
AI translation · View original & related papers at
chinaxiv.org/items/chinaxiv-202401.00159

Analysis of Hot Topics and Frontiers in International Library Science Research in 2022: Post-print

Authors: Ke Ping, Zhang Yuzhen, Pan Yuting, Zhang Longfei

Date: 2024-01-10T00:00:00+00:00

Abstract

[Purpose/Significance] This study analyzes 392 articles published in 2022 by eight international library science SSCI journals, summarizing research hotspots and frontier themes to provide references for in-depth research and professional practice in the library science community.

[Method/Process] Using content analysis methodology, this paper systematically examines the research themes and content of articles published in 2022 in eight journals: Journal of Documentation, College & Research Libraries, Library & Information Science Research, Journal of Librarianship and Information Science, Library Trends, The Library Quarterly, International Journal of Libraries and Information Studies, and The Journal of Academic Librarianship.

[Results/Conclusion] The analysis reveals that foreign library science research in 2022 primarily focused on ten areas: information behavior and user research, library management, library services, LIS foundational theory research, discipline education and teaching, information literacy, information processing and knowledge management, informetrics and information analysis, information ethics, and digital humanities. Research hotspots mainly include three aspects: information behavior and user research, library management, and library services. Disciplinary frontiers primarily concentrate on two major research themes: digital humanities and new developments in LIS foundational theory. Drawing from these insights, future library science research should further strengthen library responsibilities and pay greater attention to minority and vulnerable reader groups.

Full Text

Ke Ping, Zhang Yuzhen, Pan Yuting, et al. Analysis of Hotspots and Frontiers in Foreign Library Science Research in 2022[J]. Journal of Literature and Data

Science, 2023, 5(4): 099-117.

Vol. 5 No. 4 December 2023

Analysis of Hotspots and Frontiers in Foreign Library Science Research in 2022

Ke Ping, Zhang Yuzhen, Pan Yuting, Zhang Longfei
(Department of Information Resources Management, Business School, Nankai University, Tianjin 300071, China)

Abstract:

[Purpose/Significance] This study analyzed 392 articles published in eight SSCI journals of library science in 2022, summarizing research hotspots and frontier topics to provide references for in-depth research and practical work in the library science community. [Method/Process] Using content analysis, the study systematically reviewed the research themes and content of articles published in 2022 in eight influential SSCI journals in library science: *Journal of Documentation* (JOD), *College & Research Libraries* (C&RL), *Library & Information Science Research* (LISR), *Journal of Librarianship and Information Science* (JOLIS), *Library Trends* (LT), *The Library Quarterly* (LQ), *International Journal of Libraries and Information Studies* (IJLIS), and *The Journal of Academic Librarianship* (JAL). [Result/Conclusion] The analysis revealed that foreign library science research in 2022 concentrated on ten areas: information behavior and user research, library management, library services, LIS basic theory, subject education and teaching, information literacy, information processing and knowledge management, informetrics and information analysis, information ethics, and digital humanities. Research hotspots primarily included information behavior and user research, library management, and library services. The disciplinary frontiers focused on two major themes: digital humanities and new developments in LIS basic theory. As an implication, future library science research should further strengthen library responsibility and pay greater attention to minority and vulnerable reader groups.

Keywords: Library science; Research hotspots; Academic frontiers; Journal analysis

DOI: 10.31193/SSAP.J.ISSN.2096-6695.2023.04.09

Continuously tracking research hotspots and frontier developments constitutes an important component of library and information science research. Academic frontiers are crucial to the innovation capacity of library science and reflect disciplinary development directions. The research perspectives and theoretical horizons presented in core foreign library science journals represent, to a certain extent, the latest research directions and future trends. This paper systematically summarizes the research hotspots and frontier topics from eight foreign library science SSCI journals in 2022, aiming to provide references for in-depth research and practical work in the library science community.

[Author Bios] Ke Ping (ORCID: 0000-0003-4038-6377), male, doctoral supervisor, professor, Ph.D. Research interests include library management, knowledge management, bibliography, and public culture. Email: ke2002@nankai.edu.cn. Zhang Yuzhen (ORCID: 0009-0006-0563-2762), female, Ph.D. candidate. Research interests include library management and knowledge management. Email: 1120221305@mail.nankai.edu.cn. Pan Yuting (ORCID: 0000-0003-3800-2020), female, Ph.D. candidate. Research interests include knowledge management and library management. Email: pyt@mail.nankai.edu.cn. Zhang Longfei (ORCID: 0009-0006-8600-1523), male, Ph.D. candidate. Research interests include basic library science theory. Email: 995736940@qq.com.

1 Data Sources

This study continued to track eight influential SSCI journals in library science—*Journal of Documentation* (JOD), *College & Research Libraries* (C&RL), *Library & Information Science Research* (LISR), *Journal of Librarianship and Information Science* (JOLIS), *Library Trends* (LT), *The Library Quarterly* (LQ), *International Journal of Libraries and Information Studies* (IJLIS), and *The Journal of Academic Librarianship* (JAL)—based on journal impact factor rankings and existing frontier review literature. After excluding editorials, book reviews, and special issue introductions, these journals published a total of 392 articles in 2022, including 61 in JOD, 50 in C&RL, 46 in LISR, 57 in JOLIS, 32 in LT, 21 in LQ, 22 in IJLIS, and 103 in JAL.

2 Research Methods and Data Analysis

The authors first carefully analyzed the titles, abstracts, and keywords of the 392 articles, then briefly reviewed the full texts. Using content analysis and referencing Zhang Xuemei' s [1] classification table of library science research themes and Wang Fang et al.' s [2] coding table for information science research fields, the study classified and coded article themes. Both the research theme classification table and coding table were arranged according to the number of articles identified for each theme, as shown in and .

3.1 Information Behavior and User Research

Information behavior and user research represents one of the most prominent research domains in foreign library science. Information behavior research encompasses information publishing behavior, information seeking behavior, and user behavior across different contexts and platforms. User research includes themes such as user information literacy, user education, user satisfaction, information needs, and user classification and clustering. Research subjects predominantly focus on youth, elderly, and special populations.

3.1.1 Information Behavior Research

Information seeking behavior, grounded in the perception of information needs, comprises a series of information activities aimed at achieving specific goals and satisfying information requirements [3], representing one of the most closely examined areas in foreign information behavior research. Most studies focus on student populations, including systematic investigations of factors influencing students' online information seeking strategies [4] and research on how information seeking self-efficacy affects academic performance [5]. Related studies have found that master's students generally lack academic resource seeking skills compared to researchers [6]. Research on other groups reveals that children's information seeking behavior differs from adults', with children typically discovering new information while exploring novel things [7]. Some scholars have integrated information seeking behavior with parameter learning in machine learning models, studying information behavior from an innovative perspective [8]. Digitalization and intelligence have broadened the scope of information seeking behavior research, making online health information retrieval and seeking a hot topic [9].

The COVID-19 pandemic has profoundly impacted both the broader social environment and individual information behavior. During the pandemic, mass media became the primary source for public information [10], while researchers shifted to online electronic resources for scientific information [11]. Scholars have also deeply investigated college students' reading format preferences and behaviors during COVID-19 [12]. For instance, Batool et al. [13] surveyed Pakistani students' perceptions regarding information access from librarians and library services during the pandemic. Additionally, the pandemic reduced students' frequency of accessing library digital resources [14] and decreased user preferences for library e-books [15].

Research on information sharing behavior has demonstrated its positive effects. An ethnographic study of virtual communities revealed that librarians rely on computers for communication, and their information sharing behavior meets and supports mutual needs while bridging distances [16]. For religious societies, information sharing can help depolarize communities after violent events and restore religious harmony [17]. Furthermore, different ethical dimensions—including egoism (professional interests), utilitarianism (community interests), and deontology (data sharing norms)—can stimulate researchers' research ethics and better promote data sharing behavior [18].

3.1.2 User Research

Foreign library science information behavior research emphasizes subgroup segmentation, with minority and special populations remaining persistent research foci. Ahmadinia et al. [19] examined health information seeking behavior among ethnic minorities, identifying factors for improving information seeking practices and outcomes. Romy Menghao [20] investigated the types of health information

sought by LGBTQ+ individuals, their information sources, and influencing factors. Sbaffi L [21] studied how Alzheimer's patients establish trust mechanisms under the care of untrained family and friends. Kainat K [22] explored sociocultural barriers to information and integration among refugee women. Anwar M [23] found that rural Bangladeshi women's information behavior is influenced by family patterns, community, and religion. Additional research has addressed information behavior among immigrants [24] and liberal professionals such as lawyers without borders [25].

User type segmentation enables more targeted library services. Based on library access and usage patterns, users can be categorized into five types: non-readers, newspaper enthusiasts, library lovers, occasional users, and reading addicts [26]. User research is crucial for evaluating and experiencing library services. Studies show that students express concerns about librarians accessing and sharing user identity information, perceiving it as privacy infringement [27]. The Fourth Industrial Revolution has created new competency requirements for users, specifically hardware capabilities and knowledge, software capabilities and knowledge, and information capabilities and knowledge [28]. As user needs continuously evolve, users' psychosocial needs have emerged [29]. User experience can evaluate and improve library services and spaces [30], yet libraries enhance user experience by improving service efficiency while neglecting users' own value perceptions [31]. Users demonstrate low awareness and engagement with library social media platforms [32] and insufficient understanding of library copyright policies [33], issues that compound the complexity of library services.

3.2 Library Management

Foreign library management research in 2022 unfolded at both macro and micro levels. At the macro level, library strategic management has attracted widespread attention, with building dynamic capabilities to enhance core competitiveness representing a novel strategic management issue [34]. To help librarians publish in non- "predatory" journals, libraries should establish macro-level standards [35]. As the internet rapidly develops, information access has become increasingly decentralized, changing how libraries obtain information. Otiye et al. [36] employed multiple theories to emphasize the significance of introducing and practicing innovation strategies in libraries. Krier [37] constructed a new public library management framework from an academic library strategic planning perspective. Research on libraries' participation in social networking site strategic partnerships can facilitate the globalization of entrepreneurial enterprises [38].

At the micro level, Bynoe [39] focused on leadership styles among library managers, exploring their impact on library image. Reed et al. [40] discussed online librarians' work roles during COVID-19. Broadbent et al. [41] examined library collection weeding projects. Bangani et al. [42] evaluated the formation of community engagement partnerships in university libraries.

Regarding public library image research, the UN 2030 Agenda for Sustainable Development established 17 goals as a shared blueprint for peace and prosperity for people and the planet. The University of Southern Queensland Library mapped library programs and work plans to sustainable development goals, thereby demonstrating library value and impact [43]. Moreover, as important institutions for collecting and preserving human cultural heritage, libraries make indelible contributions to cultural sustainability [44]. Public libraries are facilitators of citizen participation in community life [45], and social innovation projects can alleviate poverty to some extent, making libraries strategic partners for the UN and developing country governments in addressing this major challenge [46]. However, decreasing government funding has created increasing financial pressure for public libraries, making how to provide satisfactory services under growing fiscal constraints a fundamental management issue [47].

Regarding library and librarian responsibilities, the fusion of politics and information in the 21st century is more pronounced than ever, unconsciously drawing libraries into ideological confrontations over information and prompting them to re-examine their social roles and responsibilities [48]. Librarians are also reflective practitioners and defenders of social justice [49]. Industry challenges require librarians to continuously improve professional skills to better face challenges [50] while perfecting knowledge systems and maintaining continuous professional development [51]. Librarians should also possess dual identities as teachers and library managers [52], such as serving as supervisors for student library internships to help interns understand library work [53]. Librarian professional ethics and responsibility awareness can strengthen library accountability [54]. As educators, librarians need capabilities in providing research data [55] and knowledge discovery skills to extract valid knowledge from various data sources [56]. Complex environments increasingly demand comprehensive librarian competencies, with widespread geographic information system technology even requiring proficiency in GIS software [57]. How to define librarian competencies is itself a research-worthy question [58], and how to assess librarian value has become a new consideration [59].

3.3 Library Services

Library service research primarily involves analysis of service practices in public and academic libraries and reader service studies.

3.3.1 Service Practice Analysis

Under COVID-19's influence, numerous scholars comprehensively reviewed library services during the pandemic, systematically investigating spatial services and student activities, concluding that providing appropriate and comfortable space services is crucial for improving student learning efficiency and health [60]. Scholars believe COVID-19 reshaped academic library service models [61], with virtual reference services proving effective [62] and consultations helping students learn better [63].

3.3.2 Reader Service Research

Services for minority/vulnerable groups constitute a hot research area in foreign library science. Sample literature covers children, adolescents, the elderly, people with disabilities, homeless individuals, and LGBTQ+ populations. One study proposed that public libraries should provide dedicated reading spaces for adolescent readers to improve service effectiveness [64], while another experiment examined how public library services and spaces affect elderly health [65]. Norwegian scholar Gerd Berget [66] used adapted collections developed by Norway's "Books for Everyone" association to explore how to provide special collections for the elderly and visually impaired to meet diverse reading needs. Caitlin Adams and Maja Krtalić [67] analyzed how public libraries can provide targeted services for homeless populations, offering insights on policies and service design. LGBTQ+ and other minority groups have also attracted recent scholarly attention. Vanessa Kitzie et al. [68] employed discourse analysis, interviewing public librarians and drag performers to analyze how discourses on non-mainstream gender identity visibility, hypervisibility, and invisibility shape perceptions of sexual minorities.

Beyond minority/vulnerable groups, foreign research also focuses on specialized libraries such as community, rural, and prison libraries. Studies have reviewed prison library services [69] and explored their positive impacts on inmates' lives and psychology [70]. In knowledge services, libraries actively develop e-textbooks to address high textbook prices and meet student learning needs [71], and provide rich academic resources through institutional repositories [72]. For reference services, libraries' licensed reference management software is users' first choice [73], with resources, policies, and librarian competencies being three key factors affecting reference services [74]. Librarians can enhance reference service effectiveness by introducing "appeal" terminology [75]. COVID-19 physical distancing policies posed new challenges for library staff and users, requiring libraries to redefine service frameworks from spatial and role perspectives [76] and reconsider service quality assessment [77].

3.4 LIS Basic Theory Research

3.4.1 Time and Temporality in LIS

The first issue of *Journal of Documentation* in 2022 was a special issue on "Time and Temporality in Library and Information Science." McKenzie PJ [78] explored how individuals create and use calendars, planners, and other time-recording methods, finding that personal information practices are influenced by their created and used time-recording methods and temporal affordances. Haider J [79] conducted empirical and conceptual analyses of information literacy temporality. Johansson V [80] examined temporal bias and political influences in data visualization, identifying four political impacts of temporal bias: limited vision, ignoring change, oppressing social groups, and distorting subjects, while proposing methods and design strategies to mitigate bias. Rothbauer PM [81]

explored concepts related to time and temporal dimensions in everyday reading contexts, finding that everyday reading is a time-centered activity and that subjective temporal experiences in reading contexts expand how time is presented in LIS reading research. Day [82] discussed information and causal time models in trauma theory and trauma treatment reports, discovering that information has different meanings in trauma theory partly because the temporality constituting trauma explanations varies. This special issue highlights LIS temporal perspectives and calls for dialogue with important temporal perspectives from other fields, demonstrating LIS' s potential to advance understanding of how temporal concepts and experiences shape modern society and individuals beyond the discipline itself.

3.4.2 LIS Disciplinary Basic Concepts Research

Foreign library science continues to focus on discussions of information-related concepts. Savolainen R [83] elaborated on the essence of infotainment as a mediating concept between information and entertainment. Zimmerman T [84] introduced the concept of social noise, finding that under its influence, social media users may adjust information behavior based on external cues to present themselves more ideally and increase social capital. Smith AO [85] offered information researchers a method to bridge datafication gaps by linking the “differences” between information data and meme documents. Boyd C [86] proposed a definition of data as assemblage that accommodates data' s various forms and meanings, emphasizes data subjects and workers, and reflects the sociotechnical aspects of data throughout its creation and use lifecycle, representing an innovative expansion of data definitions. Yu LZ [87] clarified core concepts in information experience research using Wilson' s concept analysis, consolidating information experience as a distinct research object. Graminius C [88] examined information concepts related to temporality in climate change communication, finding that information in public contexts is afforded by different and sometimes contradictory temporalities and temporal backgrounds aligned with various material, institutional, and discursive practices. Tim Gorichanaz [89] discussed the origins and concepts of information behavior and human-computer interaction from ontological, epistemological, and axiological perspectives, arguing they have converged in recent decades. Andreas Lüscho [90] reviewed graph theory literature and constructed a methodological framework for applying graph theory methods in LIS research.

3.4.3 LIS Discipline Construction Research

Crist et al. [91] addressed emerging disciplinary issues, applying phenomenological theory to interpret critical phenomenology in libraries. The use of robots and intelligent facilities in libraries has prompted research on automated epistemology in libraries [92]. During COVID-19, scholars discussed neoliberalism-related phenomena in libraries, arguing that libraries have entered a post-pandemic era [93]. The pandemic also transformed library management and services, ush-

ering in a period of transition [94]. Getgen [95] defined cultural competence and cultural humility within the LIS profession from a professional perspective. Library profession research also includes assessing librarians' desired support and resources to help them consider career advancement [96] and exploring subject librarians' roles in open educational resources [97], examining the library profession from multiple angles.

3.5 Subject Education and Teaching

Libraries and library science have been inseparable from culture and education since their inception, with academic libraries playing an irreplaceable role in education. Charbonneau et al. [98] investigated medical librarians' participation in research and instruction services during COVID-19. Bright et al. [99] examined how librarians prepare for library science-related courses, while other scholars proposed improvements for specific course designs [100]. The one-shot instruction model, though primary for academic librarians, easily causes burnout [101]. This concentrated educational activity over a short period exhausts both teaching librarians and students, who question the content's value [102]. Librarians are reflecting on whether this model meets teaching needs [103], and its effectiveness remains unverified [104], particularly regarding students' information literacy improvement [105]. Clearly, the one-shot model is not sustainable for long-term implementation [106]. To address this, scholars suggest incorporating more practice into one-shot sessions to enhance effectiveness [107], and librarians should provide classroom instruction according to students' cognitive abilities [108].

3.6 Information Literacy

Information literacy refers to one's ability to effectively acquire, evaluate, and utilize information. Research identifies five main factors influencing information literacy definitions: text, personnel, experience, institutions, and self-identity [109]. As definitions continuously enrich, research perspectives diversify. In 2022, foreign information literacy research primarily examined three viewpoints: library, teacher, and student.

From the library perspective, libraries increasingly recognize misinformation and disinformation's impact on information literacy. As key venues for information literacy education, libraries must incorporate misinformation handling capabilities into future education [110] and integrate critical thinking into information literacy instruction [111]. Information literacy education both cultivates students' basic competencies and comprehensively examines libraries, including their educational responsibilities and librarians' roles, which affect education outcomes [112]. Warschaw [113] shared three information literacy methods combining institution-specific resources to help librarians and students enhance professional understanding. COVID-19's remote online classes posed new challenges, requiring libraries to adjust information literacy course models

and teaching methods for online education characteristics [114]. Wegener [115] suggested librarians' attitudes toward students also improve information literacy education.

From the teacher perspective, Ford-Baxter et al. [116] used case studies to investigate teachers' understanding of disciplinary standards and information literacy learning outcomes. Pinto [117] explored Spanish university social science professors' views on college students' information literacy, competencies, and threshold concepts, proposing improvement plans. Gross et al. [118] examined ACRL framework implementation in community colleges and COVID-19's impact on information literacy instruction, providing ideas for embedding library science in online courses. Other scholars surveyed teachers and students to identify information literacy gaps and propose bridging methods [119]. Overall, teachers' information literacy self-efficacy perceptions need strengthening [120].

From the student perspective, Latham D et al. [121] argued students need information literacy in personal life and academics, particularly information seeking and evaluation skills, with needs increasing as they progress academically [122]. Valenza et al. [123] investigated whether early information literacy exposure helps students better adapt to rigorous academic research and challenges. Practical skills and pathways also received widespread attention. Rieh et al. [124] used role-playing to assess college students' information literacy competencies, effectively stimulating self-reflection and understanding. Nguyen LAT [125] surveyed Vietnamese students' digital literacy, finding most achieved adequate knowledge levels with positive technology attitudes, though English learning technology use was limited and males had better digital knowledge and skills than females. Overall, students' information literacy self-efficacy perceptions were high [126].

3.7 Information Processing and Knowledge Management

As the foundation of knowledge, information processing includes data and information organization, arrangement, and processing. Park [127] examined research data interdisciplinarity and shared research data reuse across STEM fields. Singh et al. [128] used triangulation to evaluate library research data. Heo et al. [129] proposed the new concept of social intelligence, predicting its impact on information sharing among diverse information professionals.

Knowledge management encompasses knowledge creation, organization, sharing, and discovery across the entire process. Reis et al. [130] explored new technology applications in classroom knowledge management. Ahmed et al. [131] studied factors influencing knowledge sharing practices among librarians, with knowledge sharing licensing and copyright relationships also receiving scholarly attention [132]. Additionally, some scholars deeply examined information organization and practice, including designing games for information assembly [133], using cameras to record work information [134], and retrospectively examining information generation patterns from existing reports [135].

3.8 Informetrics and Information Analysis

Metrics are common research methods in library science. Bibliometrics, scientometrics, informetrics, and webometrics in the internet era, combined with citation analysis, can assist various disciplines in determining research status, hotspots, and trends. Citation analysis reveals journal associations and can evaluate journal societies and academic library consortia [136], consider open access articles' citation advantages [137], and identify open access journal strengths [138]. Bibliometric analysis is also important for open access journal research [139], and content analysis can study library privacy policies [140]. Järvelin K [141] conducted quantitative analysis of over 30 LIS academic journals from 1965-2015, finding that early LIS emphasis on L&I services has significantly declined while scientific and professional communication has become the most popular topic. Information storage and retrieval have lost their earlier dominance, with surveys, scientometric methods, and other approaches gaining prominence.

3.9 Information Ethics

Information ethics concerns ethical standards and moral norms governing information creation, organization, dissemination, and use [142]. Systematic review of the eight journals suggests research primarily concentrates on predatory publishing. Studies show journal credibility directly relates to citation rates and article impact factors [143]. Teixeira da Silva et al. argued that Jeffrey Beall's "predatory" open access publishing blacklist standards stigmatize some publishers with discriminatory bias, detailing this "stigmatization" [144] and publishing corrections [145]. They further deconstructed these standards, suggesting modifications and strengthening to fundamentally reform academic publishing and elevate predatory publishing research from practical to theoretical framework levels, providing direction and foundation for future research [146]. Jairo Buitrago Ciro [147] focused on Spanish-speaking Latin America, surveying academic libraries' awareness of predatory publishing. Questionnaire and interview results showed that academic librarians in these developing regions generally have low scholarly publishing literacy, particularly regarding predatory publishing.

3.10 Digital Humanities

Digital humanities (DH) is an emerging disciplinary branch in LIS. Joo S et al. [148] explored digital humanities' knowledge structure and research trends over the past decade, identifying cultural heritage, geographic information, semantic web, linked data, and digital media as the most popular topics. Structural topic modeling revealed that linked open data, text mining, semantic web ontologies, text digitization, and social network analysis have gained increasing attention in digital humanities. Gao J et al. [149] examined gender's impact on authorship collaboration in digital humanities journals, finding that although female authors are fewer in number overall, female digital humanities scholars

play more central roles and serve as primary bridges in collaboration networks.

4.1 Research Hotspots

Analysis of the eight journals' 2022 research themes reveals that foreign library science research hotspots concentrated on information behavior and user research, library management, and library services.

User research has long been LIS' s core focus, making information behavior and user research an enduring hotspot. In 2022, foreign library science conducted relevant research on different user groups, emphasizing youth and vulnerable populations, comprehensively studying user information seeking, acquisition, querying, and utilization behaviors, and proposing targeted recommendations to help libraries improve information service quality and meet user needs.

Library management is a core concern for both library professionals and academics. Social development has complicated library functions, requiring libraries to assume corresponding social responsibilities in changing environments. Additionally, 2022 research hotspots focused on macro-level strategic management and micro-level personnel management, with holistic studies of internal and broader social environments significantly improving library management.

Library services constitute the task, focus, and key of library research. As the world continued experiencing COVID-19 in 2022, library services inevitably faced restrictions. Consequently, most scholars comprehensively studied library services during this period, dividing them into service practice analysis and reader service research, offering improvement suggestions from both library and user perspectives.

Comparative analysis with 2021 foreign library science hotspots [150] shows that library services and user research, as long-standing priority themes, remained 2022 hotspots despite the passage of time. The 2021 theme of "profession" was no longer a hotspot in 2022, with library management research increasing to replace "profession" as a hotspot. This indicates foreign library science maintains practice-oriented themes like information behavior and library services while conducting academic research within broader social development contexts.

4.2 Disciplinary Frontiers

First, digital humanities. As an emerging branch under LIS and a multidisciplinary field, digital humanities integrates digital technology into social science research, enhancing efficiency and expanding research space. LIS can leverage its technology and information literacy strengths to continuously expand research boundaries, absorb and integrate other disciplines' knowledge, and lay solid foundations for LIS development. Simultaneously, as an interdisciplinary field, digital humanities injects new research methods and paradigms into LIS, further enriching and deepening research methods and questions.

Second, new developments in LIS basic theory. Under interdisciplinary integration, some LIS basic concepts are changing, such as definitions of data and concepts of information experience. The integration of shared research concepts with other disciplines prompts LIS to continuously re-examine its basic concept definitions, with these definitional changes driving LIS development.

4.3 Implications

4.3.1 Strengthening Library Responsibility

Foreign library science research topics and perspectives demonstrate unique characteristics, not only addressing themes less explored domestically but also consistently focusing on libraries as institutions for perennially relevant themes like user research, library management, and library services, continuously excavating deeper connotations and assuming broader social responsibilities. The sustained attention to library service neutrality and fairness reflects foreign library scholars' reflection and commitment. Particularly, placing libraries within the entire social environment for holistic consideration—incorporating technological development, political environments, and human destiny—elevates library science to new heights. Foreign library science provides a more generalized concept of library social responsibility, extending beyond traditional civilization inheritance and cultural transmission to major social issues like promoting sustainable development, enhancing elderly health, and alleviating poverty. This reflects profound foreign societal reflection on libraries' proper value and functions, endowing libraries with nobler responsibilities and missions.

4.3.2 Focusing on Minority and Vulnerable Reader Groups

Foreign research demonstrates greater attention to user studies, with increasing inclusion and care for socially marginalized and minority/vulnerable groups, and growing research on these populations, particularly regarding information behavior. Vulnerable groups are those who, due to economic, technological, social status, and other subjective and objective limitations and capability constraints, cannot timely acquire, understand, and effectively utilize information, and are excluded from modern information resources, especially online information resources, occupying relatively marginal social positions. Journal articles show significantly increased proportions of research on vulnerable groups and ethnic minorities across various themes. Studies on library usage behavior by people with disabilities, library accessibility services, information behavior of sexual minorities, and whether ethnic minorities experience discrimination in libraries all reflect foreign library science's attention to library diversity and inclusiveness research.

Compared with previous frontier review studies, 2022 foreign library science research themes remained stably focused on information behavior, user research, library management and services, and theoretical research, exploring effective integration with policy standards and other fields while emphasizing vulnerable

and socially marginalized groups. Research methods remained dominated by traditional social science methods like questionnaires, interviews, and experiments, with mixed methods also comprising a significant proportion.

Overall, this study is highly timely and targeted, reflecting to some extent the latest research dynamics in foreign library science in 2022. The analysis reveals that 2022 research hotspots focused on information behavior, information literacy, user needs, library management, and library services, with frontiers concentrating on information ethics and cross-disciplinary research. Disciplinary development is inseparable from national policy and social environments, and summarizing hotspots and frontiers is not accomplished overnight. Therefore, continued attention to social development is necessary to explore potential frontier areas in library science and better trace disciplinary development trajectories and future trends.

References [1] Zhang Xuemei. Research on the Construction of Theme Classification Tables and Distribution Patterns in Chinese Library Science Research[D]. Changchun: Jilin University, 2018. [2] Wang Fang, Chen Feng, Zhu Na, et al. Research on the Sources, Applications, and Disciplinary Exclusivity of Chinese Information Science Theory[J]. Journal of the China Society for Scientific and Technical Information, 2016, 35(11): 1148-1164. [3] Yu Liangzhi. Introduction to Library and Information Science[M]. Beijing: National Library Press, 2016: 140. [4] Uslu N A, Durak H Y. The relationships between university students' information-seeking strategies, social-media specific epistemological beliefs, information literacy, and personality traits[J]. Library & Information Science Research, 2022, 44(2): 101155. [5] Tang Y, Tseng H, Tang X. The impact of information-seeking self-efficacy and online learning self-efficacy on students' performance proficiency[J]. The Journal of Academic Librarianship, 2022, 48(5): 102584. [6] Hagiwara Y, Ishita E, Watanabe Y, et al. Identifying scholarly search skills based on resource and document selection behavior among researchers and master's students in engineering[J]. College & Research Libraries, 2022, 83(4). [7] Barriage S. Young children's information-seeking practices in center-based childcare[J]. Journal of Librarianship and Information Science, 2022, 54(1): 144-158. [8] Chakraborty S, Chaudhuri S K. Unfolding social learning parameters behind the selection of information sources against cyclones: a perspective of information seeking behavior research[J]. Library & Information Science Research, 2022, 44(4): 101194. [9] Abdoh E. Online health information seeking and digital health literacy among information and learning resources undergraduate students[J]. The Journal of Academic Librarianship, 2022, 48(6): 102603. [10] Abdekhoda M, Ranjbaran F, Sattari A. Information and information resources in COVID-19: awareness, control, and prevention[J]. Journal of Librarianship and Information Science, 2022, 54(3): 363-372. [11] Noh Y. A study on researcher use behavior changes since Covid-19[J]. Journal of Librarianship and Information Science, 2022, 54(4): 545-557. [12] Mizrachi D, Salaz A M. Reading format attitudes in the time of COVID[J]. The Journal of Academic Librarianship, 2022, 48(4): 102552. [13] Batool S H, Malik A, Safdar M, et al. Pandemic information access challenges and expectations

about the post-covid era: a survey of pakistan students' opinion regarding academic libraries' services and staff[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102604. [14] Soulen R R, Tedrow L. Students' frequency of access to school library materials in transformative times[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 622-639. [15] Stejskal J, Hajek P. The impact of COVID-19 on E-book reading behavior: the case of the municipal library of prague[J]. *The Library Quarterly*, 2022, 92(4): 388-404. [16] Agyemang F G. Examining the information seeking and sharing activities in a virtual community of librarians[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 591-603. [17] Rohman A. How to reconnect different small worlds: deconstructing the past that divides, pursuing a future that unites[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 441-450. [18] Kim Y. An empirical study of research ethics and their role in psychologists' data sharing intentions using consequentialism theory of ethics[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 251-263. [19] Ahmadinia H, Eriksson-Backa K, Nikou S. Health information seeking behaviour during exceptional times: a case study of Persian-speaking minorities in Finland[J]. *Library & Information Science Research*, 44(2): 101156. [20] Jia R M, Du J T, Zhao Y C. Characteristics of the health information seeking behavior of LGBTQ+ individuals: a systematic review on information types, information sources and influencing factors[J]. *Journal of Documentation*, 2022, 78(2): 361-388. [21] Sbaffi L, Hargreaves S. The information trust formation process for informal caregivers of people with dementia: a qualitative study[J]. *Journal of Documentation*, 2022, 78(2): 302-319. [22] Kainat K, Eskola E L, Widén G. Sociocultural barriers to information and integration of women refugees[J]. *Journal of Documentation*, 2022, 78(5): 1131-1148. [23] Anwar M, Oliver G, Frings-Hessami V, et al. Collective aspects of information literacy in developing countries: a Bangladeshi case[J]. *Journal of Documentation*, 2022, 78(6): 1305-1320. [24] Shuva N Z. "I actually got my first job through my ex-colleague" : employment-related information seeking behavior of Bangladeshi immigrants in Canada[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 34-53. [25] Solomon Y, Bronstein J. The information-gathering practice of liberal professionals in a workplace setting: more than just seeking information[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 54-68. [26] Paul M. Segmentation of the reader and library user population in Poland[J]. *The Library Quarterly*, 2022, 92(3): 274-295. [27] Asher A D, Briney K A, Jones K M L, et al. Questions of trust: a survey of student expectations and perspectives on library learning analytics[J]. *The Library Quarterly*, 2022, 92(2): 151-171. [28] Noh Y, Hong H J. A study on the relationship between library service and digital competence[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 264-283. [29] Wahler E A, Rortvedt C, Saecker T. Public library patrons' views of their psychosocial needs and how the library can help[J]. *The Library Quarterly*, 2022, 92(2): 172-187. [30] Hicks A, Nicholson K P, Seale M. Towards a critical turn in library UX[J]. *College & Research Libraries*, 2022, 83(1): 6-24. [31] Hicks A, Nicholson K P, Seale M. Make me think! exploring library user experience through the lens of (critical) information literacy[J]. *The Library Quarterly*, 2022, 92(2): 109-128.

- [32] Mensah M, Bosire Onyancha O. Building and enhancing library services: patrons' awareness of, and engagement with social media in academic libraries in Ghana[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 604.
- [33] Adu T L, Van der Walt T B. Knowledge of students of the exceptions and limitations clause in copyright administration in academic libraries in Ghana[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 737-750.
- [34] Jadhav D, Shenoy D. Building dynamic capabilities of an academic library: a research agenda[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102502.
- [35] Frandsen T F, Lamptey R B, Borteye E M, et al. Implementation of promotion standards to discourage publishing in questionable journals: the role of the library[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102532.
- [36] Otiike F, BarátÁH, Kiszl P. Innovation strategies in academic libraries using business entrepreneurial theories: analysis of competing values framework and disruptive innovation theory[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102537.
- [37] Krier L. A framework for shared leadership: a perspective on strategic planning for academic libraries[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102503.
- [38] Gupta V, Rubalcaba L, Gupta C, et al. Library social networking sites for fostering startup business globalization through strategic partnerships[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102504.
- [39] Bynoe V. A perspective on academic library middle management in the COVID era[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102559.
- [40] Reed K N, Kester B, Kaufmann K F, et al. Crisis librarianship: an examination of online librarianship roles in the wake of the COVID-19 pandemic[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102530.
- [41] Broadbent D, Goates M C, Frost M, et al. In their own words: perspectives on collection weeding from library employees and teaching faculty[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102563.
- [42] Bangani S, Dube L. Birds of a feather: partnerships towards community engagement in South African academic libraries[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102598.
- [43] Thorpe C, Gunton L. Assessing the United Nation's Sustainable Development Goals in academic libraries[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 208-215.
- [44] Loach K, Rowley J. Cultural sustainability: a perspective from independent libraries in the United Kingdom and the United States[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 80-94.
- [45] Kine K, Davidsons A. Latvian public libraries as a resource, cooperation partner and initiator for promoting media literacy and civic participation in local communities[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 640-651.
- [46] Potnis D, Gala B. "Unified mobile, financial, and information literacy toolkit" : a social innovation for public libraries to alleviate poverty in developing countries[J]. *The Library Quarterly*, 2022, 92(1): 68-86.
- [47] Suzuki I, Koizumi M. Taxes for public libraries: arguments about library district management from the perspective of residents[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 482-493.
- [48] Wheeler M B, Muwanguzi S. Mapping intersections of politics and information in twenty-first-century cyberculture[J]. *The Library Quarterly*, 2022, 92(1): 24-38.
- [49] McDowell K, Cooke N A. Social justice storytelling: a pedagogi-

cal imperative[J]. *The Library Quarterly*, 2022, 92(4): 355-378. [50] Kingsley D, Kennan M A, Richardson J. Scholarly communication competencies: an analysis of confidence among Australasian library staff[J]. *College & Research Libraries*, 2022, 83(6): 966-993. [51] Pilerot O. Monitoring, browsing and being aware—keeping abreast and staying updated with professional information in Swedish regional libraries[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 692-702. [52] Becksford L. Teacher, librarian, or both? a quantitative investigation of instruction librarians’ teacher identity[J]. *College & Research Libraries*, 2022, 83(3): 372-392. [53] Khan A. Towards developing library and information science practicum supervision competency framework[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 163-173. [54] Soltani-Nejad N, Jahanshahi M, Karim Saberi M, et al. The relationship between social responsibility and public libraries accountability: the mediating role of professional ethics and conscientiousness[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 306-324. [55] Fuhr J. Developing data services skills in academic libraries[J]. *College & Research Libraries*, 2022, 83(3). [56] Premji Z, Splenda R, Young S. An exploration of business librarian participation in knowledge synthesis reviews[J]. *College & Research Libraries*, 2022, 83(2): 314-336. [57] Plassche K A. Evaluating map and geospatial academic library position descriptions[J]. *College & Research Libraries*, 2022, 83(4): 631-645. [58] Hu Y, Ocepek M G, Downie J S, et al. Listen to librarians: highlighted core competencies for librarianship from the perspectives of working librarians[J]. *College & Research Libraries*, 2022, 83(6): 994-1013. [59] Clarke R I, Stanton K L, Grimm A, et al. Invisible labor, invisible value: unpacking traditional assessment of academic library value[J]. *College & Research Libraries*, 2022, 83(6): 926-945. [60] Kim Y, Yang E. Academic library spaces and student activities during the COVID-19 pandemic[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102529. [61] Chisita C T, Chiparausha B, Tsabetse V, et al. Remaking academic library services in Zimbabwe in the wake of COVID-19 pandemic[J]. *The Journal of Academic Librarianship*, 2022, 48(3): 102521. [62] Tsang A L Y, Chiu D K W. Effectiveness of virtual reference services in academic libraries: a qualitative study based on the 5e learning model[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102533. [63] Hussong-Christian U, Williams B F, Jones R R. Impact of table sizes on consultation services use in an undergrad research and writing studio[J]. *The Journal of Academic Librarianship*, 2022, 48(5): 102565. [64] Ornstein E, Reid P H. ‘Talk to them like they’ re people’: a cross-cultural comparison of teen-centred approaches in public library services[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 451-468. [65] Lenstra N, Oguz F, D’ Arpa C, et al. Exercising at the Library: small and rural public libraries in the lives of older adults[J]. *The Library Quarterly*, 2022, 92(1): 5-23. [66] Berget G. The use and promotion of adapted books in Norwegian public libraries[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 108-120. [67] Adams C, Krtalić M. I feel at home: perspectives of homeless library customers on public library services and social inclusion[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 779-790. [68] Kitzie V, Floegel D, Barriage S, et al. How visibility, hypervisibility, and invisibility shape

library staff and drag performer perceptions of and experiences with drag story-times in public libraries[J]. *The Library Quarterly*, 2022, 92(3). [69] Garner J. Fifty years of prison library scholarly publishing: a literature analysis[J]. *The Library Quarterly*, 2022, 92(3): 241-258. [70] Mishra S, Chaudhuri M, Dey A K, et al. Prison libraries serving the ‘whole person’ : a qualitative study[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 284-293. [71] Su S F. Exploring students’ attitudes toward university e-textbooks: experiences, expectations, and preferences[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 331-349. [72] Bashir S, Gul S, Bashir S, et al. Evolution of institutional repositories: managing institutional research output to remove the gap of academic elitism[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 518-531. [73] Nitsos I, Malliari A, Chamouroudi R. Use of reference management software among postgraduate students in Greece[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 95-107. [74] McBurney J, Kubas A. Limitations to success in academic data reference support[J]. *Journal of Librarianship and Information Science*, 2022, 54(1): 121-131. [75] Lawrence E E. What’ s so special about appeal? drawing the aesthetic/nonaesthetic distinction in readers’ advisory[J]. *The Library Quarterly*, 2022, 92(4): 405-418. [76] Dalmer N, Griffin M. “Still open and here for you” : news media’ s framing of canadian public libraries during COVID-19[J]. *The Library Quarterly*, 2022, 92(2): 129-150. [77] Vaidya P, Malik B A, Ali P M N. Unveiling the research pattern and trends in library service quality studies: a meta-narrative review[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 719-736. [78] McKenzie P J, Davies E. Documenting multiple temporalities[J]. *Journal of Documentation*, 2022, 78(1): 38. [79] Haider J, Sundin O. Information literacy as a site for anticipation: temporal tactics for infrastructural meaning-making and algo-rhythm awareness[J]. *Journal of Documentation*, 2022, 78(1): 129-143. [80] Johansson V, Stenlund J. Making time/breaking time: critical literacy and politics of time in data visualisation[J]. *Journal of Documentation*, 2022, 78(1): 60-82. [81] Rothbauer P M, Serantes L C. Reading time: exploring the temporal experiences of reading[J]. *Journal of Documentation*, 2022, 78(1): 113-128. [82] Day R E. Trauma, time and information[J]. *Journal of Documentation*, 2022, 78(1): 144-153. [83] Savolainen R. Infotainment as a hybrid of information and entertainment: a conceptual analysis[J]. *Journal of Documentation*, 2022, 78(4): 953-970. [84] Zimmerman T. Social noise: the influence of observers on social media information behavior[J]. *Journal of Documentation*, 2022, 78(6): 1228-1248. [85] Smith A O, Hemsley J. Memetics as informational difference: offering an information-centric conception of memes[J]. *Journal of Documentation*, 2022, 78(5): 1149-1163. [86] Boyd C. Data as assemblage[J]. *Journal of Documentation*, 2022. [87] Yu L Z, Liu Y. Information experience as an object of LIS research: a definition based on concept analysis[J]. *Journal of Documentation*, 2022, 78(6): 1487-1508. [88] Graminius C. Fast-food information, information quality and information gap: a temporal exploration of the notion of information in science communication on climate change[J]. *Journal of Documentation*, 2022, 78(7): 89-105. [89] Gorichanaz T, Venkatagiri S. The expanding circles of information behavior and human-computer interac-

tion[J]. *Journal of librarianship and information science*, 2022, 54(3): 389-403. [90] Lüscho A. Application of graph theory in the library domain-building a faceted framework based on a literature review[J]. *Journal of Librarianship and Information Science*, 2022, 54(4): 558-577. [91] Crist E A, Clark/Keefe K. A critical phenomenology of whiteness in academic libraries[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102557. [92] O' Hara I. automated epistemology: bots, computational propaganda & information literacy instruction[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102540. [93] Buschman J. COVID-19 doesn' t change anything: neoliberalism, generation-ism, academic library buildings, and lazy rivers[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102558. [94] Ashiq M, Jabeen F, Mahmood, K. Transformation of libraries during Covid-19 pandemic: a systematic review[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102534. [95] Getgen C. Cultural humility in the LIS profession[J]. *The Journal of Academic Librarianship*, 2022, 48(4). [96] Paschke-Wood J, Gallaspy A F. Great expectations: adapting a research agenda to changing scholarship requirements[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102527. [97] Kimball R, Halling D, Neville B, et al. Motivations and barriers in the adoption of OERs: the role of subject librarians[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102542. [98] Charbonneau D H, Vardell E. Health sciences librarian research and instruction services in pandemic information environments[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102553. [99] Bright K M, Colón-Aguirre M. Prepare to be unprepared? LIS curriculum and academic liaison preparation[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102602. [100] Buljung B, Nickum L, Andersen P, et al. Rapidly going virtual without sacrificing quality: adapting instruction for an engineering design course[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102509. [101] Pho A, Abumeeiz S, Bisbee K V, et al. You only get one shot: critically exploring and reimagining the one-shot instruction model[J]. *College & Research Libraries*, 2022, 83(5): 726-738. [102] Douglas V A, Gadsby J. The power of presence: one-shots, relational teaching, and instruction librarianship[J]. *College & Research Libraries*, 2022, 83(5): 807-818. [103] Bastone Z, Clement K. Serving everyone or serving no one? examining the faux-equity of the one-shot[J]. *College & Research Libraries*, 2022, 83(5): 780-794. [104] Cook D B. Is the library one-shot effective? a meta-analytic study[J]. *College & Research Libraries*, 2022, 83(5): 739-750. [105] Leung S. The futility of information literacy & edi: toward what?[J]. *College & Research Libraries*, 2022, 83(5): 751-764. [106] Nicholson K P, Seale M. Information literacy, diversity, and one-shot "pedagogies of the practical" [J]. *College & Research Libraries*, 2022, 83(5): 765-779. [107] Ding Y. Feminized flexibility, one-shot, and library professionalism: oxymoron or opportunity?[J]. *College & Research Libraries*, 2022, 83(5): 795-806. [108] Nataraj L , Siqueiros A I. "Slow your roll" : making time for reflection and diverse epistemic practices in library instruction[J]. *College & Research Libraries*, 2022, 83(5): 819-832. [109] Rath L. Factors that influence librarian definitions of information literacy[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102597. [110] Saunders L. Faculty perspectives on mis-and disinformation across disciplines[J]. *College & Research Libraries*, 2022, 83(2):

221-245. [111] Goodsett M, Schmillen H. Fostering critical thinking in first-year students through information literacy instruction[J]. *College & Research Libraries*, 2022, 83(1): 91-110. [112] Hicks A, Lloyd A. Relegating expertise: the outward and inward positioning of librarians in information literacy education[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 415-426. [113] Warschaw O. Information literacy for fashion students: translating visual and tactile cues into searchable key terms[J]. *Library Trends*, 2022, 70(1): 3-11. [114] Pickard E F, Sterling S L. Information literacy instruction in asynchronous online courses: which approaches work best?[J]. *College & Research Libraries*, 2022, 83(2): 184-220. [115] Wegener D R. Information literacy: making asynchronous learning more effective with best practices that include humor[J]. *The Journal of Academic Librarianship*, 2022, 48(1): 102482. [116] Ford-Baxter T, Faulkner K, Masunaga J. Situating information literacy: a case study exploring faculty knowledge of national disciplinary standards and local program learning outcomes[J]. *The Journal of Academic Librarianship*, 2022, 48(3). [117] Pinto M. From competencies to threshold concepts through the information literate university. a faculty's perspective[J]. *The Journal of Academic Librarianship*, 2022, 48(3): 102519. [118] Gross M, Julien H, Latham D. Librarian views of the ACRL framework and the impact of covid-19 on information literacy instruction in community colleges[J]. *Library & Information Science Research*, 2022, 44(2): 101151. [119] Svensson T, Wilk J, Aman K G. Information literacy skills and learning gaps-students' experiences and teachers' perceptions in interdisciplinary environmental science[J]. *The Journal of Academic Librarianship*, 2022, 48(1). [120] Shonfeld M, Aharony N, Nadel-Kritz N. Teachers' perceived information literacy self-efficacy[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 494-507. [121] Latham D, Gross M, Julien H, et al. Community college students' perceptions of their information literacy needs[J]. *College & Research Libraries*, 2022, 83(4): 593-609. [122] Witherspoon R, Taber P, Goudreau A. science students' information literacy needs: a survey of science faculty on what and when each skill is needed[J]. *College & Research Libraries*, 2022, 83(2): 296-313. [123] Valenza J K, Dalal H, Mohamad G, et al. "First years' information literacy backpacks: What's already packed or not packed?" [J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102566. [124] Rieh S Y, Bradley D R, Genova G, et al. Assessing college students' information literacy competencies using a librarian role-playing method[J]. *Library & Information Science Research*, 2022, 44(1): 101143. [125] Nguyen L A T, Habók A. Digital literacy of efl students: an empirical study in vietnamese universities[J]. *Libri*, 2022, 72(1): 53-66. [126] Naveed M A, Mahmood M. Correlatives of business students' perceived information literacy self-efficacy in the digital information environment[J]. *Journal of Librarianship and Information Science*, 2022, 54(2): 294-305. [127] Park H. The interdisciplinarity of research data: how widely is shared research data reused in the STEM fields?[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102535. [128] Singh R K, Bharti S, Madalli D P. Evaluation of research data management (RDM) services in academic libraries of India: a triangulation approach[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102586. [129] Heo M, Toomey N, Song J-S. What comprises social intelligence and can it pre-

dict knowledge sharing among diverse information professionals?[J]. *Library & Information Science Research*, 2022, 44(1): 101137. [130] Reis M A F, Favretto J, Favretto N M, et al. Knowledge management in the classroom using Mendeley technology[J]. *The Journal of Academic Librarianship*, 2022, 48(4): 102486. [131] Ahmed B, Noor N H N B M, Ahmed M. Factors influencing knowledge sharing practices among librarians in the Malaysian academic libraries[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102612. [132] Herr M. Abusive copyright litigation, proposed solutions, and the implications for Creative Commons licenses[J]. *The Journal of Academic Librarianship*, 2022, 48(1): 102475. [133] Harviainen J T, Melkko R. Organizational information creation through a design game: a sensemaking perspective[J]. *Library & Information Science Research*, 2022, 44(3): 101172. [134] Khabar J, Oliver G. Creating information and records for development work: working through the lens of information and records continuum models[J]. *Library & Information Science Research*, 2022, 44(3): 101174. [135] Huvila I, Börjesson L, Sköld O. Archaeological information-making activities according to field reports[J]. *Library & Information Science Research*, 2022, 44(3): 101171. [136] Pispiringas L, Dervos D A, Evangelidis G. Citation based journal-to-journal associations in the microcosm of an academic libraries consortium[J]. *The Journal of Academic Librarianship*, 2022, 48(1): 102463. [137] Boczar J, Schmidt L. Analyzing faculty open access publishing: a citation analysis of select colleges at the university of south florida[J]. *The Journal of Academic Librarianship*, 2022, 48(2): 102493. [138] Chen M, Wang L. An altmetrics and citation analysis of selected predatory journals in library and information science field[J]. *The Journal of Academic Librarianship*, 2022, 48(6): 102618. [139] Sheikh A, Zahra A Q, Richardson J. Scholarly open access journals in medicine: a bibliometric study of DOAJ[J]. *The Journal of Academic Librarianship*, 2022, 48(3): 102516. [140] McKinnon D, Turp C. Are library vendors doing enough to protect users? a content analysis of major ILS privacy policies[J]. *The Journal of Academic Librarianship*, 2022, 48(2): 102505. [141] Järvelin K, Vakkari P. LIS research across 50 years: content analysis of journal articles[J]. *Journal of Documentation*, 2022, 78(7): 65-88. [142] Reitz J M. ODLIS: Online Dictionary for Library and Information Science[K/OL]. [2022-5-9]. https://en.wikipedia.org/wiki/Information_{{ethics}}#cite_{{note}}-1. [143] Walters W H. The citation impact of the open access accounting journals that appear on Beall' s List of potentially predatory publishers and journals[J]. *The Journal of Academic Librarianship*, 2022, 48(1): 102484. [144] Teixeira da Silva J A, Kimotho S G. Signs of divisiveness, discrimination and stigmatization caused by Jeffrey Beall' s "predatory" open access publishing blacklists and philosophy[J]. *The Journal of Academic Librarianship*, 2022, 48(3): 102418. [145] Teixeira da Silva J A, Kimotho S G. Corrigendum to 'Signs of divisiveness, discrimination and stigmatization caused by Jeffrey Beall' s "predatory" open access publishing blacklists and philosophy' [J]. *The Journal of Academic Librarianship*, 2022, 48(3): 102500. [146] Teixeira da Silva J A, Moradzadeh M, Adjei K O K, et al. An integrated paradigm shift to deal with 'predatory publishing' [J]. *The Journal of Academic Librarianship*, 2022, 48(1): 102481. [147] Ciro J B. How are academic libraries in Spanish-speaking Latin America responding to

new models of scholarly communication and predatory publishing?[J]. *Journal of Librarianship and Information Science*, 2022, 54(3): 373-388. [148] Joo S, Hootman J, Katsurai M. Exploring the digital humanities research agenda: a text mining approach[J]. *Journal of Documentation*, 2022, 78(4): 853-870. [149] Gao J, Nyhan J, Duke-Williams O, et al. Gender influences in Digital Humanities co-authorship networks[J]. *Journal of Documentation*, 2022, 78(7): 327-350. [150] Ke Ping, Liu Qianwen, Liu Peiwang, et al. Analysis of Hotspots and Frontiers in Foreign Library Science Research in 2021[J]. *Journal of Literature and Data Science*, 2022, 4(2): 3-23.

(Edited by Kong Qingqing)

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

Source: ChinaXiv –Machine translation. Verify with original.