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Research on the Alignment Path between “Double First-Class” Construction Requirements and Library Services in Universities: Postprint

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Abstract

[Objective/Significance] By proposing effective pathways for aligning the demands of “Double First-Class” construction with library services, this study provides reference for libraries to better support “Double First-Class” construction. [Method/Process] Taking the “Double First-Class” construction plans of some domestic universities as the entry point, this study collects and analyzes the specific construction goals, content, and plans of first-class universities and first-class disciplines, distilling various demands of universities’ “Double First-Class” construction; it then analyzes the construction goals and requirements related to libraries in each university’s construction plan; finally, it attempts to align library services with various types of construction demands. [Results/Conclusions] The alignment pathways are divided into the support/guarantee and “optimal intelligence” service level, the monitoring and tracking level, and the assistance and support level, and strategies and recommendations for alignment are proposed, including identifying the suitability of service alignment and alignment carriers, and ensuring the sustainability of service alignment and smooth information exchange.

Full Text

Research on the Connection Path Between University “Double First-Class” Construction Demands and Library Services

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Abstract

[Purpose/Significance] This paper proposes effective pathways for connecting “Double First-Class” construction demands with library services, providing references for libraries to better support “Double First-Class” construction. **[Method/Process]** Taking the “Double First-Class” construction plans of selected domestic universities as a starting point, we collected and analyzed the specific construction goals, content, and proposals for world-class universities and disciplines to distill various demands of university “Double First-Class” construction. We then analyzed the construction goals and requirements for libraries mentioned in these university plans. Finally, we attempted to align library services with various construction demands. **[Result/Conclusion]** The connection pathways are divided into three levels: support guarantee and “quality-intelligent” service, attention and tracking, and collaborative support. The paper proposes strategies and recommendations including identifying appropriate service docking fit and carriers, ensuring service continuity, and maintaining smooth information exchange.

Keywords: library services; “Double First-Class” construction; demands; connection

The construction of world-class universities and first-class disciplines (referred to as “Double First-Class” construction) represents another national strategy in China’s higher education sector following the “211 Project” and “985 Project,” bringing new development momentum and opportunities to higher education. Domestic universities have formulated detailed “Double First-Class” construction development plans and actively pursued reforms to accelerate the pace of building world-class universities and enhance the quality, research level, and influence of world-class disciplines. As an essential component of universities, libraries must obey and serve the institution’s construction needs and bear the responsibility of providing relevant literature and information services for “Double First-Class” construction.

Currently, as “Double First-Class” construction advances nationwide, many university libraries have conducted research and practice to support it, including: (1) research and construction of literature and information resource strategies focusing on first-class disciplines while considering multidisciplinary fields [1-3]; (2) precision-oriented, refined disciplinary service practices [4-5], as well as research on “providing granular, precise knowledge services based on big data analytics and artificial intelligence technologies” [6]; (3) decision-making information support services based on data analysis leveraging resource advantages [7]; (4) participation in research platforms, think tanks, scholar databases, institutional repositories, and related construction projects [8-9]; and (5) involvement in cultivating innovative and disciplinary talents through space reengineering and integration into curricula and teaching processes [10-11]. These studies and service practices provide new ideas for library professionals in other uni-

versities and have played positive roles in promoting their institutions' "Double First-Class" construction.

To better deepen and innovate services around "Double First-Class" construction, university libraries should conduct thorough, detailed, and comprehensive analyses of various construction demands to ensure targeted and appropriate responses. This paper takes the "Double First-Class" construction development plans of selected universities as an entry point to analyze the diverse types and levels of construction demands and the corresponding goals and requirements for libraries. It then attempts to align these demands with potential library services, analyzing connection pathways and strategies to explore functional expansion and service innovation for university libraries in the "Double First-Class" construction process.

2 Analysis of "Double First-Class" Construction Demands Based on University Plans and the "Guidance Opinions"

In November 2015, the State Council issued the "Overall Plan for Coordinated Advancement of World-Class Universities and First-Class Discipline Construction" [12] (referred to as the "Overall Plan"), which proposed clear requirements and phased goals for world-class universities and disciplines, and outlined five general construction and reform tasks. In January 2017, the Ministry of Education, Ministry of Finance, and National Development and Reform Commission issued the "Implementation Measures for the Coordinated Advancement of World-Class Universities and First-Class Discipline Construction (Interim)" [13] (referred to as the "Implementation Measures"), specifying selection criteria and procedures for Double First-Class universities and disciplines, with a five-year construction cycle beginning in 2016. In September 2017, the three ministries announced the "List of World-Class Universities and First-Class Discipline Construction Universities and Disciplines" [14] (referred to as the "Double First-Class List"). Subsequently, all listed universities published their specific "Double First-Class" construction plans before the end of 2017, covering basic construction and reform content, as well as main goals and expected outcomes for the first five-year cycle.

In August 2018, the three ministries issued the "Guidance Opinions on Accelerating 'Double First-Class' Construction in Higher Education Institutions" [15] (referred to as the "Guidance Opinions"), providing specific guidance on construction direction, priorities, implementation methods, and responsible entities. By analyzing universities' construction goals and specific proposals, combined with the concrete recommendations in the "Guidance Opinions," we can summarize the specific demands of university "Double First-Class" construction.

This study selected the 42 world-class university construction institutions announced in September 2017, collecting their publicly released construction plan documents. By analyzing these documents, we summarized the framework of the construction plans and extracted common, frequently occurring demands.

We then aligned these with the specific recommendations in the “Guidance Opinions” to describe the relevant “Double First-Class” construction demands, summarized in .

Analysis of Construction Demands from the 42 World-Class University Construction Plans and the “Guidance Opinions”

The main content of each university’s construction plan covers six sections: construction goals, construction foundation, construction content, reform tasks, expected outcomes, and organizational guarantee. (1) The construction goals section provides an overall summary of the plan and explicitly proposes clear objectives for the near, medium, and long term, with varying descriptions such as “ranking among the top world-class universities” or “building a world-class university with certain characteristics.” This requires attention to ranking systems and benchmarking studies to continuously adjust construction direction. (2) The construction foundation section summarizes achievements and distinctive advantages. (3) The construction content section, the core of the plan, elaborates on specific measures for “Double First-Class” construction from seven aspects: faculty development, talent cultivation, discipline construction, research enhancement, technology transfer, cultural inheritance, and international cooperation, each containing detailed demands with considerable commonality across institutions. (4) The reform tasks section provides detailed explanations and supplements for key, difficult, and urgent reform issues in the construction content, with demands largely overlapping the construction content. (5) The expected outcomes section describes anticipated results by 2020, demonstrated through the establishment of various systems, mechanisms, and platforms, as well as specific indicators. (6) The organizational guarantee section addresses the dynamic nature of “Double First-Class” construction, emphasizing organizational management, performance evaluation, and resource allocation.

The “Guidance Opinions” clarify the basic principles of “Double First-Class” construction, emphasizing that talent cultivation is the fundamental task, reform is the path of exploration, and building disciplinary peaks requires connotative development and strengthened coordination to form construction synergy. It provides detailed recommendations for various construction and reform contents, from which specific demands for “Double First-Class” construction can also be analyzed.

3 Analysis of Library Construction Goals and Demands Based on University Plans

Among the 42 world-class university construction plans, 16 universities proposed library construction goals and demands, summarized in .

Analysis of Library-Related Construction Demands in the Plans of 16 World-Class Universities

In these 16 universities’ plans, library construction goals and requirements

mainly appear in the “construction content” and “organizational guarantee” sections, covering five perspectives: research, disciplines, talent, faculty, and culture. We summarize the library construction goals into four categories and map specific demands to these goals (see). The goals take literature support and service support as two fundamental starting points, requiring libraries to continue fulfilling their primary cultural service and education functions while emphasizing staff development to provide strong support for research and talent cultivation. Several universities also proposed personalized requirements based on their libraries’ characteristics, such as Nankai University’s goal to build a digital platform for “CASHL humanities and social sciences characteristic microform literature utilization” by 2020; Shanghai Jiao Tong University’s exploration of intelligent information resource service paradigms with location-aware personalized service delivery; Peking University’s call for libraries to coordinate literature resource distribution among peer libraries and alliances and strengthen cooperation with domestic and international literature institutions; Sichuan University’s proposal to build a smart library leading knowledge and innovation services; and Xiamen and Huazhong Universities’ goal to build “first-class libraries.”

4 Research on the Connection Path Between “Double First-Class” Construction Demands and Library Services

Through analyzing various construction demands in world-class university plans and the “Guidance Opinions,” and aligning them with potential library services, we divide the connection between “Double First-Class” demands and library services into three levels based on operability, service intensity, and priority, as shown in [Figure 1: see original paper].

[Figure 1: see original paper] Connection Path Between “Double First-Class” Construction Demands and Library Services

4.1 Connection at the Support Guarantee and “Quality-Intelligent” Service Level

Establishing a literature resource guarantee and service system is the fundamental requirement of “Double First-Class” construction for libraries and a basic duty of university libraries. Therefore, libraries should prioritize connection at this level. All library work must start from literature resource construction, with diversified service methods ultimately focused on reasonable resource revelation and utilization. As shown in [Figure 1: see original paper], this level includes numerous specific demands from five key “Double First-Class” construction areas: discipline construction, research enhancement, talent cultivation, technology transfer, and cultural inheritance, connected through core services such as literature resource construction and utilization, disciplinary services, and reading promotion. Led by key construction disciplines, libraries should procure, develop, and organize literature resources to meet the needs of research inno-

vation, undergraduate/graduate education, and cultural education, forming a unique, comprehensive, and advanced literature resource guarantee system.

Disciplinary services, information literacy education, shared space reengineering, novelty search services, and patent services should emphasize priority and responsiveness, providing personalized and intelligent services through advanced digital technologies to achieve rapid resource acquisition and sharing. For example, Chongqing University Library conducts multi-dimensional literature demand surveys, employs a three-dimensional acquisition system, and builds an intelligent resource portal for first-class discipline literature guarantee. Based on these resources, the library establishes a disciplinary service model for first-class discipline construction by setting up a subject librarian system, constructing curriculum services, building thematic libraries, developing scholar databases, and conducting specialized information literacy training. This approach tightly integrates resources and services with attention to detail innovation, comprehensively enhancing the library's capacity to support first-class discipline construction [3].

4.2 Connection at the Attention and Tracking Level

In universities' overall construction goals and expected outcome indicators, rankings, discipline evaluations, or ESI discipline levels are commonly used metrics. Therefore, universities need to track mainstream university (discipline) ranking and evaluation systems to understand their positioning, identify benchmarks, clarify development trends, and monitor disciplinary research frontiers and interdisciplinary development trends to promote rapid development of their disciplinary directions.

As shown in [Figure 1: see original paper], at this level, libraries can leverage their resource advantages to provide information analysis, decision support, and academic output analysis services for tracking ranking systems, benchmarking, monitoring research frontiers, and seeking international partners. When providing services for this level, libraries should not simply reflect data or statistical results but conduct comprehensive bibliometric analyses using multi-angle, multi-channel literature data. For example, Tongji University Library and Fudan University Library conduct comprehensive analyses of disciplinary research trends and competitiveness through fact-finding and data investigation combined with various analytical tools and evaluation methods. Shanghai Jiao Tong University Library selected multi-type data, identified hot topics through quantitative analysis, word frequency analysis, and clustering methods, and completed frontier detection and analysis for the "120 Disruptive Technologies Foresight" project [7].

4.3 Connection at the Collaborative Support Level

"Double First-Class" construction is a comprehensive, systematic, and long-term task involving many aspects requiring improved, reformed, and innovative man-

agement systems and operational mechanisms. These include introducing and cultivating high-level and young talents, building research teams, major platforms, and research management service systems, as well as annual and cyclical progress summaries, expected goal achievement verification, and long-term dynamic evaluation, diagnosis, and supervision. All these tasks require improved division of labor among departments and collaborative participation.

As shown in [Figure 1: see original paper], at this level, libraries should actively participate in relevant construction work, collaborate with university and college departments, and provide information resource support and decision support. Through information analysis and academic output analysis services, libraries can collect and deeply analyze diverse, multi-channel information and data to extract useful intelligence for reference and decision-making by collaborative departments. For example, libraries assist with talent introduction by conducting researcher performance evaluations. Some domestic and international university libraries have also conducted research on research data management and participated in constructing university research data management platforms [16]. Additionally, constructing service-oriented, integrated institutional repositories has become a focus of attention and urgent need for many universities. By centrally processing and openly sharing various knowledge assets, these platforms also meet “Double First-Class” construction demands for improving research management service systems, showcasing academic achievements, and performance evaluation.

When connecting library services with “Double First-Class” demands, attention should be paid to the hierarchical relationships among the three levels. The “support guarantee and quality-intelligent service level” is the foundation and core—the basic requirement and necessary responsibility for libraries to fully support “Double First-Class” construction, and the basis for achieving connection at the other two levels. The “attention and tracking level” and “collaborative support level” represent service expansion and enhancement, fully reflecting new demands that “Double First-Class” construction places on libraries. While these two levels have similar service content, their purposes and intensity differ. The former emphasizes libraries’ proactive, continuous attention and tracking of demands, producing comprehensive, forward-looking, and leading service products through objective data and bibliometric analysis, such as continuous analysis reports. The latter emphasizes active participation and support for demands, meeting personalized and specialized needs of collaborators, with services typically being phased, one-time, and intensive.

5 Connection Strategies and Recommendations

5.1 Identifying Appropriate Service Connection Fit

“Double First-Class” construction adheres to the principle of characteristic excellence. Universities have different histories and disciplinary development angles, and their libraries also have varying development conditions. When connecting

with demands, libraries should consider their own circumstances, demonstrate distinctive advantages, and identify appropriate connection fit.

First, demands must be fully identified to determine suitable service content and methods. Identifying and understanding demands should be based on thorough investigation, including surveys of university “Double First-Class” management personnel and research on personalized needs and suggestions from faculties, research teams, and researchers. How to design and conduct effective surveys to grasp various demands and how to formulate library service strategies after identifying common and personalized needs through surveys are key issues this research aims to explore.

Second, libraries should identify appropriate fit in task allocation and priority balancing, not pursuing comprehensive coverage of all demands but acting within their capacity. They should identify core tasks and urgent problems, gradually improving the connection between “Double First-Class” demands and library services in phases and steps.

5.2 Identifying Effective Service Connection Carriers

“Double First-Class” construction demands are diverse. To achieve deep and effective connection, libraries can seek one or several carriers that integrate multiple services, provide focus, connect multiple construction demands, and make connection results visible.

For example, a service-oriented, integrated institutional repository as an institutional research big data management platform can collect and preserve academic achievements and characteristic resources, improve digital collection development, and enable resource retrieval and display. After data integration with university research management systems, identity authentication portals, and teaching systems, it can also facilitate effective research management. Using the platform’s knowledge content analysis module for disciplinary development evaluation and analysis meets “Double First-Class” demands for improving research management service systems, showcasing academic achievements, and performance evaluation.

Another example is establishing a disciplinary knowledge service system to help achieve breakthroughs in first-class discipline construction. By establishing “disciplinary knowledge service librarians,” building disciplinary information portals, and research data management platforms, libraries can intervene in research processes and teams for specific or interdisciplinary fields, assisting with disciplinary planning evaluation and constructing disciplinary knowledge environments [17]. This system also promotes transformation of traditional library services such as information retrieval, novelty search, and citation verification into customizable, decision-oriented knowledge services.

Additionally, establishing teaching and innovation support centers can collect quality teaching references and multimedia courses, provide discussion spaces

and innovation studios to meet diverse talent cultivation demands. Establishing “University Intellectual Property Information Service Centers” in libraries to conduct intellectual property information collection, training, patent consultation, and analysis can assist with intellectual property asset management and operation, meeting demands for efficient technology transfer in “Double First-Class” construction.

Relying on effective carriers can strengthen service connection intensity while training and improving library staff capabilities and enhancing libraries’ digital and intelligent technology service support capacity.

5.3 Ensuring Service Connection Continuity

“Double First-Class” construction implements total quantity control, open competition, and dynamic adjustment with five-year cycles. Therefore, libraries should ensure service continuity, particularly at the “attention and tracking level,” where they must keenly monitor rankings, research frontiers, and international cooperation. Services should align with the cyclical nature of university “Double First-Class” construction with continuous, feasible plans.

Before “Double First-Class” construction began, some university libraries had already built disciplinary information portals or conducted SCI-indexed paper tracking services. However, some of these initiatives, despite initial success and attention, eventually fell behind in updates and maintenance, becoming one-time achievements rather than sustained brands. The cyclical nature of “Double First-Class” construction should drive libraries to ensure service continuity, making relevant work and services have long-term impact.

5.4 Ensuring Smooth Information Exchange for Service Connection

Libraries should maintain smooth information exchange in two aspects to gain more support.

First, ensure active and good communication with university leaders, the “Double First-Class” construction office, and first-class discipline faculty teams. Exchanging with the “Double First-Class” office helps understand management-level urgent demands for direct service connection and provision of relevant analysis reports. Library leaders can also report to university leadership on services supporting “Double First-Class” construction and important analysis reports, allowing leaders to grasp real data intelligence while recognizing library achievements. Through smooth information exchange, both university management and libraries can continuously adjust their demands and services, achieving mutual promotion, while libraries can gain policy, financial, material, and human resource support.

For example, our library has always proactively communicated and cooperated with the university’s “Double First-Class” construction office, providing data analysis to meet its needs. The office has also strongly supported many li-

brary initiatives, including organizing exchanges between discipline leaders, key research teams, and the library, enabling the library to accurately grasp disciplinary construction and faculty research needs for precise services. Through this exchange, the library received university support in human and financial resources: the “Double First-Class” office funded the purchase of the InCites analysis tool, and in the 2018 non-faculty recruitment, the library was the only unit approved to recruit one career staff position—affirmation and support for its “Double First-Class” services.

Second, ensure smooth information exchange with external institutions including peer university libraries, major database companies, publishers, and third-party evaluators to learn good concepts and practices, reference new technologies and products, and actively seek cooperation. These external information sources should also be promptly selected and refined into useful intelligence for university departments.

University libraries should seize “Double First-Class” construction as a development opportunity, focus on their own capabilities, connect with multi-level and diverse construction demands, and build a first-class literature information resource guarantee system oriented toward disciplinary characteristics, all-media integration, and hierarchical prominence. They should construct a first-class intelligent service support system with high quality, rapid response, and comprehensive coverage. By precisely connecting with demands, libraries can stimulate service innovation, enhance service visibility and influence, and contribute to university and self-development, ultimately building first-class libraries that serve world-class universities and first-class disciplines.

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Author Contributions:

Chen Sitong: Developed research framework and structure, collected and analyzed materials, wrote and revised the paper.

Na Chunguang: Determined research topic, guided paper writing, revised the paper.

Research on the Connection Between University’s “Double First-Class” Construction Demand and Library Service

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Abstract: [Purpose/significance] By putting forward the effective way of connecting the demand of “double first-class” universities construction with library service, this paper provides reference for library to better support “double first-class” construction. [Method/process] Firstly, this paper took the specific “double first-class” construction plan of some domestic universities as the breakthrough point, summarized the specific construction goals, contents and plans of world-class universities and world-class disciplines, and analyzed the various demands of universities’ “double first-class” construction. Then it analyzed the construction goals and requirements for libraries in the construction plans. Finally, it tried to dock library services with various construction demands. [Result/conclusion] The docking path is divided into support and guarantee, high-quality and intelligent service level, attention and tracking level, and collaborative support level. At the end of the article, several docking strategies and suggestions are proposed, such as focusing on the fitness and carriers of service docking, and ensuring the continuity of service docking and smooth information exchange.

Keywords: library service; “double first-class” construction; demand; connection

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

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