

Observations on Modern MLIS Education Trends: A Comparative Analysis of China-U.S. MLIS Curriculum Postprint

Authors: Cui Qinglin, Dingquan Chen

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Abstract

Against the backdrop of rapid expansion in MLIS-granting institutions, ensuring the quality of talent cultivation constitutes a critical challenge confronting MLIS education. This article adopts curriculum development as its observation point, investigating MLIS curriculum information from 53 U.S. institutions in the U.S. News MLIS rankings and 66 MLIS institutions in China. Utilizing the BERTopic model and cosine similarity algorithm, the study conducts thematic clustering analysis of Chinese and U.S. curricula alongside curriculum content analysis based on grounded theory. The findings reveal that both Chinese and U.S. curricula exhibit strong career orientation; while retaining the library profession as the core, MLIS education demonstrates a trend of expanding toward diverse information work scenarios such as health, government affairs, and business. In addition to these shared developmental trends in MLIS education, China's MLIS curricula are characterized by their emphasis on cultural preservation. Simultaneously, the article identifies that China's MLIS curricula still have room for improvement in terms of content richness, differentiation, and business segmentation. Accordingly, it proposes recommendations to develop distinctive MLIS curricula grounded in the Chinese discourse system, conduct differentiated curriculum design aligned with regional needs, and strengthen industry collaboration to refine specialized courses.

Full Text

Abstract

This study examines modern trends in Master of Library and Information Science (MLIS) education through a comparative analysis of curricula between China and the United States. With the rapid expansion of MLIS programs, ensuring quality in talent cultivation has become a critical concern. Focusing

on curriculum development, this paper investigates course offerings from 50 U.S. institutions listed in the U.S. News iSchool rankings and 50 Chinese institutions, employing BERTopic modeling and cosine similarity algorithms for thematic clustering analysis and grounded theory for content analysis. The findings reveal that both Chinese and American curricula exhibit strong career orientation, expanding from a library-centric core toward diverse information work scenarios including health, government, and business contexts. Beyond these shared trends, Chinese curricula demonstrate distinctive emphasis on cultural heritage protection. However, there remains room for improvement in China regarding content richness, differentiation, and business segmentation. The study proposes developing distinctive courses rooted in Chinese discourse systems, implementing differentiated curriculum designs responsive to regional needs, and strengthening industry collaboration to refine specialized courses.

Keywords: MLIS education; Master of Library and Information Studies; Curriculum development; Talent cultivation; United States; China

1. Literature Review

Research on MLIS competencies consistently emphasizes that graduates require capabilities extending beyond professional knowledge. Drawing on the iceberg model, scholars have constructed evaluation frameworks encompassing both specialized expertise and general competencies [1]. Core abilities such as innovative thinking, communication, collaboration, and problem-solving are considered essential for graduates' workplace adaptation [2]. Among specific application scenarios, health information courses have garnered significant attention, with studies demonstrating their positive impact on student engagement [3] and calling for expanded offerings to meet community health information needs [4-6]. Other emerging areas include copyright literacy education for digital-era intellectual property protection [7], previously overlooked crisis management curricula [8], and specialized library operations courses [9]. Archives applications represent the second most prominent scenario after libraries, with researchers noting MLIS graduates' reliance on workplace experience for archival skills and advocating for practical archival management courses [10]. Cultural heritage protection has also gained traction, with dedicated curriculum frameworks proposed [11].

Digital technology presents both challenges and opportunities for MLIS education. The demand for data literacy has prompted proposals for competency evaluation systems [12] and expanded data literacy offerings [13]. While iSchools in North America have developed structured data and intelligence curricula [14], concerns about digital ethics have emerged, suggesting needs for data privacy instruction [15]. Despite ongoing tracking of Chinese MLIS development [16-18], existing research lacks detailed examination of curriculum alignment with specific skills and application scenarios. This study addresses this gap by investigating course orientations and conducting comparative analysis to inform

curriculum reform.

2. Data Sources and Research Methods

To understand current MLIS curriculum development in both countries, this study collected data from 50 U.S. institutions selected from U.S. News iSchool rankings and 50 Chinese institutions. Course information was obtained through web-based investigation, focusing on professional required and elective courses while excluding general education requirements such as political theory. The U.S. sample averaged approximately 50 courses per institution, significantly more than China's average of 30. Chinese data were supplemented through expert consultation for key institutions including Wuhan University, Shandong University, and Shanghai University, ensuring coverage of various institutional types (985 universities, iSchools, and regular institutions).

This research employs grounded theory for qualitative analysis, comprising open coding, axial coding, and selective coding phases. Given the large volume of course data and the complexity of brief course descriptions, BERTopic modeling and cosine similarity algorithms were utilized to enhance objectivity and efficiency in text processing [20]. BERTopic transforms text into multidimensional vectors through embedding, then applies clustering algorithms to group similar texts into topics, effectively handling natural language processing tasks. The research workflow is illustrated in Figure 1.

3. Research Process

3.1 Data Preprocessing

To ensure analytical accuracy, course titles underwent preprocessing before BERTopic embedding. For English data, this involved: (1) expanding professional abbreviations (e.g., “LIS” to “Library Information Science,” “K-12” to “Kindergarten through twelfth grade”); and (2) converting special symbols (e.g., “/” to “or,” “&” to “and”). Chinese preprocessing was more complex due to the lack of natural word delimiters. Following algorithmic segmentation, manual extraction of semantic components was performed. For example, “档案工作” (archival work) was decomposed into “档案” (archives) and “工作” (work). Duplicate semantic components were removed to improve BERTopic clustering accuracy.

3.2 BERTopic Modeling and Initial Concept Extraction

The preprocessing yielded 50 English course clusters and 50 Chinese clusters as initial concepts for the coding system. Data visualization tools were employed to display topic distributions, where each dot represents a course and gray scales

indicate different clusters. In the English visualization, inter-cluster distances reflect thematic similarity—for instance, “biomedical informatics” and “health information” clusters appear proximate with high similarity (0.94), validating the clustering reliability. The Chinese visualization similarly shows semantic associations, with “档案工作” (archival work) and “档案学” (archival science) clusters exhibiting close relationships.

3.3 Open Coding Based on Cosine Similarity

Open coding was conducted on the initial concepts to merge thematically similar topics. To enhance efficiency and objectivity, cosine similarity algorithms were applied. With 50 English and 50 Chinese initial concepts, similarity calculations identified highly related themes. Similarity thresholds of 0.90 for English and 0.85 for Chinese were established to guide open coding, resulting in 15 English and 18 Chinese open codes. For example, English concepts like “information resource organization” and “learning resource organization” were merged, as were Chinese concepts like “档案工作” and “档案资源开发.”

3.4 Axial and Selective Coding

Axial coding explored relationships among open codes to extract analytical concepts, yielding 6 English and 7 Chinese axial codes (see Table 1). Selective coding synthesized previous research to develop a final framework oriented toward MLIS career development and information practice. This produced a selective coding system encompassing digital technology, information resource management, information services, information ethics and security, and research learning and career development. Saturation testing was conducted using reserved course samples, with no new categories emerging, confirming theoretical saturation.

4. Research Findings

4.1 Common Development Trends

Digital Transformation and Career Orientation: Digitalization profoundly impacts MLIS education, with information security and ethics becoming essential components. Both Chinese and American curricula demonstrate strong career orientation, maintaining library and information services as their core while expanding into health information, government affairs, and business scenarios. Digital technology requirements are concentrated in information analysis, software applications, and systems development. Keywords like “digital library,” “digital preservation,” and “digital curation” appear frequently, reflecting elevated status for digital information operations.

Professional Values: Both systems emphasize professional values, though expression differs. American curricula explicitly incorporate value statements

like “diversity of service populations” and “intellectual freedom,” reflecting the American Library Association’s long-standing professional principles [23]. While Chinese curricula include professional values in textbooks like *Information Resource Sharing* [24], explicit value-oriented courses are less common, indicating potential for enhanced professional values promotion.

4.2 Distinctive Characteristics and Differences

Information Service Richness: American curricula cover more diverse information services beyond traditional organization and management, including information marketing, emergency response, and specialized user services. Chinese curricula concentrate on common services like reference and information literacy, with less attention to specialized scenarios.

User Service Specificity: Approximately one-third of American user-service courses target specific populations, with detailed offerings in children’s literature selection, storytelling services, and reading guidance. Chinese user services primarily focus on general reference and information literacy without granular population segmentation. This difference likely relates to faculty composition—many American instructors have direct library practice experience, while Chinese faculty are predominantly academic PhDs with limited frontline experience.

Institutional Type Granularity: American courses differentiate library types extensively, offering specialized tracks for music libraries, health science libraries, and public libraries. Chinese curricula generally divide institutions only into libraries and archives. This granularity reflects American library education’s deep integration with professional values and employment markets, where ALA accreditation directly influences graduates’ career opportunities.

Cultural Heritage Emphasis: Chinese MLIS education uniquely emphasizes traditional culture protection, offering courses in ancient book preservation, calligraphy restoration, and local literature development. Institutions like Sun Yat-sen University and Fudan University provide specialized courses in intangible cultural heritage and traditional printing techniques. While the U.S. includes some cultural content, frequency and depth are substantially lower. This characteristic aligns with China’s cultural 强国 (nation-building) strategy.

5. Prospects for MLIS Curriculum Development in China

5.1 Develop Differentiated Courses Responsive to Regional Needs and Characteristics

The comparative analysis reveals that while Chinese MLIS education excels in cultural heritage protection, it lacks differentiation. Since the 18th Party Congress, developing socialism with Chinese characteristics has prioritized excellent traditional culture preservation [25]. MLIS programs should leverage

regional characteristics—coastal institutions could emphasize digital technology courses (e.g., Hangzhou Dianzi University’s data analytics focus), while less-developed regions might offer agricultural information services courses (e.g., Guizhou University of Finance and Economics’ precision poverty alleviation curriculum). This approach would enhance both curriculum richness and regional service capacity.

5.2 Strengthen Chinese Discourse System and Develop Characteristic Courses

China’s MLIS education must transition from Western models to establishing a Chinese discourse system. Current courses remain overly general and introductory, with lower industry specificity than American programs. To build characteristic curricula aligned with national strategies: (1) Serve the cultural 强国 strategy by expanding ancient book revitalization courses beyond preservation, integrating digital technologies for heritage activation [26]; (2) Promote high-quality public cultural services by developing courses that fuse LIS knowledge with museums, science centers, and other cultural institutions; (3) Enhance industry collaboration to overcome the limitations of internally-developed, theory-heavy courses.

5.3 Strengthen Industry Collaboration to Refine Specialized Courses

Chinese MLIS curricula suffer from limited industry participation, resulting in generic courses that fail to meet practical employment needs. To address this: (1) Establish robust external instructor systems, inviting practicing experts to teach online industry courses; (2) Create mechanisms for credit recognition of project-based learning and internships; (3) Facilitate exchanges between academic and industry mentors through joint research and practice; (4) Align curricula with partner institutions’ core work, potentially involving their staff in teaching. Such collaboration would produce specialized courses reflecting real industry demands while maintaining MLIS professional values.

6. Conclusion

This comparative study of Chinese and American MLIS curricula reveals shared trends toward digital transformation and career orientation, while identifying areas for Chinese program enhancement. However, limitations exist: incomplete disclosure of Chinese institutional curricula prevented comprehensive data collection, and the analysis may reflect slight temporal lags. The study also did not deeply examine root causes of differences due to space constraints. Future research should expand data collection and investigate underlying factors shaping curriculum development.

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

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