
AI translation · View original & related papers at
chinaxiv.org/items/chinaxiv-202304.00694

Online Education in Master of Library and Information Science Programs at US iSchools: A Survey of Current Status and Implications (Post-print)

Authors: Zhou Lihong, Quan Qian, Han Yingying

Date: 2023-04-01T00:00:00+00:00

Abstract

[Purpose/Significance] Through an analysis of the current status of online Master's education in Library Science at American iSchools institutions, this study summarizes the experiences of American online library science Master's education to provide reference for future research. [Method/Process] Based on the practical needs for reforming domestic library science teaching models and the broad prospects of online education, this study investigates the official websites of 20 American iSchools institutions, conducting a detailed analysis and summary of their online education models from aspects including credit systems and academic duration, number of courses, course categories, and core courses, thereby deriving implications for the construction and development of online library science education in China. [Results/Conclusion] The survey found that online Master's education in library science-related programs at American iSchools exhibits three characteristics: flexible and diverse course formats with multiple measures to ensure online teaching quality; a large number of online courses with wide coverage and a complete curriculum system; and online learning being basically the same as campus learning. Accordingly, combined with domestic realities, this study proposes that the construction of online library science education in China should pay attention to the development trends of international online education, reform traditional library science education models, adopt multiple teaching methods to improve the quality of online library science education, be oriented towards career development with a focus on personalized talent cultivation, and achieve a combination of the advantages of both traditional and online library science education.

Full Text

Investigation and Enlightenment on the Current Status of Online Education for Master of Library Science in American iSchools

Zhou Lihong¹, Quan Qian¹, Han Yingying² ¹School of Information Management, Wuhan University, Wuhan 430072 ²School of Information Sciences, University of Illinois at Urbana-Champaign, Champaign 61820

Abstract: [Purpose/Significance] By analyzing the current status of online education for Master's programs in library and information science at American iSchools, this study summarizes the experience of online education for library science in the United States to provide reference for subsequent research. [Method/Process] Based on the practical needs for reforming domestic library science teaching models and the broad prospects of online education, this paper investigates the official websites of 20 American iSchools, analyzing their online education models in detail from the perspectives of credit systems, course duration, course quantity, course categories, and core courses, and draws implications for the construction and development of online education for library science in China. [Result/Conclusion] The investigation reveals that online education for library science-related majors at American iSchools presents three characteristics: flexible and diverse course formats with multiple measures to ensure online teaching quality; large numbers of online courses with wide coverage and complete curriculum systems; and online learning being basically equivalent to campus learning. Accordingly, combined with domestic realities, this paper proposes that the construction of online education for library science in China should pay attention to international trends in online education development, reform traditional library science education models, adopt diverse teaching methods to improve online teaching quality, orient toward career development with emphasis on personalized talent cultivation, and achieve a combination of the advantages of both traditional and online library science education.

Keywords: iSchools; library science education; online education

In recent years, "Internet Plus" has transformed and influenced numerous industries. Just as the integration of the internet with the economy has brought tremendous changes to people's thinking and lifestyles, online education, as a product of the combination of modern information technology and education, may also trigger a profound transformation in the field of education and exert immeasurable influence on the development of human society. Online education has become a brand-new teaching method in higher education both domestically and internationally, playing an important guiding and supporting role. In August 2019, Premier Li Keqiang emphasized at the State Council's executive meeting the need to promote "Internet Plus Education" and encourage eligible entities to develop online education. In September 2019, 11 ministries including the Ministry of Education jointly issued the "Guiding Opinions on Promoting

the Healthy Development of Online Education,” stating that online education is a new type of education that uses the internet, artificial intelligence, and other modern information technologies for teaching and learning interaction, and constitutes an important component of educational services. Developing online education is conducive to building a networked, digital, personalized, and life-long education system, and to constructing a learning society where “everyone can learn, everywhere can learn, and anytime can learn.” In July 2020, 13 departments including the National Development and Reform Commission, the Central Cyberspace Affairs Commission, and the Ministry of Industry and Information Technology jointly released the “Opinions on Supporting the Healthy Development of New Business Forms and Models to Activate Consumer Markets and Expand Employment,” proposing support for 15 new business forms and models, with online education placed first among the key supported industries. Since the outbreak of the pandemic in 2020, China has conducted an unprecedented large-scale online education experiment, which has played a crucial role in ensuring “suspended classes but not suspended learning” during the epidemic period, holding revolutionary significance for China’s future use of information technology to promote reforms in education and teaching methods.

In 2004, 19 LIS schools and related colleges in North America jointly created the iSchool project, dedicated to promoting research and practice centered on the relationship among information, technology, and people. In September 2005, the iSchools Alliance was formally established. Over the past decade, the scale and influence of the iSchools movement have continuously expanded, with increasing alliance members. As of June 2020, the number of universities joining the iSchools Alliance had reached 114, among which 47 are American institutions, accounting for 41.2% of global iSchools Alliance members. Since the 21st century, as a powerful information technology nation, the United States has gradually integrated its strong IT capabilities into the traditional education industry, using information technology to break the temporal and spatial barriers of teaching and learning. Coupled with the popularization of lifelong learning concepts in American society and the long-term strategic development needs of American universities, convenient and flexible online education has developed rapidly. By fall 2018, 31% of graduate students in American higher education were studying entirely online, and 9% were partially online, with both categories showing year-over-year growth. In March 2020, the fourth “Comprehensive Report on the Development of Online Education in the United States” jointly released by Quality Matters (QM) and EduVentures Research showed that online education has become both ordinary and important in many universities, with fully online programs becoming the mainstream of graduate education. In terms of library science online education, as many as 42 institutions certified by the American Library Association offer 100% online “master’s program in library and information studies.” Currently, no Chinese universities have launched online education programs in library science, and theoretical research in this area is also rarely involved. Although some scholars have studied online education platforms and programs in foreign iSchools, there remains a lack of analysis on

curriculum construction and teaching methods for library science online education abroad, as well as a lack of summarization of foreign library science online education models.

Under the premise of rapid development of modern information technology, supported by national policies, and with the online education experiments conducted since the pandemic, online-offline blended teaching will become the normalized model for university teaching, and library science online education will inevitably become a new model for future library science education in China. Chinese LIS education institutions should seize this opportunity, actively seek change, and explore new methods and models for online education to further promote the transformation of professional talent cultivation. Developing online education for library science will help expand the influence of library science education, broaden the pathways for cultivating library science professionals, and cultivate more high-quality library science talents for socialist construction. However, how Chinese library science can seek the construction and development of online education, and how to promote innovation and transformation in library science education and teaching methods will be issues that require attention and emphasis in China's library science community. American iSchools have already formed relatively mature online education models; therefore, exploring the current status of online education for library science at American iSchools will provide theoretical and practical references for the development of online education for library science in China. This paper investigates 20 American iSchools to summarize the development trends of online education for library science at American iSchools, systematically analyzes the credit systems, curriculum settings, and training methods of online education at these institutions, and provides references for the construction and development of online education programs for library science in Chinese universities.

2. Data Sources and Processing

2.1 Sample Selection

This study selected the official websites of iSchools Alliance members as the source of investigation samples. As of June 2020, iSchools had 114 member institutions, of which 47 are American institutions, accounting for 41.2% of global iSchools Alliance members. This study focused on American iSchools, with sample selection criteria and procedures as follows: (1) considering website accessibility, institutions with system problems preventing webpage information access or requiring identity registration and authentication were excluded; (2) considering whether library science or library and information science courses were offered, purely technical institutions were excluded; (3) considering whether online courses were offered, institutions without online offerings were excluded; (4) considering whether content was complete and comprehensive, institutions with insufficient information and no specific courses were excluded. Ultimately, 20 American iSchools were identified as survey samples (see). These 20 iSchools all have accessible English websites, had already launched library science-related

online education before the pandemic, and feature rich content, comprehensive information, and complete online course content and training plans.

2.2 Data Collection Method

This study employed website investigation methods, visiting the official websites of the 20 American iSchools one by one. Starting from the Programs or Academics sections on the homepage, we obtained specific information about each institution's library science online education, including target audience, credit system, course duration, course quantity, course categories, and core courses. The survey data were imported into Excel, with investigation indicators continuously adjusted, optimized, and improved during the process, followed by classification, statistical analysis, and comparative analysis of program content.

3. Survey Data Statistical Analysis

3.1 Overview of Online Education Programs

This paper conducted statistics according to the following five investigation indicators: program level, program name, educational system, credits, and education category, as shown in . Although the indicators cannot fully present the complete picture, the survey results roughly reflect the overall situation.

From the statistical table of online education program offerings in library science-related majors at the 20 iSchools, it can be seen that none of the surveyed institutions offered online education for library science-related majors at the undergraduate level; all offered online education at the master's level. Nine institutions' online program names are "Master of Library and Information Science" (MLIS), and three institutions' programs are library science concentrations under the MLIS plan. All 20 institutions provide online degree education, with some offering Master of Arts degrees (such as the University of South Florida) and others offering Master of Science degrees (such as the University of North Texas and the University of Illinois at Urbana-Champaign). The survey found that all 20 American iSchools provide both online and campus learning options, allowing students to choose freely according to their actual circumstances.

3.1.1 Credit Requirements Regarding credit requirements, American universities have two types of credits: Semester credits and Quarter credits. Semester credits apply to schools with two 16-week semesters (fall and spring), while Quarter credits apply to schools operating on a quarter system with four equal semesters. Generally, one Semester credit equals 2/3 Quarter credit. The survey found that after admission, students must complete corresponding course credits online, with 13 institutions requiring 36 credits. In addition to course credits, graduation requirements also include capstone projects, independent research, and internships. For example, the University of Maryland requires students to complete either a 3-credit field study or a 9-credit thesis after finishing required courses, allowing students to choose freely according to

their interests and career goals. The University of Missouri requires students to intern at either an information institution or a school library, while the University of Wisconsin-Madison requires all students to complete a 3-credit, 120-hour internship course. Syracuse University requires students to complete a 3-credit, 150-hour fieldwork (or virtual work), and the University at Buffalo, SUNY, requires students to complete two 3-credit, 20-day practical training sessions under the guidance of library experts and LIS faculty.

3.1.2 Educational System The duration of online master' s programs is generally 2-3 years, but most institutions have maximum time limits. For example, the University of Missouri requires graduation within 8 years; San Jose State University requires the MLIS to be completed within 7 years, after which the master' s degree cannot be obtained, though students can earn the MLIS in as few as 4 semesters, with courses generally offered during fall, spring, and summer sessions. Some schools limit the number of credits per semester. For instance, Wayne State University, considering course workload and difficulty, does not recommend completing all credits within one year, with a maximum of 9 credits per semester, requiring students to finish in 4 semesters. Simmons University strongly advises new students not to exceed a certain number of courses in their first semester.

3.2 Course Offerings

3.2.1 Overview Through web-based investigation, this study obtained course information for online programs at 20 universities, conducting statistical analysis from the perspectives of required course quantity, total courses offered, required core courses, and required electives to examine each institution' s course offerings and student completion requirements. Specific course quantities are shown in . In terms of courses offered, the University of Washington and the University at Buffalo, SUNY, offer the most with 74 courses each, while the University of Missouri offers the fewest with 12 courses. Other institutions offer between 16 and 67 courses, with 12 universities offering more than 30 courses. Regarding required courses, the University of Washington requires the most with 18 courses, while Rutgers University requires the fewest with 11 courses, and 15 universities require 12 courses. In terms of curriculum structure, all 20 schools provide both required and elective courses, indicating that schools offer comprehensive curriculum systems that emphasize core competency development while providing ample choices for students' personal development and career interests through electives.

3.2.2 Course Categories To further clarify the curriculum structure, courses were classified according to their titles and syllabi. Based on existing classification standards and actual course conditions, this paper divides online education courses into six categories: information management foundational theory, library science theory and methods, related disciplinary foundations, technology, research methods, and independent study. Specific categories are described

as follows: (1) Information management foundational theory courses: including information resource management, information organization, information retrieval, information services, data management, knowledge management, etc.; (2) Library science theory and methods courses: including library science theory, library management, library history, library careers, etc.; (3) Related disciplinary foundation courses: including theories from informatics, archival science, and related disciplines, as well as interdisciplinary courses in economics, political science, sociology, museum studies, etc.; (4) Technology courses: computer technology, information systems, network technology, database technology, programming, etc.; (5) Research methods courses: including general research methods, quantitative research methods, qualitative research methods, and specialized research methods; (6) Independent study courses: including seminars, practical research projects, internships, capstone projects, theses, etc. Based on this classification, presents the statistical analysis of online course offerings at the 20 institutions. The 20 iSchools offer a total of 801 online courses. The data shows significant variation in the number of online courses offered by different institutions, with differences mainly reflected in the number of electives. Institutions with more courses typically extend electives across the entire field of library and information science. For example, Wayne State University's electives cover three main areas: library services, information management, and archives and digital content management, allowing students to choose freely, while institutions with fewer courses focus only on library science professional courses. Therefore, to accurately understand each school's online curriculum emphasis and make reasonable comparisons, one should not only look at course quantity but also examine the proportion of each category as a percentage of total courses, as shown in .

3.2.3 Core Courses Core curriculum reflects institutions' foundational requirements for library and information science expertise and directly influences students' knowledge structure. To understand the curriculum design of different schools' online programs, this study collected required courses (compulsory courses) or core courses (core courses), as shown in . The table shows that different schools' online programs share commonalities in the LIS field, with most offering courses such as information organization, information retrieval, knowledge organization, and foundations of libraries and information science. For instance, 13 universities offer core courses in information organization, and 11 offer core courses in information retrieval, reflecting the traditional characteristics of library science. However, due to different development directions of online programs, core courses also have unique features in addition to commonalities. Some institutions emphasize the combination of library science foundations and research methods in their core curriculum, such as the University of Wisconsin-Milwaukee, the University at Buffalo, SUNY, and the University of South Florida, all of which offer research methods courses. Others focus on combining library science foundations with information technology, such as Louisiana State University and the University of Missouri. Some institutions

highlight their key training directions in core curriculum design; for example, the University of Missouri offers school library management courses, Wayne State University offers school library media program courses, and Simmons University offers school library management fundamentals and children's library collections and materials. The core courses also reveal that many schools offer a course exploring the relationship between library science, information science, and society, such as the University of Illinois at Urbana-Champaign's "Libraries, Information, and Society" course and Louisiana State University's "Information and Society," aiming to help students view library science not only as a technical discipline but also recognize the social mission of LIS.

4. Analysis of Course Characteristics

4.1 Flexible Course Formats with Multiple Measures to Ensure Online Teaching Quality

Online learning and campus learning each have distinctive features and advantages. Both require students to be proactive, disciplined, self-directed, and possess good time management skills to complete various learning tasks such as coursework on schedule. Compared with campus learning, although online learning allows students to study without time and space constraints, with teaching content that can be permanently saved and reviewed multiple times until effective achievement of expected teaching objectives, it also has shortcomings such as insufficient interactivity and participation, and slower feedback. Although online education has the advantage of being unrestricted by time and space, allowing students to learn anytime and anywhere, it also suffers from insufficient interactivity and authenticity. S. Alec et al. believe that teachers face many challenges in the online education process, including large class sizes, academic dishonesty, lack of connection with students, excessive emails, and students' lack of self-discipline. C. Hart found that satisfaction with online learning, sense of belonging to the learning community, motivation, peer and family support, time management skills, and increased communication with instructors are important factors affecting the success of online teaching. Therefore, how to overcome these challenges posed by online learning is an issue that schools offering online courses need to consider. The investigation found that American iSchools offering library science online education have adopted corresponding characteristic practices to enhance interaction between teachers and students and among peers, as well as students' sense of participation in the classroom, enabling students to integrate well into and adapt to the online learning environment and improving online teaching quality. These practices mainly include adequate pre-class preparation; flexible and diverse learning formats, teaching methods, and curriculum design; and sufficient teacher-student interaction.

(1) Pre-class Preparation. Successful online learning first requires teachers and students to master necessary online learning skills and communication techniques. For example, teachers and students need to learn digital literacy and netiquette in network environments and master basic technical knowledge and

methods for efficient communication and interaction with others online. Many iSchools make adequate pre-class preparations before students participate in online learning, mainly including online teacher training, online learning skills testing and guidance, student orientation, and welcome sessions. For instance, the University of Wisconsin-Milwaukee not only made substantial investments in hardware and software for online learning but also provided guidance and training for online instructors on online teaching skills before the semester began. The University at Buffalo, SUNY, requires students intending to participate in online learning to take a simple test to verify their readiness for online learning and uses the SmarterMeasure test to help students understand how to become successful online students. The University of Wisconsin-Madison provides a 4-day on-campus orientation for newly admitted online students, including course introductions, utilization of library resources, and training on online learning skills and techniques. This face-to-face boot camp effectively enhances online students' enthusiasm for learning. The University of Washington holds a mandatory 3-day on-campus welcome meeting to introduce courses, establish connections with online peers, meet course instructors, participate in activities with current students, and learn about various support services for online learning, thereby helping students transition quickly into the online learning environment.

(2) Learning Formats. The investigation found that some schools combine online and campus learning in teaching activities, conducting online courses, web conferences, independent study, and online reading through online formats, while conducting expert reports, internships, and practical training through campus formats. Course learning formats can generally be divided into three types: campus learning, online learning, and blended campus-online learning, allowing students to choose freely according to their actual circumstances. For example, the University of Oklahoma's MLIS degree offers flexible options, including 100% online courses or a combination of online and campus courses. The University of Missouri's online asynchronous courses allow students to participate anytime and anywhere, while also offering online synchronous courses with real-time interaction at fixed times, and blended course models that combine face-to-face and online teaching. The University of Illinois at Urbana-Champaign offers both campus and online learning modes, with different delivery methods but the same high-quality education. The school requires both campus and online students to meet with faculty and peers on campus during orientation. Some schools also offer campus courses to online students. For example, Simmons University recommends that students adopt blended learning, combining online and campus courses to meet diverse learning needs. Online students at the University of Wisconsin-Madison can choose courses in their specific areas of study, though some courses are not available online and require campus attendance. Online students at the University of Washington can complete their degree entirely online or take campus courses. This combination of online and campus learning brings online students to campus, promoting interaction between teachers and students and among peers, creating a good

academic environment and campus atmosphere, and enhancing students' sense of school belonging and identity.

(3) Teaching Methods. The iSchools investigated in this paper employ diverse online teaching methods, combining synchronous and asynchronous delivery, multiple teaching methods in parallel, and theory-plus-practice formats, including seminars, independent study, literature reading, and internships. Through online seminars, lectures, and group discussions, students can exchange ideas and provide innovative perspectives. This diversity of online teaching methods encourages students to truly participate in course teaching, helping to improve graduate training quality and online education levels. The investigation found that all institutions can achieve 100% online learning for library science-related courses. For example, San Jose State University's MLIS online program can deliver all content online, including courses, internships, academic advising, faculty office hours, guest lectures, and conferences. In addition to achieving 100% online learning, each institution has formed its own characteristics in the process of offering library science online teaching, with varying requirements for online learning formats. For instance, San Jose State University's online master's program in library science does not require on-campus face-to-face activities; students can interact with classmates and faculty through web conferencing, social networking platforms, learning management systems, and other interactive environments. Most course content is provided asynchronously, allowing students to freely choose when and where to access courses, with a small number of courses requiring real-time interaction. Due to its asynchronous courses, Rutgers University offers flexible online course scheduling, requiring students to interact with classmates and faculty weekly without attending classes at specific times. The University of Illinois at Urbana-Champaign's online courses are student-centered and highly interactive, including real-time discussions, lectures with Q&A sessions, and problem-based learning groups, creating authentic and engaging online learning experiences through case studies and presentations by guests and students. The University of Wisconsin-Madison uses small class sizes to strengthen interaction between teachers and students and among peers, creating a good environment for building interpersonal relationships and allowing teachers adequate time to focus on student growth, while providing a platform for communication through friendly, collaborative, and vibrant learning communities. Syracuse University employs three methods to ensure online students' sense of participation and integration: online real-time courses, study groups, and continuous personal attention and support. M. Stephens, an assistant professor at San Jose State University's School of Information, does not want to keep teacher-student interaction within a closed learning management system but rather on the open Web, requiring students to engage in some level of online communication with the people they serve, advocating video production as a sharing method in online teaching rather than just text. In addition to sufficient communication between teachers and students, American iSchools also emphasize that academic advisors maintain close communication with students, helping them

develop career goals and learning courses best suited to their needs.

(4) Curriculum Design. In addition to flexible and diverse teaching methods, students also have flexibility in course selection. For example, although Wayne State University's MLIS online program includes three main directions—library services, information management, and archives and digital content management—no specialization is listed on the final diploma, so there is no minimum course requirement for each area. Beyond required core courses, students can choose any courses in consultation with their academic advisors based on personal interests and skills needed for career goals. Simmons University's online students can develop personalized learning plans in close collaboration with faculty advisors. The University of Washington's online program requires students to take required courses and electives, such as other iSchool graduate courses, directed fieldwork courses, independent study courses, or relevant courses from other disciplines. At the University of South Carolina, online students can customize a 27-credit elective plan according to their career interests with the help of an academic advisor, and can also take electives from other departments or institutions at the University of South Carolina with advisor approval.

(5) Teacher-Student Interaction. A. W. Cole's research shows that students' communication satisfaction with online teachers is the most important predictor of satisfaction with online courses. Typically, frequent teacher-student interaction enhances learning outcomes for every student throughout the course, and student-student interaction is also crucial. The University of Illinois at Urbana-Champaign's interactive online learning environment is student-centered, allowing real-time interaction with teachers and other students. Students must log in to a virtual classroom weekly, where they can chat in real-time using microphones and participate in discussions, while collaborating with peers through group activities. The University of Wisconsin-Madison strengthens teacher-student and peer interaction through small class sizes, creating a good environment for building relationships and allowing teachers adequate time to focus on student development, while providing a platform for communication through friendly, collaborative, and vibrant learning communities. Syracuse University uses three methods to ensure online students' sense of participation and integration: online real-time courses, study groups, and continuous personal attention and support. In addition to sufficient interaction between teachers and students, American iSchools also emphasize close communication between academic advisors and students, with advisors helping students formulate career goals and learning courses best suited to their needs.

4.2 Large Course Offerings with Wide Coverage and Complete Curriculum System

All 20 institutions adopt a combination of online required and elective courses. Regardless of the institution, all center on core library and information science courses to cultivate students' professional literacy while offering application courses in various career fields such as public libraries, school libraries, corporate

libraries, and children's libraries, helping students understand their interests and plan their career directions and life development. The investigated iSchools offer a total of 801 online courses, with 12 schools offering more than 30 courses, providing ample opportunities for students to deepen or expand their professional knowledge. Moreover, the number of online electives far exceeds that of required courses, providing rich course resources for students to flexibly choose courses according to personal interests and career development, enabling them to define their own online degrees and facilitating free self-development.

In terms of course categories, this paper divides courses into six major categories based on content, with all 20 institutions covering all six categories of online courses, demonstrating wide coverage and a complete curriculum system. This well-designed curriculum system helps students form a reasonable and comprehensive knowledge structure and enhances their comprehensive quality and professional capabilities. The investigation reveals that American iSchools offering library science-related online education focus on cultivating students' basic theoretical literacy in informatics and library science while also emphasizing the improvement of professional skills and research capabilities in technology and methodology; they focus on both disciplinary professional knowledge and expanding students' knowledge in related interdisciplinary and cross-disciplinary fields; they offer both professional knowledge courses taught online by teachers and independent study courses such as internships, seminars, and capstone projects; they provide both required core courses and a rich variety of flexible electives. This allows students to learn in an environment with abundant learning resources. The reason for such a complete curriculum system is inseparable from the training objectives and career development directions of library science professionals. D. Z. Yang's research suggests that both personal and curricular factors contribute to students' successful completion of fully online courses, with major curricular factors including the relevance of courses to personal or professional needs, satisfaction with courses and programs, and the connection between courses and job advancement. For example, Wayne State University offers electives in library users and communities, library tools and resources, and library systems and infrastructure, designed for students who want to work in any type of library (academic, public, or special) or information institution. Students can learn how to actively participate in specialized library services such as collection development, reader advisory, cataloging, and scholarly communication, as well as how to support diverse users and communities with various information needs. Rutgers University builds a multi-level, wide-ranging, and solid curriculum system based on the values and foundations of library and information science, focusing on the holistic relationship among people, information, and technology, cultivating students' abilities in information creation, organization, classification, retrieval, preservation, management, and use, enabling graduates to work not only in libraries, archives, and museums but also in government, enterprises, and non-profit organizations. Thus, American iSchools' library science master's programs not only train students in library management but also in information science, interdisciplinary, technical, and

methodological courses, aiming to cultivate students' understanding of information personnel and environments, attention to information society development trends, and ability to solve contemporary information problems, enhancing comprehensive quality to prepare graduates for diversified employment.

4.3 Online Learning Essentially Equivalent to Campus Learning

Based on the survey of the 20 iSchools, it can be found that online learning and campus learning are identical in terms of credit systems, degree examinations, thesis requirements, and degree certificates. Therefore, the choice of learning mode depends on learners' actual circumstances. C. M. Chu's research shows that younger students with part-time jobs living in urban areas near campus prefer face-to-face instruction (face-to-face or blended learning), while those with full-time jobs living in rural areas farther from campus prefer online course delivery. The only difference between online and campus courses lies in their delivery methods, and compared with campus learning, online learning offers great convenience and flexibility. For example, Syracuse University's online courses are the same as those offered to campus students and are taught by the same professors. When online students graduate, they receive the same degree as campus students, allowing them to choose different program delivery modes according to personal circumstances. Simmons University's online and campus courses have identical content and learning objectives. The online asynchronous teaching model means that teaching and learning in the online course environment are not limited by time or location, allowing online students to access and participate in learning anytime and anywhere with internet access. Similarly, online students must also complete assignments and participate in learning activities within specified deadlines. The University of Maryland has identical admission requirements and courses for both online and campus students. The University of Washington's MLIS program has about half of its students choosing online delivery. This characteristic of online learning being basically equivalent to campus learning allows potential learners constrained by time and space to enjoy the benefits brought by the rapid development of information technology, access high-quality learning resources without leaving home, and obtain the same degree certificates as campus students through online learning, which will greatly increase the number of students receiving library science education and enhance the influence of library science education.

5. Implications for China's Library Science Education

Currently, library science education in China faces multiple challenges: on the one hand, changes in the information environment and the rapid development and widespread application of information technology have continuously increased society's demand for innovative and composite professionals; on the other hand, against the background of higher education reform and the "Double First-Class" construction goals, reforming and optimizing talent cultivation mechanisms will be an important task for library science education in China.

Online education is the result of fully utilizing modern information technology, providing online education services that will increase the effective supply of library science education resources, broaden education pathways for library science professionals, and enrich students' learning methods. In current teaching development, online education has become the future trend of education, and LIS education should also seize this development opportunity to promote the development of online education. Summarizing the construction and development experience of online education for library science at American iSchools will provide inspiration for exploring online education for library science in China. However, it should also be recognized that although foreign models provide online learning basically equivalent to campus learning, online education is significantly different from school classroom teaching after all. Implementing library science online education well requires smooth communication platforms, high-quality digital resources, convenient learning tools, appropriate course duration, flexible teaching organization methods, and teachers with online teaching experience. Therefore, when learning from foreign experiences, China should avoid copying them mechanically and should proceed gradually based on its national conditions and actual conditions.

5.1 Monitor International Online Education Trends and Reform Traditional Education Models

According to this investigation, some American iSchools have vigorously developed online education for library science and achieved excellent results, injecting new vitality into library science education. Preliminary investigation shows that no Chinese universities have launched degree programs in online education for library science; China's library science education model still adopts full-time or part-time campus learning models. Online education is a product of "Internet Plus Education and Teaching," an emerging education model combining information technology development with innovative education and teaching models. China's education community should fully recognize the importance of higher education development through online education, as the trend of higher education development through online means has become irreversible. The nationwide large-scale online teaching practice during the pandemic has provided an opportunity for the transformation and development of education models. How to reform China's library science education model will be a topic requiring consideration. LIS education should seize this opportunity, integrate internal and external resources, promote the transformation and upgrading of library science education through new media and new technologies, actively integrate into the university talent cultivation system, and promote the construction of world-class universities and disciplines.

The construction and development of online education face a series of issues including policy support, online education faculty support, and cooperation between teaching and technical departments. Due to significant differences in political, economic, and cultural backgrounds between China and Western

countries, Chinese universities' development and construction of online education for library science require overall planning, systematic design, and keeping pace with the times. Specific aspects such as program level, majors offered, credit system, education category, training methods, curriculum design, faculty allocation, platform construction, funding support, teaching supervision, and management evaluation all need to be specifically designed based on China's national, university, and school conditions, while also maintaining an international perspective and forward-thinking mindset, closely monitoring the development trends of online education at iSchools, learning from their experiences, conducting pilot programs first, and building online education models for library science in China that closely integrate course learning with career planning and are suitable for national conditions.

5.2 Adopt Diverse Teaching Methods to Improve Online Teaching Quality

From the cases of online education at American iSchools, it can be seen that in addition to live or recorded teaching courses, online teaching also includes online collaborative group learning, seminars, academic lectures, and other forms, which enhance student participation and strengthen interaction between teachers and students and among peers, helping to improve online teaching quality. In addition to online theoretical learning, the 20 surveyed institutions also require students to complete necessary internships and independent research, enhancing students' professional quality from both theoretical and practical perspectives. Therefore, Chinese universities should pay attention to the following three aspects when developing online education for library science to improve teaching quality: (1) Leverage the advantages of internet technology to innovate teaching methods and enhance teacher-student interaction. Before starting online learning, both teachers and students should learn necessary digital technologies and netiquette, mastering efficient communication and interaction skills in network environments. During teaching, combine live broadcasting with recorded broadcasting, integrate text with audio, video, animation, and images, and combine platform learning with online discussions. Do not be limited to a single platform; instead, utilize diversified approaches, fully exploiting the features and advantages of different platforms, and independently choose the most suitable platforms and teaching methods according to course content and teachers' teaching habits. (2) Combine theoretical teaching with practical teaching to enhance teaching effectiveness. In addition to online theoretical courses, students should also engage in independent internship and practical courses, supplemented by necessary offline courses such as laboratory courses to enhance students' hands-on and practical abilities. (3) Establish online communication platforms to strengthen communication among teachers, between teachers and students, and among students, including online teaching experience sharing among teachers, Q&A and discussions between teachers and students, and friendship building among students, to enhance teachers' and students' sense of belonging and atmosphere in online teaching. In summary, ensuring teaching quality is the first pri-

ority in library science online teaching, improving students' learning autonomy, fully mobilizing student enthusiasm, enhancing teacher-student interaction, and improving students' sense of belonging and atmosphere in online teaching.

5.3 Focus on Career Development and Personalized Training

Library science education aims to provide students with the knowledge and skills needed to serve as information professionals in various libraries, emphasizing information organization, classification, retrieval, management, and services. The investigation of American iSchools' library science online education shows that these programs not only train talents for library careers but also for broader information professions, cultivating new information professionals for various fields. In terms of training directions, although multiple institutions offer MLIS online programs, they include several different research directions, allowing students to choose their concentration based on personal interests and career goals. In terms of curriculum design, American iSchools offer far more online courses than required for graduation, including information management foundational theory courses, library science theory and methods courses, related disciplinary theory courses, technical and methodological courses, and independent study courses. In terms of course selection, a notable feature of American iSchools is that online students can customize personalized learning plans most suitable for their career goals and courses through close communication with their academic advisors.

Therefore, Chinese universities should focus on the following three aspects to strengthen personalized student training when developing online education for library science: (1) Orient toward career development, refine training objectives, and closely link the curriculum system with career development directions. Match clear career positioning and targeted curriculum design to different training directions so that students have certain goals for course learning and future career planning during the application stage, helping them successfully complete online courses and enhancing satisfaction with online courses and programs. (2) In curriculum design, build a comprehensive curriculum system that includes both core library science courses such as information organization and information retrieval, as well as related and interdisciplinary courses such as economics, sociology, and museum studies; includes both methodological and technical courses and independent study courses such as seminars and internships to help students form a comprehensive and reasonable knowledge structure and enhance comprehensive quality. (3) Establish professional online academic advisor positions to help students clarify career development directions and training objectives and customize their own online learning courses on this basis, improving personalized talent cultivation. In summary, only by truly integrating training objectives with career directions, providing high-quality online course content, enhancing students' professional skills in library science, and ensuring convenient, efficient, and humanized services can we promote the development and prosperity of online education for library science.

5.4 Combine Strengths of Traditional and Online Education

The investigation of 20 American iSchools reveals that online education and traditional campus education each have their advantages. Online education can break through time and space constraints, allowing anyone to access high-quality learning resources anytime and anywhere, with flexibility, convenience, and low cost. Campus learning has stronger face-to-face interactivity, effectiveness, and practicality. Therefore, from the perspective of library science teaching practice in China, the library science curriculum system covers a wide range of content, with equal emphasis on basic theory courses and practical courses. Adopting a blended teaching model that combines online and campus teaching, and integrates online and offline methods, will better align with current teaching practices in China's library and information science field. Online components can include library science theory introductions, some experimental courses, specialized courses, expert lectures, web seminars, thematic reading, and case analysis, while offline components can include core library science course teaching, classroom exercises and discussions, internships, course assignments, classroom presentations, final examinations, and thesis defense. The blended model of online and campus teaching in library science education allows students to more fully understand and master theoretical knowledge and practical skills, improving their professional literacy in library science. It also enables flexible design of teaching segments and methods according to course nature and student needs, enhancing the flexibility and scientific nature of course teaching. This approach leverages the advantages of online teaching while inheriting the advantages of traditional campus teaching.

Based on the practical needs for reforming domestic library science teaching models and the broad prospects of online education, this study takes 20 American iSchools including the University of Wisconsin-Milwaukee as examples, selecting online education for library science-related majors as the investigation object. It summarizes and analyzes their online education models from the perspectives of credit systems, course quantity, course categories, and core courses, making preliminary explorations for the development of online education for library science in China. The investigation found that online education for library science-related majors at American iSchools presents three characteristics: flexible and diverse course formats with multiple measures to ensure online teaching quality; large numbers of online courses with wide coverage and complete curriculum systems; and online learning being basically equivalent to campus learning. Accordingly, combined with domestic realities, this paper proposes that the construction of online education for library science in China should pay attention to international trends in online education development and reform traditional library science education models; adopt diverse teaching methods to improve online teaching quality; orient toward career development with emphasis on personalized talent cultivation; and combine the advantages of traditional and online education. In summary, constructing and developing online education for library science in China requires scientific arrangement,

early planning, active change, keeping pace with the times, strict quality control, strengthened cooperation, and building multi-level, multi-directional, and multi-channel pathways for cultivating library science professionals to enhance the social influence of library science education.

References

- [1] Wu Jianping, Zhao Ke. On policy choices for large-scale online education[J]. Tsinghua Journal of Education, 2013, 34(4): 1-5.
- [2] State Council vigorously promotes “Internet Plus Education” and encourages various entities to develop online education[EB/OL]. [2020-06-01]. http://www.gov.cn/zhengce/2019-08/29/content_{5425524}.htm.
- [3] Guiding Opinions of the Ministry of Education and 10 Other Departments on Promoting the Healthy Development of Online Education[EB/OL]. [2020-06-01]. http://www.gov.cn/xinwen/2019-09/30/content_{5435416}.htm.
- [4] Opinions on Supporting the Healthy Development of New Business Forms and Models to Activate Consumer Markets and Expand Employment[EB/OL]. [2020-08-01]. http://www.gov.cn/zhengce/zhengceku/2020-07/15/content_{5526964}.htm.
- [5] iSchools directory[EB/OL]. [2020-06-01]. <https://ischools.org/Directory>.
- [6] Liang Shuang. Research on the training model of online education master’ s degree in the United States[D]. Xinxiang: Henan Normal University, 2018.
- [7] CHLOE 4: navigating the mainstream, the changing landscape of online education. 2020[EB/OL]. [2020-08-01]. <https://www.qualitymatters.org/qa-resources/resource-center/articles-resources/CHLOE-project>.
- [8] LEDERMAN D. Online enrollments grow, but pace slows[EB/OL]. [2020-08-01]. <https://www.insidehighered.com/digital-learning/article/2019/12/11/more-students-study-online-rate-th-slowed-2018>.
- [9] Searchable DB of ALA accredited programs[EB/OL]. [2020-06-01]. <https://www.ala.org/CFApps/lisdir/index.cfm>.
- [10] Song Linlin. Investigation and analysis of online information literacy education in top 20 American university libraries[J]. Library and Information Service, 2007(5): 68-72.
- [11] Qin Changjiang. Online education courses: opportunities and roles for libraries[J]. Library and Information Service, 2014, 58(6): 83-88.
- [12] Si Li, Shi Yali. Investigation and enlightenment of blended teaching models in iSchools Alliance institutions—taking information organization courses as an example[J]. Library and Information Knowledge, 2017(3): 4-11.
- [13] Si Li, Zhuang Xiaoyan, Wang Simin, et al. Current status and enlightenment of E-learning teaching in library and information science programs in Taiwan,

China[J]. Library Tribune, 2012(6): 43-47.

[14] ALECS, DAVISON M M, JOACHIM S K, et al. Expectations, challenges and suggestions for faculty teaching online courses in higher education[J]. International journal of online pedagogy and course design, 2019, 9(1): 62-77.

[15] HART C. Factors associated with student persistence in an online program of study: a review of the literature[J]. Journal of interactive online learning, 2012, 1(11): 19-42.

[16] COLE A W. Testing the impact of student preference for face-to-face communication on online courses satisfaction[J]. Western journal of communication, 2016, 80(5): 619-637.

[17] YANG D Z, SALLY B, CHAREEN C. Persistence factors revealed: students' reflections on completing a fully online program[J]. Distance education, 2017, 38(1): 23-36.

[18] CHU C M, FAITH O. The preferences of students regarding the type of instruction in library and documentation: the case of the teachers in Canada and United States[J]. BiD: textos universitaris de biblioteconomia i documentació, 2016(37).

Author Contributions

Quan Qian: Data collection and analysis, drafting the manuscript; Zhou Lihong: Proposed research ideas, designed research plan, revised the manuscript; Han Yingying: Wrote and revised parts of the manuscript.

Abstract: [Purpose/significance] By analyzing the current status of online education for master of library science in iSchools universities in the United States, this paper summarizes the experience of online education for master of library science in the United States, so as to provide reference for subsequent research. [Method/process] Based on the practical needs of domestic library science teaching mode reform and the broad prospects of online education, this paper investigates the official websites of 20 American iSchools universities, and makes a detailed analysis and summary of their online education models from the aspects of credit system, course number, course category, core courses, etc., and draws enlightenment for the construction and development of online education for library science in China. [Result/conclusion] Through investigation, it is found that the online education of library science related majors in American iSchools presents three characteristics: flexible and diverse curriculum forms, and multiple measures to ensure the quality of online teaching; The number of online courses is large, the coverage is wide and the curriculum system is complete; Online learning is basically the same as campus learning. Based on this, combined with the domestic reality, this paper proposes that the construction of online education for library science in China should pay attention to the development trend of international online education, reform the traditional education mode of library science; Adopt a variety of teaching methods to improve

the quality of online teaching of library science; Career-oriented, pay attention to personnel training personalization; Realize the combination of library science tradition and online education advantages.

Keywords: iSchools; library science education; online education

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

Source: ChinaXiv –Machine translation. Verify with original.