordering opinions and submit them to library leadership within the specified time (approximately one month) in the original file format; and (5) the leader would compile the returned opinions from subject librarians and forward them to the Acquisition and Cataloging Department for duplication checking and preliminary order formation. Acquisition staff would generate final orders to send to book suppliers based on library funds and book prices.

The Ordering Plan positioned subject librarians as subject liaisons in literature resource construction, responsible for collecting demand information and feeding back user needs. The rationale was that subject librarians did not understand library acquisition policies, plans, or literature collection standards (i.e., library mission, collection structure, etc.), were unfamiliar with book publishing and distribution information, and lacked independent judgment and analysis in subject resource selection and evaluation. Therefore, they did not participate in literature resource selection, organization, or development, playing a very limited role in resource construction. Due to faculty being busy and not attaching importance to this work, the Ordering Plan was not highly operable and achieved minimal results. The main reasons were: insufficient understanding of client-centered service, with work methods still constrained by traditional service models; inadequate initiative from subject librarians due to limitations in their own professional knowledge and objective conditions such as unclear or minimal authority granted by the library and temporarily unchangeable unreasonable collection structures; coordination problems within subject service teams and with external parties, leading to poor implementation of the Ordering Plan; and lack of a strong subject resource construction team.

3. Practice and Effects of Subject Librarians’ Participation in Subject Literature Resource Construction at Beijing University of Civil Engineering and Architecture Library

Although university libraries have introduced numerous service methods and approaches, the fundamental aspect is subject resource construction. Beijing University of Civil Engineering and Architecture Library has conducted exploration and practice based on its own conditions, demonstrating that subject librarians are not only leaders in resource disciplinarization but also important guarantors of subject resource construction quality, with an irreplaceable leading role.

3.1 Implementation Plan for Subject Librarians' Participation in Subject Resource Construction

3.1.1 Establishing a Subject Resource Construction Team The disciplinarization of resource construction led by subject librarians aims to promote scientific and efficient development of subject resource construction. The subject resource construction team is the guarantee for integrating subject resource construction and services. The team's goal is to establish a learning team that understands discipline development, is familiar with subject resource layout and publishing information, has strong service consciousness and innovative spirit, and values unity, cooperation, and continuous learning. To achieve this goal, a matrix organizational model was adopted to establish the subject resource construction team. Library leadership redistributed the paper resource acquisition work originally handled by the Acquisition and Cataloging Department and the electronic resource work handled by the Technical Department—transferring the selection and decision-making authority for resource acquisition entirely to subject librarians in the Information Consultation Department (the library's literature retrieval course teaching management is handled by the Information Consultation Department). This effectively resolved the problem of overlapping and intersecting content across paper, electronic, and multimedia carriers, and alleviated the contradiction between the single knowledge structure of acquisition librarians and the disciplinary diversity of literature resources.

The organizational structure of the subject resource construction team is as follows: (1) Vertically, ten subject service teams were established under the Information Consultation Department: Architecture, Civil Engineering, Environment and Energy, Telecommunications and Information, Economics and Management, Surveying and Mapping, Mechanical and Electrical Engineering, Humanities and Law, Basic Sciences, and Marxism. Each team directly serves corresponding schools and is staffed with members at different levels. For example, the Architecture Subject Service Team includes one subject librarian with an architecture background, 2-3 subject liaisons, one architecture school professor or associate professor, and one student librarian from each major, responsible for literature resource construction, information consultation services, and information literacy education for the architecture discipline. Subject librarians conduct liaison and subject services for assigned schools and, as team leaders, undertake management responsibilities for all services within their teams. Other team members assist subject librarians in other subject service tasks such as information literacy education and reference consultation. The team's task division in resource construction is: subject librarians participate in discipline or professional resource selection, acquisition, and integration, while other team members assist subject librarians in tasks such as soliciting subject resources and feeding back suggestions and requirements from faculty and students regarding library resources and services (work originally completed by subject librarians). (2) Horizontally, the subject resource construction team consists of resource construction members from each subject service team (responsible for

subject resource selection and evaluation), Acquisition and Cataloging Department personnel (responsible for school liaison and bidding/payment), and Information Technology Department personnel (responsible for technical issue handling). The team is mainly responsible for paper resource selection, electronic resource evaluation and selection, and collection of university unpublished resources, while transactional work such as resource bidding, ordering, payment, and claiming is handled by relevant Acquisition and Cataloging Department staff, and resource indexing, system platform construction, and technical issues are handled by Information Technology Department personnel. The establishment of the subject resource construction team provides a platform for subject librarians to play their role and facilitates the coordination and development of subject service work.

3.1.2 Strengthening Subject Librarian Training Subject librarian training has emerged in response to the need to shift library work focus to client-centered service. Modern library services require subject librarians to possess various professional knowledge, making their training tasks significant and arduous. Among the library's ten subject librarians, there is one PhD, six master's degrees, and three bachelor's degrees; three senior, five associate senior, and two intermediate (master's) professional titles. Although their professional directions involve architecture, civil engineering, environment and energy, history, mechanical and electrical engineering, computer science, mathematics, library science, and other fields, they are far from meeting the university's professional matching requirements. To ensure literature acquisition quality, acquisition personnel should possess professional degrees corresponding to the university's schools and have taken library science courses. However, given the library's current situation where, due to historical reasons, librarians generally have relatively single professional knowledge, implementing the subject librarian system and enabling subject librarians to participate in subject resource construction requires strengthening training for current staff to gradually equip them with subject professional backgrounds. The library enables non-library science professionals to acquire library knowledge and book publishing knowledge through self-study or relevant training institutions, and encourages library science-background subject librarians to understand their served disciplines' professional knowledge by auditing courses in schools or self-study. After several years of effort, most current staff now possess professional backgrounds in two or more disciplines. Although there remains considerable distance from achieving full coverage of university majors by subject librarians, training has significantly reduced acquisition deviations caused by relatively single knowledge structures, basically ensuring the quality of subject resource construction under conditions of severe subject librarian shortage.

3.1.3 Clarifying Subject Librarians' Professional Block Division Subject librarians are first assigned to corresponding subject service teams based on each individual's master's and bachelor's degree majors to convene faculty

and students from relevant schools to participate in resource recommendation. Second, according to the *Chinese Library Classification* and based on served schools and their own majors, subject librarians are responsible for determining the classification numbers of subject resources they serve, with clear division of labor to facilitate planned and targeted resource acquisition. For paper literature selection, since each school offers different courses, subject librarians should be familiar with the courses offered by each major in the schools they serve in Beijing University of Civil Engineering and Architecture's training programs, and understand the corresponding classification numbers in the *Chinese Library Classification* (5th edition). Taking the Urban Management major in the School of Economics and Management as an example, to select books, the 34 courses offered in this major and their corresponding classification numbers are first listed. After sorting by classification number, Table 2 is obtained. The table shows that urban management major books are mainly concentrated in eight major categories: C, D, F, G, H, P, TU, and U, narrowing the scope and facilitating concentrated book selection. Subject librarians then select books from book vendors' lists according to classification numbers, and make procurement decisions after comprehensively considering the library's mission, nature, faculty and student needs, collection situation, publishers, and prices. Books selected this way can meet the research and teaching needs of faculty and students. Within their professional domains, subject librarians can more plannedly and targetedly acquire resources, maximizing their role in subject resource construction.

3.1.4 Strengthening Subject Literature Resource Investigation and Demand Information Survey First, subject librarians should investigate existing collection resources. After establishing their resource acquisition categories, subject librarians should first conduct 摸底调研 (bottom-up investigation) of existing collection resources, systematically sorting and deeply analyzing current collections. On one hand, they should clarify the quantity, types, and coverage time range of collection resources within their assigned disciplines. On the other hand, they need to conduct in-depth analysis of subject resources: analyzing duplication rates in subject literature collections for optimization and adjustment; analyzing the proportion of core books and journals in the collection to understand core collection guarantee status; and investigating collection situations of similar majors domestically and internationally to analyze their own subject resource collection strengths and weaknesses and identify missing resources for the discipline. The library grants subject librarians appropriate rights to handle or dispose of collection resources and adjust subject literature resource collection ratios to meet literature needs for teaching and research frontlines.

Second, subject librarians should conduct user demand information surveys. To understand the scope, priorities, and ongoing projects of served disciplines and grasp their actual, potential, and long-term needs, subject librarians can conduct user literature demand surveys through: (1) collecting user demand

information for subject literature by attending school academic activities, visiting users, and conducting paper questionnaires, and collecting trial use opinions through database trial promotion; (2) using reference consultation systems, email, telephone, online questionnaires, library blogs, and posting in student forums to maximize student enthusiasm for book recommendations and consult readers' opinions and suggestions on collection resources in detail; (3) establishing contact with readers through WeChat or QQ groups, with each subject service team creating a group headed by the subject librarian, selecting 1-2 students from each major as student librarians, and adding relevant publishing house personnel to the group, who regularly (once per quarter) release bibliographic information that student librarians forward to their own groups, with feedback collected and summarized through the subject librarian's group; and (4) allowing readers to submit book demands through the "Resource Recommendation" module on the library homepage or the "Reader Recommendation" module in the library catalog system, with acquisition personnel collecting demand information through the "Recommended Documents" (readers selecting from library acquisition catalogs) and "Reader Recommendation" (readers filling in bibliographic information themselves) modules in the Huiwen Literature Information Service System. By deeply participating in teaching and research projects and mastering users' subject literature demand information in real-time through these four methods, subject librarians can make subject resource construction scientific, standardized, and practical, fully leveraging their role in subject resource demand investigation and subject resource publishing research.

3.1.5 Scientific Arrangement of Acquisition and Ordering Work First, acquisition should be treated as daily work. The principle established for book acquisition is to extend the acquisition cycle to benefit from subject librarians' professional advantages and optimize subject resource layout. Book acquisition takes four forms: (1) on-site selection, with subject librarians participating in procurement meetings organized by winning book suppliers to truly engage in frontline acquisition work; (2) list selection, with book suppliers sending electronic book lists weekly to the Information Consultation Department email, and each subject team selecting according to their responsible categories while negotiating selection proportions, priorities, and principles; (3) normalized faculty participation in book selection, establishing an interactive feedback mechanism by organizing faculty to participate in on-site acquisition at least once per semester, with subject librarians inviting interested faculty to join subject resource construction via phone or school QQ groups, consulting departmental faculty opinions through irregular emails and text messages, encouraging schools to solicit faculty opinions and regularly submit their own booklists, and more importantly establishing a feedback mechanism for recommendations by creating personalized new book notifications for each batch of new books based on previous faculty demands; and (4) encouraging student recommendations, maximizing student enthusiasm through library blogs and posting in student forums in addition to existing recommendation channels.

Second, journal ordering should be reasonably arranged. Subject service teams are responsible for determining paper journal subscription catalogs. Under the overall framework of unified resource layout, subject service team personnel jointly formulate detailed journal subscription lists through interviews and interactions with school faculty, full understanding of core and ordinary journals, acquisition of journal subscription experience from peer libraries, especially through in-depth ranking, comparison, updating, and weeding work in their assigned journal fields, and visiting newsstands to understand sales of popular journals. Subject librarians coordinate paper and electronic journals through multiple methods: (1) canceling paper journal subscriptions when electronic journals are available; (2) continuing paper journal subscriptions when electronic journals have delays; (3) canceling or continuing paper journal subscriptions for bundled journals based on needs; and (4) continuing paper journal subscriptions when no electronic journals are available.

Third, electronic resource purchase decisions should be formulated. With the continuous increase and development of digital resources, libraries should incorporate electronic resource construction into the entire collection resource system according to university missions, disciplinary characteristics, and user needs. Principles include the user demand principle—electronic resource construction is user-demand-oriented, without collection and cultural inheritance functions, but rather providing comprehensive, fast, and accurate access for users; the characteristic principle—introducing electronic resources according to university characteristics and development directions; and strengthening resource evaluation—the Information Consultation Department formulates evaluation indicator systems for electronic resources based on their characteristics, organizes subject service teams to statistics usage of existing databases, and writes corresponding reports on each database's usage status and renewal recommendations through in-depth visits to schools to understand professional database needs and suggestions, serving as the basis for final purchase decisions.

3.2 Effects and Existing Problems of Subject Librarians' Participation in Subject Resource Construction

Subject librarians have assumed the roles of planners, policy makers, and selection leaders in subject resource acquisition and ordering work. Their deep participation in subject resource construction has achieved good practical results while also revealing some problems.

3.2.1 Effects The practice at Beijing University of Civil Engineering and Architecture Library demonstrates that subject librarians' participation in subject resource construction has: (1) promoted teaching and research reference resource construction, with significantly increased contact between teaching and research personnel and corresponding subject librarians, and their embedded services transforming teaching and research personnel from passive to active, creating a virtuous cycle of interaction and providing scientific, effective, and

timely information sources for subject resource construction and necessary assistance for integrating supporting resources for professional courses; (2) accelerated library resource exchange and dissemination speed and improved literature information resource utilization rates; (3) enhanced the targeting of library resource acquisition, alleviating supply-demand contradictions; (4) broken down resource and service barriers through embedded recommendation services, pushing resource recommendation work deeper and further optimizing collection resources; and (5) improved coordination among library departments and between the library and schools, creating mutual communication and avoiding duplicate construction to jointly build high-quality resources supporting teaching and research.

3.2.2 Existing Problems Despite significant achievements, many problems remain: (1) Traditional library systems still more or less hinder the development and implementation of the subject librarian system. Subject librarians' rights as planners, policy makers, and coordinators in subject resource construction are difficult to guarantee. Different understandings of subject librarians among schools create resistance when subject librarians actively integrate into teaching and research, making it difficult to fully exert their leading role and reducing the quality of their participation in subject resource construction for some disciplines, which is detrimental to the deep implementation of the subject librarian system. (2) The knowledge structure of subject librarians still has considerable distance from the requirements of embedded teaching and research. On one hand, older subject librarians accept new knowledge slowly, making it difficult to play their proper role; on the other hand, limited by objective conditions and work intensity, subject librarians have very little time to broaden their knowledge, inevitably affecting the progress of their participation in subject resource construction. (3) Subject librarians lack the enthusiasm to actively integrate into teaching and research. Under limited objective conditions, particularly in a distinctive yet small-scale university like Beijing University of Civil Engineering and Architecture, subject librarians' roles should be adapted to local conditions, incentive mechanisms should be improved, and the subject librarian system should be actively promoted through practice and development to maximize efforts to improve subject resource construction. (4) Subject librarians' knowledge updating speed lags significantly in the information environment. To integrate into teaching and research and provide embedded subject information services, subject librarians need to understand new information backgrounds of disciplines and master new information resources, requiring continuous learning and continuous improvement.

4. Reflections and Conclusions

University library resources are dominated by subject resources, and subject resource construction should be led by subject librarians. Subject services cannot be separated from subject resource construction. Subject librarians must not only do well in subject service work but also play a greater role in sub-

ject resource construction. Based on the practice and future development of subject librarians' participation in subject literature resource construction at Beijing University of Civil Engineering and Architecture Library, several issues warrant consideration.

4.1 Strengthen Publicity and Raise Awareness

Subject librarians' deep participation in subject literature resource construction involves various departments of the university and particularly requires support from school leaders and faculty. Our library's practice revealed that some faculty, focused on their own disciplinary research, know little about the role of subject librarians, still 停留在“供需” (stopping at the “supply-demand” level), and sometimes even disdain subject librarians' active participation and provision. While this reflects problems with subject librarians themselves, insufficient publicity is also a factor. Faculty and students should be made aware that the focus of subject services has shifted to being faculty and student-centered, and that through training, subject librarians have the capability to participate in faculty and students' teaching and research projects and provide useful information for subject resource construction. This requires time and continuous publicity.

4.2 Adapt to Local Conditions and Emphasize Practical Results

Subject resource construction is the foundation for developing subject services and, in turn, promotes it. From formulation to implementation, plans for subject librarians' participation in subject resource construction must be based on existing library conditions, including personnel quality, collection resources and structure, and university characteristics. Practice and development should proceed simultaneously, emphasizing practical results and fully tapping internal potential. For example, Beijing University of Civil Engineering and Architecture is a university with distinctive professional characteristics, with relatively abundant resources for architecture disciplines that greatly assist architecture subject resource construction, while science and liberal arts resources are relatively lacking. How to formulate subject resource construction development strategies under existing university conditions is a question worthy of continued in-depth exploration.

4.3 Emphasize Subject Librarian Team Building

The new information environment places increasingly high demands on subject librarians. University libraries' work focus is still in the transition process from “geocentric theory” to “heliocentric theory.” Particularly with the rapid development of big data and artificial intelligence, users' demands for subject literature resources are growing exponentially, posing severe challenges to subject resource construction. Subject librarians must continuously learn to adapt to the needs of participating in subject resource construction in the new information environment.

4.4 Deepen Procurement Model Innovation

Innovation in subject librarians' participation in subject resource construction importantly involves procurement model innovation. In the new information environment, subject librarians must achieve breakthroughs in thinking and methods to realize procurement model innovation. How subject librarians can reasonably divide labor and collaborate with acquisition librarians in participating in subject resource construction remains a question worthy of research.

4.5 Subject Service Model Innovation Promotes Subject Resource Construction Model Innovation

Due to continuous information technology development, subject service models require constant innovation to adapt to the new information environment. With increasing complexity in scientific and technological development and strengthening disciplinary integration, interdisciplinary and cross-disciplinary research will become more common. Subject librarians must participate in subject resource construction with a learning and innovative attitude, integrating new ideas and concepts into all aspects of subject resource construction to make it adaptable to future embedded subject services.

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Current Situation and Consideration of Subject Librarians' Participation in the Construction of Subject Resources

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Abstract: [Purpose/significance] In order to analyze the present situation of subject librarians participating in the construction of subject resources and the problems to be solved, a good layout of subject resources should be constructed. [Method/process] Through questionnaire survey and case analysis, this paper expounds the necessity and feasibility of subject librarians participating in the construction of subject literature resources, and summarizes the practical exploration, experience and problems of subject librarians participating in the construction of subject literature resources in Beijing University of Civil Engineering and Architecture Library. [Result/conclusion] Subject librarians play an irreplaceable role in the construction of subject resources. In the digital age, the role of subject librarians has changed. It is necessary for subject librarians to play a more important role in many aspects of the construction of subject resources.

Keywords: subject librarian; resource construction; subject resource construction; subject service; library

Note: Figure translations are in progress. See original paper for figures.

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